

THE RULES OF THE GAME AND THE GAME OF THE RULES

Normalization and resistance in
Andean water control

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THE RULES OF THE GAME AND THE GAME OF THE RULES

Normalization and resistance in
Andean water control

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To Aeil, my father.

You taught me that life is full of questions that ask you to doubt all unquestionable truths, full of encounters that ask you to open your eyes and think the world differently; that these questions – more than the answers – are a fundamental condition to be able to coexist, co-think and share.

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Through the seeds you planted in your films, in your photographs and your texts, but above all through the love that you planted in people, in Andean communities.

To the ‘wild herbs’ in Andean communities, who refuse to behave the way they should, who refuse to become ‘normal’.

For you, this book, and the words of Pablo Neruda:

Podrán cortar todas las flores, pero nunca podrán detener la primavera.

They may cut all the flowers, but they will never be able to stop the springtime.

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Once upon a time, the scientists of the Grand Academy of Lagado, capital of the flying island of Laputa, were justly renowned. To make conversations and interactions more rational and efficient, after their first project (which was to shorten all words to the absolute minimum) these wise men engaged in a second, far more revolutionary endeavor, which undertook to entirely abolish all words whatsoever. This groundbreaking invention would greatly promote human health (preventing the corrosion of our organs of speech) and brevity (much to the benefit of books such as this one). As Jonathan Swift – who was never far from the truth – explains, Lagado scholars offered a very practical alternative to word-speak: since words are only names for things, it would be far less confusing and more consistent for everybody to simply carry the things they want to talk about with them whenever they would have a conversation. Particularly the scientists and other learned men adhered to this modern method of expressing themselves by just physical objects. They carried a huge bundle of things upon their backs to substitute for their impressive amount of words. “When they met in the streets, they would lay down their loads, open their sacks, and hold conversation for an hour together; then put up their implements, help each other to resume their burdens, and take their leave”. Intellectuals, when having longer conversations, would almost collapse under the weight of their packs but despite this small inconvenience, they firmly believed in its potential to become a universal language (particularly among the Civilized Nations since there, all things show strong similarity). As chronicler Swift accurately testifies, this invention would certainly have taken place, to the great alleviation and health of humankind, “if the women, in conjunction with the vulgar and illiterate, had not threatened to raise a rebellion, unless they might be allowed the liberty to speak with their tongues, after the manner of their ancestors. Such constant irreconcilable enemies to science are the common people” (1726:217-219).

Since, admittedly, I have too many problems understanding modernity and, in any case, do not dominate Lagadonian thing-speak or can't think of things to express my gratitude, let me below join this resistance by women, the vulgar and the illiterate and try to put into words (though necessarily imperfect), my thankfulness to some of my friends and colleagues who accompanied me in

my journey. But not before expressing my appreciation to the brilliant mind of Swift, who was able to summarize my voluminous book in less than half a page, even long before it was written. For the hurried readers ('time is money'), therefore, I refer to page 475; for the others, I kindly invite you to critically read every word and footnote – each one representing a teardrop – and not just the summary. Summaries are the McDonalds of academia.

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Another graffiti text on the walls of Quito:

“La nube ignora por qué se desplaza. ¿Tú sabes para qué vives?”

“Clouds don’t know why they float by - do you know what you are alive for?”

Yes, certainly. I profoundly thank you for that.

Prelude to the game

'Join with people', read the second command, 'understand their life, use phrases from their language, honor their customs and laws!'. And the third command was: 'Treat women with politeness and respect!'
(Gunther Anders 1988[1966]).

Codes of conduct for students who go abroad to realize their field work? Training manual guidelines for development workers, leaving to work with local communities in the Third World? Actually not. As Anders explained, these commands and other, similar rules are part of “the official code of conduct for the American GIs who were stationed in Vietnam.” The military regulations “for those persons who were going to intimidate and rape the local population ..., who got the orders to poison the rice harvest ..., who were trained as experts of torture to record the screaming of the tortured in order to later ‘evaluate’ the tapes ...”. The official commands to respect local customs and laws – which accompanied the massive killing practices – were meant, “as the ninth command said, to ‘reflect honor upon yourself and the USA!’.” (Anders 1988:123-124).

The issue is place- and time-less; it could have been Dutch, French, Peruvian, English or Ecuadorian: throughout the history of humankind the proclamation of respect for the norms and values of other peoples and other cultures has been a basic ingredient of efforts to undermine and colonize them – be it ‘external colonization’ as practiced by, among others, the Europeans, or ‘internal colonization’, as in the Andean and American contexts.

Sometimes, the brutality of the contradiction between ‘good rules’ and ‘bad practice’ was rather obvious: opposite to the grand, moral tenets on virtue and neighborly love were the vertical, coercive imposition of the invader’s beliefs, norms and customs, which meant to simply, utterly deny and destroy local normative arrangements and rights repertoires. The water policy and intervention world is full of examples. Cultural policies and legislation in, for instance, Andean history manifest the same contradiction. As José Carlos Mariátegui already stated in the 1920s in his provocative work *‘El Problema del Indio’*: “Since the times of Spanish colonial legislation, wise, thorough ordinances drafted after conscientious surveys, proved to be totally fruitless. The abundance of decrees, laws and rulings in the Republic, since it won its independence, geared to protect Indians from abuse and unreasonable demands, is quite considerable. But today’s large landowner, just like the ‘encomendero’ before him, has precious little to fear from administrative theory. He knows that things are quite different in practice” (1973a[1928]:39).

However, in most cases the issue is far more subtle and complex, not intentionally exploitative, and commonly, quite beyond the matter of ‘contradiction between rules and practices’. Rather than seeing the contemporary divide between, on the one hand, all-inclusive welfare policies and, on the other, everyday subordination, as a matter of ‘well-intended rules and planning but bad implementation’, they can often be analyzed as the two different sides of the same power coin. I aim to show in this book how, often, *both* the top-down, exclusive *and* the participatory, inclusive water policies and regulations combine their ‘moral missions’, ‘moral urgency’ and ‘moralized designs’ with the practice of ‘moral bombing’ needed for water management regime change. Intentionally or not, the dropping of profoundly moralized infrastructural and organizational hydraulics, in order to break prevailing morals and norm systems (or simply deny their existence) and foster new frames of reference among Andean water user collectives, appears to have been – and continues to be – an important ingredient in the water-power game. Moral right-ness was not just the legitimization of ancient

colonizers to rape ‘virgin continents’; in a multitude of far more subtle ways it is also an important basis for (mostly well-intended) modern water policies and administrations to rape presumably ‘virgin’ and ‘un-ruled’ (i.e., unruly) water territories by means of irrigation projects and water control development. This *‘leyenda negra’* that was the legitimizing basis of colonization and civilization of the Americas long ago has never disappeared but survived in subtle power games, multiple disciplines and with many, mostly participatory masks or convictions.

I will seek to highlight why, not seldom, participatory equality discourse and the presumed respect for (and use of) local norms are highly functional to the dominant national and international water players’ objectives: profound destruction or ‘enclosure’ of the existing arrangements to build the new political and symbolic order on the modern, uniform, all-including foundations of progress. Recent Andean history, from socialist to neoliberal experiments, is full of such intents to ‘actually materialize water control utopias’. In Ecuador, Peru and their Andean neighbors, the many casualties of such water policies and interventions – i.e., the existing water user collectives – show that the stronger the moral rightness that is claimed by such policies, the greater the ‘design violence’ it legitimizes.

In what ways can water development research challenge such universalistic but ethnocentric moral rightness? How can such research contribute to a larger ‘de-moralizing project’ – scrutinizing water rights injustices from local to global arenas – in order to accompany water user collectives’ own, ongoing political and socio-technical efforts to re-moralize their water control systems and water territories?

While various efforts have been directed at what may be seen as ‘crime scene investigation on overt water scandals’ – with particular concern for the destructive impact of large-scale water works on local livelihoods, or critiquing ‘capitalist vampirism’: the ‘wild-west’ water rights privatization and monopolization practices whereby peasant and indigenous territories are being dried up – I aim to focus in particular on the manifold invisible, everyday, small-scale, ‘capillary’ or bottom-up forms of encroachment on local water rights and norms. Here, in many cases, the problem that the act and the fact of destruction were destroyed (commonly labeled as ‘modernization’) adds to their invisibility. And, in many such cases, crimes or encroachment were not committed on purpose. On the contrary; commonly, the intentions and interventions were highly moral, rational, development- and progress-oriented, and especially, as current policy-language goes: ‘pro-poor’.

A steering, key motive for engaging in this book’s research journey is perplexity. Perplexity about the lack of correspondence between, on the one hand, the universalistic water policy models that importantly govern the region and, on the other hand, the diverse, living water rights orders ‘in the field’. Perplexity also about how national and international water policy and scientific models fail to imagine, to comprehend their impacts on actually existing communities and water user families. Is it indifference? Is it neglect? Is it conscious strategy? Should we consider them impacts as unfortunate ‘errors’? Are they inherent to the construction of water control utopias? Are they the unavoidable ‘side-effects’ of new solutions to combat ‘the Water Crisis’? Is then the cure - the everyday crises they create - not worse than the assumed ‘disease’? What is the rationality behind water governance models and designs that, so often, profoundly ‘misrecognize’ the water rights systems of Andean highland communities?

This book has multiple layers. It is about the power of water as much as about the power of water ontologies and water identities, and about the power of the Water Lords' policy and expert communities, those who are legitimized and endorsed to define and construct 'the others' and their problems. Naming and norming, and the legally or scientifically awarded faculty to put water things and users in their place, are basic to the global and Andean water power games, particularly whenever such names, norms, and network positions and relations are accepted as 'natural' or 'inevitable': when they become ingrained in everyday water control relations and people internalize not just the names but also their corresponding norms and positions. What is the norm, who is normal (who is abnormal), and what is the normal behavior of water rights and users in water control networks and practices? Throughout Andean history, the authority to define and categorize 'others', their positions, properties and property rules, has directly reflected the images and societies of the Definers themselves, *their* positions, properties and property rules, and the interests they have in naming, norming and mastering these others and their properties. In today's modern society, apparently, the most subtle and ingenious namers, normers and network-builders stand the best chances to materialize their interests – particularly if the norms that are adopted do not seem to be theirs but 'locally or self-fabricated'. Below an example about 'naming and domesticating wild dogs and wild waters', starting with the not-so-subtle part:

In early times after the Conquest, a major pastime for colonizers was to go out with their dogs to hunt indigenous people (ironically called 'cannibals')¹ in order to take away their resources, territories and lives. As Bartolomé de las Casas wrote in 1552, in his famous *Brief Narration of the Destruction of the Indies*, "they murdered countless souls, cutting off the hands and noses of too many women and men to number them, while casting others to the mad dogs who tore them up and devoured them ... To feed these dogs, they would bring many Indians in chains along the roads, herding them like a swarm of swine, to kill them, publicly butchering the human flesh, saying to each other: 'Please pass me a piece of one of these savages for my dogs to eat while I kill this other one', as if they were passing around legs of pork or lamb. Others go out hunting in the morning with their dogs, and then come back by mealtime; when asked how things went, they answer: "Things went fine, because my dogs killed fifteen or twenty savages"" (170-171).² At the same time, as I will discuss in chapters 8 and 9, the Spanish Court hosted the historic first debate on 'recognizing the identity of Indians': whether they should be considered as humans (Las Casas' position) or as soulless beasts, just like dogs (the position of Sepúlveda 1996[1550]). Whereas some felt, in this (broader) polemic that the latter position would open up the possibility of domesticating, enslaving, selling and expropriating them just like black people, others warned that classifying them as 'wild, soulless beasts' would leave them without any moral or legal protection, which would strategically affect their capacity to be exploited on a lasting basis.

In subsequent centuries and up until recently, the association of 'Indian' and 'wild but tamed dog' has been common and normal in certain circles: Indians were defined as the incarnation of rejecting modern progress, both psychologically and physically: "They languish in ignorance, cowardly, indolent, unable to recognize any benefits, without guts, loafers, thieves, with no respect for truth, nor any other lofty sentiment, they vegetate in abjectness and want, living in drunkenness and sleeping

1 Throughout history, the construction of the 'others' served the intervention in their lives and resources.

2 As Las Casas tells us, cruelty knew no bounds: "hunting results were poor, and the dogs looked hungry, so he tore a little boy away from his mother and chopped off his arms and legs with his dagger; once they had eaten these first morsels, he tossed the rest of the child's little body on the ground for them all to tear apart" . Las Casas, without exaggerations, continues: "... we will see worse things below" (1999[1552]:126).

in lustful abandon”.³ As Peruvian historian Flores Galindo tells us, Indians became “the repository of all negative values. The opposite of a white person” (1988:275). In everyday language, indígenas were often labeled as ‘*cholos*’, seen as equivalent to ‘dogs’: “the offspring of an inferior, conquered race, which has no choice but to remain subjected” (Ibid:285). Aside from such more general Andean racist nomenclature, local power structures commonly invented their own name-norm-subjugation structure and lexicon, instrumental to domesticating both the subordinated and their resources. For example, in Licto, where I worked in the period 1992-1997, historically the word ‘*cuto*’ referred literally and in a figurative sense to ‘dogs with their tails cut off’. As local leader Rosa Guamán explains in chapter 13, “*cutos* were the indígenas who were brought into the service of mestizos or whites, who then changed their clothes. And to differentiate them from both indigenous and mestizo people they cut their hair, they were shorn”. Not being allowed to identify as indigenous and nor being accepted as members of the ruling white-mestizo class and ethnic group, an ‘intermediate race’ was created: to serve and obey. As my *comadre*, irrigation leader Inés Chapi, told me:

“The *blanco-mestizos* always kept the *cutos* and indigenous people like slaves. Even in mass, *cuto* and indigenous people couldn’t kneel at the pews; the white people said the pews were theirs. And at school we couldn’t wear shoes, because they would stamp on our feet, so we could only go barefoot without shoes; we wore shoes only for the festivals. Because we were afraid of being admonished, we kept our shoes stashed away [...] If our mothers tied our hair with bows, the white-mestizo girls would take them away, throw them down, push us against the wall, saying ‘you can’t do this, you are copying us!’ Their mothers would hit us, because we couldn’t wear white people’s clothes. The mestizos would say: ‘but you stupid Indian, what are you doing with those clothes on, only white people wear those clothes!’ Then our mothers, afraid that they would mistreat us again, that they would hit us, no longer sent us to school with shoes, with good clothes.” Indigenous people in most Andean communities carry the scars of oppression and racism deep in their minds. Inés tells us: “My father bought me a dress, a sweater, some stockings and shoes. It was for Christmas, because they were going to give us a toy at school. And they gave me a doll, and I was happy as I left, when the mother of one of the other girls grabbed me and knocked me down, tearing my dress, saying ‘get out of here, dirty Indian, because you shouldn’t be wearing such clothes!’ And she took away the doll that they gave me and threw it down on the ground, saying ‘they gave a good doll to this worthless Indian brat, and she thinks she can come with white people’s clothes!’ [...] I always used to say to my mother, ‘but Mommy, why do they call us *cutos* – wouldn’t *indios* be better?’ And my mother would say, ‘no, dear, don’t think about those things, because you must not answer the white people back, don’t sass the whites, because they will hit you, they will come here and make a racket, they will come dishonor us’, my mother would say. ‘We must not say anything’ ”.⁴

But Inés, together with many others, *did* think about those things and she *did* say something, and collectively they acted upon these thoughts. And in her case, as in all other cases I have encountered in the Andean highlands, whenever water control or development takes place, processes of identity formation and cultural-political struggles mutually and profoundly intertwine with water control struggles [“Although in Ecuador water is considered public property ... , when indigenous people are involved, racism relegates them to the end of the line in user rights”, as Nina Pacari explains in chapter 8]. Naming and norming in order to domesticate as well as, in multiple strategic ways, naming and norming to resist. Water Rulers and other governors create particular truths that aim

3 Sebastián Lorente, ‘*Pensamientos sobre el Perú*’, 1855:177, quoted by Flores Galindo 1988:275.

4 Similar narratives are presented by many other water users and grassroots water leaders, such as Inés’ friend Rosa Guamán in Chapter 13.

to objectify and contain dispersed, unruly, water user populations in strategic cultural-hierarchical spaces – truths which are indeed effective when they are able to constitute the types they essentialize (Kearney 1996). This leads to complex paradoxes. Half a century ago, Frantz Fanon already warned against such policies of containment and folkloric otherness. “The colonialist specialists do not recognize that the culture has changed and they hasten to support the traditions of the indigenous society. It is the colonialists who have become the defenders of the native lifestyle” (1963:185). However, as Inés and her friends show, at the same time local water users develop their own counter-political identification strategies, articulating and mobilizing different kinds of social relationships, creating, strengthening and combining different kinds of myths, beliefs, norms and values.

In this water-power game and in water policy talk about ‘modernization’ the ideological folklorization and infantilization of ‘the other’ is a powerful instrument, and the dog, but now as a metaphor, proves to be useful again. In a front page article of *El Comercio* (28-10-2007), “The syndrome of the dog in the manger”, Peruvian president Alan García launches a frontal attack on Peruvian thinking, against ‘those who oppose progress’, the ‘adversaries of modernity’, who keep the country poor “because of the taboos of long-obsolete ideologies, out of idleness, out of indolence, or according to the dog in the manger’s law, which reads: ‘if I don’t get any, no one gets any’”. García refers to the need (‘foiled by social rights and environmental ideologies’) to step up jungle logging, mining the wealth of protected areas, tapping the ocean, laborers and teachers, as well as the need to crush the collective rights of rural communities in order to extract their natural resources. Perplexity again: in a country where – largely due to ‘modernization’ of the agrarian sector – concentration of land and water by the wealthy is horrifying (the 5% of landowners who have over 30 hectares own 82% of all land while the 55% of farmers with less than 3 hectares own only 3% of all farmland) he blames small farmers (and their advocates) who are seen as unproductive but refuse to sell their fallow land (‘idle property, useless’) to modern businesses and foreign investors. “Demagogy and lies claim that this land is untouchable, sacred, and that this community organization is the way Peru was originally organized”. The President portrays rural reality as “a vicious circle of poverty” saddled with “this small-farm model with no technology” and “artificial communities” who expect “the State to give them everything, rather than getting some good out of their hills and fields by renting or selling them ...”. Supposedly, this backward reality “prevails all over Peru, with land left idle because the owner has no education or capital, which makes such ownership meaningless. If that same land were sold, assembled into large plantations, this would draw technology ...”, predicts this statesman. Because these lands, which are useless to poor peasants, “would become productive with heavy investment and the knowledge input from new buyers”. As I will show, official water policy proposals closely follow this argumentation. The pattern is recurrent: dominant (water) cultural reference models in the Andean region are presented as ‘modern’, ‘abstract’ and ‘universal’ but correspond neatly to a very particular ethnic, gender and class-related model of whiteness, masculinity and occidental orientation and progress. Or as Alan García puts it, rather than being “dogs in the manger” Peruvian people have to follow “the experience of successful peoples”.

A far more ingenious idea of how to master local (water) property rights and integrate them in the uniform, formal property system that sustains the operation of the modern market economy, is elaborated by García’s countryman, Hernando De Soto – probably the world’s most renowned spokesman on how to ingrain the capitalist model and market rationality into local, ‘informal rights societies’. As I will examine in chapter 8, his domestication strategy is much subtler and the words ‘participation’, ‘integration’, ‘recognition of local rights’ and ‘all-inclusiveness’ get real substance: they are the main pillars of the disciplinary game. And De Soto has his reasons, knowing that, “in

Peru, for instance, the government has tried to formalize property at least twenty-two times in the four hundred years since Spanish conquest. Their success rate: zero” (2000:170). Dogs, again, are instrumental, but this time they are positively valued, and this time the real and metaphorical dogs of local property rights owners *themselves* are the ones who – like Ariadne’s thread – will lead the market missionaries of private water rights neoliberalism to capture and include ‘the poor and underdeveloped’, no matter where on the globe: “As I strolled through rice fields, I had no idea where the property boundaries were. But the dogs knew. Every time I crossed from one farm to another, a different dog barked. Those Indonesian dogs may have been ignorant of formal law, but they were positive about which assets their masters controlled. I told the ministers that Indonesian dogs had the basic information they needed to set up a formal property system” (Ibid:163). Investigating and understanding local rules and rights pluralism, in order to include them in a deadly embrace and subtly squeeze them between the mill-stones of a formalized rights framework and the global private property market. In De Soto’s logic, Third World extralegal property owners are to be considered as almost equals, they have the capacity to obey and change their market-inefficient rules, norms, and collective property relations, and what is more, they want to be freed from the darkness, cross the bridge, and join the win-win game of popular capitalism: “it is hardly charity for the poor”. Not surprisingly, in his eyes, “formalization is an uncontested and permanent fixture of the Peruvian political landscape” (Ibid:194). Formalization, in order to adapt to the model and become like them, the ‘advanced ones’ who *are* the model and the mirror.

“Can we be like them? The politicians’ promise, the technocrats’ *raison d’être*, the fantasy of the needy: the Third World will become the First World, and will be rich and cultured and happy, if it behaves itself and does as it is told, without balking or objecting. A prosperous destiny will reward the starving for their good behavior, in the last chapter of the soap opera entitled *History. We can be like them*, according to the gigantic lighted billboard burning alongside the road leading to developing the underdeveloped, and modernizing the backward. But *what cannot be, cannot be, and anyway, it is impossible* [...] The world’s precarious balance, teetering on the edge of the abyss, depends on perpetuating injustice. Many must be poor to enable a few to squander” (*Ser como ellos*, Galeano 1995:115,117).

Pursuing dreams imposed by others - the “successful peoples” -, accepting *their* definition of real needs, universal knowledge and true justice, seeking to be equal to them as the maximum expression of equality. Commonly, as the case studies demonstrate, irrigation technological modernization is not just equated to material progress and development, but also to moral progress and ethical innovation, to the transformation of Nature into Culture, even though the artifacts and technologies themselves are presented as neutral and objective. “The belief that, given the proper technologies, institutions or incentive structure, human beings will display the same irrigation behavior everywhere is rooted in the epistemological claim of human universality and homogeneity”, as Zwarteven rightly argues. “Differences between people are seen as fundamentally epiphenomenal, making it possible to make male generic statements about human nature, truth and other imperial universalities” (2006:108). Making it possible also to believe in the immaculate conception of modern technology, ignoring the particular, cultural-political norms of those who created it. Therefore, in this book I explore how, behind the neutralizing veil of technological modernization, parachuting new, externally-developed socio-technological systems induces not only new artifacts, “but also a new world of social relations and myths in which definitions of what ‘works’ and is ‘successful’ are constructed by the same political

relations the technology engenders. ... Creating a 'successful' technology also requires creating and disseminating the very norms that define it as successful" (Pfaffenberger 1988:249-250).

During my research journey I will analyze how the strategies and faces of 'normalization' subtly seem to transform: from bald-faced violence toward self-colonization of the mind's eye – in other words, water rights domestication through coercion and through innocence. I will also explore how these apparently opposing faces take turns subjugating people.

The book explores the ways in which innocence works through inclusion and participation. How does it succeed in defining water rights as the right to consume services that can only be provided by the dominant water game players? How does it impose on the water users the need to demand the right to compete as equals – in a reality in which water use calls for collaboration rather than competition? How does it strategize to conquer the faculty to imagine? As Foucault quotes Servan (1767): "When you have thus formed the chain of ideas in the heads of your citizens, you will then be able to pride yourselves on guiding them and being their masters. A stupid despot may constrain his slaves with iron chains; but a true politician binds them even more strongly by the chain of their own ideas; it is at the stable point of reason that he secures the end of the chain; this link is all the stronger in that we do not know what it is made of and we believe it to be our own work; despair and time eat away the bonds of iron and steel, but they are powerless against the habitual union of ideas, they can only tighten it still more; and on the soft fibers of the brain is founded the unshakable base of the soundest of Empires" (1995[1975]:102-103).

As the chapters illustrate, the non-functionality of most mainstream water policies and intervention models that have ruled in the Andes, or their non-adaptedness to local context – which also has been demonstrated time and again in earlier research -, does not seem to weaken the force with which these concepts and policies are promoted. It seems that such water rights designs and hydro-policy models do not have to prove their adequacy to user interests, in particular not to marginalized user groups. And apparently, their effectiveness in achieving certain strategic goals is not based on conceptual thoroughness or empirical accuracy. How, then, to investigate the apparent irrationality these national and international policies that claim to be based on Rationality? In a water policy world, called 'Efficiency, Democracy, Sustainability and Progress', where irrationality not seldom seems to be defined as Rationality, shouldn't the very rationality behind such reasoning be the object of examination? How to strike a balance between the fact that the water societies they preach and predict are clearly imaginary, with water rights frameworks that are illusory, and at the same time, the idea that such models have great actual force to create their own water world? How to acknowledge and examine the fact that the social and legal engineering and disciplinary planning of water society is a myth, but that this myth, at the same time, is extremely powerful in Andean water governance practice? In the water world illusions are powerful, for which reason I pledge to scrutinize the power of illusion.

For this reason I will search out the *responses* of water users and their collectives, also beyond just rational, tangible, visible features. As I hope to show in this book, reason resides not just in the intellect as if it were split from practice, from experience, from affective life. Neither does it reside in just empirical observation that feeds distanced scientific rationality. In the complex game of domesticating water rights and users in the Andes, and the latter's response by resistance, many things are not what they say they are or appear to be. In these responses, local truths build both on their factual, place-bound or historical origin and (even more) on their strategic use – they often disguise themselves behind these masks, and may even dress up as universal, rationalistic, official truths.

PART 1

ANDEAN IRRIGATION AND RULE-MAKING



All these lovely, fruitful fields, which are like an immense heavenly garden,
are in mourning, bloodstained because of the struggle over water . . .
In the end, neither the one nor the other has any place within justice.

Jorge Fernández, '*Agua*' (1985[1936]:66,111)

chapter 1

INTRODUCTION: ABOUT RULES AND GAMES

1.1. The rules and the game

Water rights and water struggles in the Andes

In the Andean highlands, water is life and represents productive potential. Irrigation water constitutes a key element in local production systems and is central to sustaining the local livelihoods of numerous peasant and indigenous communities¹ who face erratic, deficient precipitation. At the same time, in most Andean countries, these smallholder highland communities are responsible for most domestic food production. Therefore, water control, local livelihoods and national food security strongly intertwine (Apollin 2002; Gutiérrez 2006; Guevara et al. 2006; Ruf 2006).

Water also represents power and, as such, is a source of profound contestation. With growing scarcity, disputes over water access and control intensify with every passing day. On top of the struggles among competing uses and use sectors, water is also fiercely contested within ‘the field of irrigation’: in terms of economic and political control over the resource and in relation to the divergent meanings and values assigned to water: in the Andes, there is a battle over material control of irrigation systems and over the right to culturally define and politically organize these systems (Gelles 2000; Oré 2005; Trawick 2003). At the same time, water is a basic means of mobilizing people and often the driving force behind the formation of strong common-property institutions, grounded in shared rules and collective rights (Beccar et al. 2002; Dávila & Olazábal 2006; Urteaga 2006). These management norms and practices are the backbone of local Andean water control systems – a body of rights, obligations and rules for system operation and maintenance, often rooted in community structures. Obviously, such local normative systems, linked to location-specific physical and ecological environments, display enormous variety from one irrigation system to the next and are interwoven with the cultural and political foundations of past and contemporary Andean societies (Boelens and Doornbos 2001; Bustamante 2006a; Gelles 2000).

These features have also led and continue to lead to water user families’ strong identification with local water sources, the collectively owned and managed irrigation system and the community’s user organization. Local water control has always importantly colored processes of identity formation in numerous Andean communities (Boelens and Gelles 2005; Castro 2002). But the national and global context in which these communities operate changes rapidly, with major impact on their

1 As I make clear throughout the chapters of this book, identity labeling is at the heart of the power game. I use the concepts of ‘indigenous’, ‘peasant’ and ‘community’ as contextualized, dynamic constructs. In the Andean region, the relation between the imposed or self-defined class-based definition (*campesino*) and ethnicity-based identification (*indígena*) is complex and fluid, and strongly depends on who uses which labels in what period, context or place. For example, *indígena* (or even more *indio*, *nativo*, *runa*), is used both as a contemptuous term to racially condemn ethnic peoples, and as a proud, self-conscious designation recently appropriated by the indigenous movement as part of the ‘first nations’ (*pueblos originarios*) discourse. Likewise, *campesino* is both a construct imposed on indigenous peoples to deny their cultural identity and a term (often claimed by themselves) to strengthen class-consciousness and political alliances. Both *campesino* and *indígena* concepts are part of fiercely debated and contested identity politics. In the Andes, place- and territory-bound names are commonly used to refer to indigenous groups’ own identity. In this book, I use the term peasant or *campesino* primarily in the sense of a (socio-economic) class-based definition (and self-denominator) grounded in relations of property and production, and the concepts of indigenous and *indígena* as a reference (and auto-reference) to ethnicity-based, socio-cultural identities of persons and communities, grounded in culture and/or cultural politics.

material, political and symbolic orders. The increasing demographic pressure, and the processes of migration, transnationalization and urbanization of rural areas, among others, lead to profound changes in agrarian structure, local cultures and forms of natural resource management. Newcomers enter the territories of local peasant and indigenous communities, claiming a substantive share of the existing water rights and often neglecting local rules and agreements. At the same time, the Andes is undergoing an era of aggressive neoliberal water reform.² In this context, it is common to see that powerful actors manage to influence new regulations and policies or monopolize water access and control rights. National and international elites and enterprises use both State intervention and new privatization policies to nullify and take over local and indigenous water rights. The new water management context leads to increasing inequality, poverty, conflict, and ecological destruction. Consequently, together with other societal groups who lack influence in water policymaking and intervention, it is particularly the rural communities who, as the tail-enders of water society, most suffer from contemporary developments.

So, in contrast to communities' major role in sustaining water management systems and food security, government policies are generally not supportive of local communities. Water rights in most regions of the Andes are largely concentrated in the hands of a few powerful stakeholders.³ This unequal distribution is not only because of colonial exclusion and the historical encroachment on communities' water rights by *conquistadores* and *haciendas* but is also triggered by contemporary State policies (see chapters 2 and 5). For a long time, water allocation and investment policies have focused on benefiting large-scale irrigation for *hacienda* or lowland plantation agriculture, water-intensive extractive industries (mining, factories, etc.), and more recently on providing drinking water and hydro-power to cities. Water is increasingly dealt with as an exclusively economic resource that must be allocated to the 'most profitable economic use' in the open market's win-or-lose battle, threatening the position of communities and their water rights systems (Castro 2007; Guevara et al. 2006; Perreault 2006. Cf. Getches 2005; Roth et al. 2005).

As I extensively document in this book, besides economic interests in either reshuffling water allocation to third parties or gaining control over the surplus produced by community systems, State administrations and other powerful water agents have other concerns when intervening in local water control. Political control over, and obedience by highland communities and territories, in multiple expressions, is a fundamental stake, and hereto, 'rationalization of water control' by standardizing local water management rules, rights, and rituals is a basic strategy. Despite the last decade's shift toward (neoliberal) downsizing of State water bureaucracy, the formal governance institutes and policies – sustained by discourses on user participation and management decentralization – commonly aim to strengthen, not weaken, their control over local water management. Therefore, I will analyze how user inclusion in new, 'rational forms of water management' guided by 'expert knowledge', 'modern irrigation techniques' and 'demand-driven hydro-policy models' is fundamental to this control project.

In the last two decades, continuing economic marginalization, ethnic discrimination and undemocratic political decision-making have led to massive, nationwide uprisings in the Andean countries. The theme of water prominently figures in many of these protests, which question privatization

2 See e.g., Del Castillo 2007; Guevara 2006; Hendriks 2006; Oré 1998, 2005; and Van der Ploeg 2006 for Peru; Bauer 1998; Boelens & Zwartveen 2005a; Gentes 2006; Budds 2007; Castro 2002; and Hendriks 1998 for Chile; Ahlers 2005; Perreault 2006; Bustamante et al. 2005; and Bustamante 2006b for Bolivia; Boelens 2006f; Isch & Gentes 2006; Palacios 2002; Sexton 2002; and Zapatta & Gasselin 2005 for Ecuador.

3 See e.g., Galárraga-Sánchez 2000; Gentes 2006; de Vos et al. 2006; Zapatta & Gasselin 2005; chapters 2 & 4.

plans and encroachment on Andean users' collective water rights. More and more, the traditional struggle for land redistribution has been accompanied or replaced by collective claims for recognition of territorial rights, more equal water distribution, and the legitimization of local authorities and normative frameworks. Struggles increasingly also involve larger coalitions whereby, particularly in countries as Ecuador and Bolivia, there is a strong shift from class-based to class- and ethnicity-based claims for water access and control rights.⁴ Water rights, in terms of claims and definitions, become arms in a struggle for recognition of diversity *and* redistributive social justice.

For these same reasons, it is not surprising that (collective) water property relations have become central issues in current policy debates and rural development initiatives (Urteaga & Boelens 2006). Nevertheless, while both Western and Latin American universities and schools of water policy thought focus almost exclusively on 'modern' water laws and their (theoretically optimal) relation to 'advanced' water technology and 'should-be' neo-institutional policy-models, there is an astonishing neglect of and lack of understanding about what water rights-in-practice *are*, how they function in local communities and how they are created, consolidated and transformed from abstract (socio) legal categories into local procedures and practices. This tremendous blind spot in conventional water science and policy-making, rather than being a consequence of misconception or error, results from the political practice and objectivist tradition that they form a part of. They self-satisfy, turning round in their own, self-preserving myth. Water law and rights are seen as instrumental institutional arrangements to 'socially engineer' water society. In water governance reforms, water rights and the effective 'rule of law' are considered to be both the instruments for planned change and its final objectives (Boelens et al. 2002; Roth 2003; Zwartveen et al. 2005); and it is according to these objectives that water reality is judged. Nevertheless, understanding not just 'law-, project- or manual-driven' rights concepts, but especially users' reasoning and local expressions of water rights in Andean communities – and the ways in which they use official law as a strategic resource – is of crucial importance if we want to comprehend their claim for 'water rights' and the ways in which local water control and livelihood defense interact with national and global water/power arenas.

In general terms, a water right gives the right-holder authorization to subtract a flow of water from a particular source and to make use of legally or locally established privileges associated with the water right (among them, access and operational rights, such as use of infrastructure, and/or control rights, such as sharing in management decision-making), provided that the obligations associated with the water right are fulfilled.⁵ But behind such overall notions, community water control contexts harbor a tremendous diversity of 'living water rights'. Apart from the issue of who will have water rights and who will not, they respond in infinite ways to basic questions such as: What is the local definition and what are the precise facets of 'water rights'? What mechanisms are jointly recognized as legitimate to obtain and maintain water rights? How will water benefits be divided? How will contributions and burdens be divided? Who will be entitled to participate in decisions about management, acceptance of new members and any changes in future system ownership? How, and with what results, can different users activate and materialize their water rights in practice? Which human and supernatural authorities have legitimacy to enforce water rights? Etcetera.

This book, starting with a water rights conceptualization in chapter 2, will elaborate on the fact

4 E.g., Albó 2002; Assies 2006; Assies & Gundermann 2007; Baud 2006; Bebbington et al. 1993; Bennett et al. 2005; Bustamante 2006a, 2006b; Gelles 2006; Vera 2006a; Zwartveen 2006.

5 See chapter 2 and: Beccar et al. 2002; Boelens & Doornbos 2001; Boelens & Zwartveen 2001; Schlager & Ostrom 1992.

that a water right does not refer to just the relationship between a user and a water source, but also to the relationship between people in their political, socio-technical network. Water rights are part of and simultaneously constitute social relations of production. A crucial element of water rights is the faculty to act in a certain way in relation with the rights of other persons or groups who claim to use or control the water source and its privileges. Water rights – in conceptual terms and ‘in action’ – express the workings and effects of power among humans, in alliance and alignment with non-human elements. Therefore it is crucial to consider the two-sided relationship between water rights and power: power relations determine key properties of the contents, distribution and legitimacy of water rights and, in turn, water rights in action reproduce or restructure power relations – they may both strengthen and challenge the status quo (Boelens & Doornbos 2001. Cf. Bolin 1990; Gelles 1998; Mitchell & Guillet 1994).

In water control practice, user communities and families (just as State agencies and other parties) mobilize a recursively organized body of water rights, rules and resources. In terms of Giddens (1984) this body both structures and is structured by water control practice. By mobilizing this rights repertoire water users and interest groups reproduce it, but always introduce new contextual elements: reproduction of rules and rights at the same time involves their active production. Such intended action often has unintended results and dynamics (Giddens 1995. Cf. Van der Ploeg 2003; Remmers 1999). Unlike game-theory notions (that assume an almost spontaneous adaptation of law- and rule-making according to ‘rational choice’, ‘collective interest’ or even the summing-up of ‘individual interests’), and different from monolegal State-biased theories, real-life people make law, in non-uniform ways. Moreover, “...they do not make it out of whole cloth. They build it on existing ideologies, institutions, and structures. But these ideologies, institutions and structures do not have a mind of their own, they are interpreted, altered, and shaped by human agency” (Chambliss 1993:25). This also holds true for State law production. Like local water rights repertoires, State water laws are constituted and their implementation is mediated by a variety of interest groups – albeit with unequal clout and influence. Therefore, though water ruling-classes in the Andes heavily influence official law creation and enforcement, they are not the only ones responsible. Moreover, like local water user communities, ruling classes are divided in their interests. The contents and manifestations of State water law are a reflection of the ongoing struggles and not simply “a mirror image of the short-run interests and ideologies of ‘the ruling class’ or of ‘the people’” (Chambliss 1993:30). Consequently, as I will analyze, the foundation, creation and re-creation of water rights in both Andean nation-States *and* in local Andean water user communities follows from both ad-hoc, unintended or unforeseen patterns of change, and as the result of intentional design as given shape within political struggles and strategies: strategies to control and discipline, and strategies to escape domestication.

As a result, the analysis of water rights necessarily implies the study of local water rights and irrigation system’s embedding within the ‘outside’ forces and fields that influence the actual social relations in irrigating communities. As Vidal (1990) remarks, the saying ‘We will settle this among ourselves’ summarizes the fundamental principle of local law in Andean communities; however, when conflicts overflow community boundaries and third-party interests come into play, then the tension emerges among local law, official law, and any other socio-legal repertoires. This tension has generated a complex interaction and hybridization among local and official norms and a series of norms originating neither in the community nor in official legislation (see chapter 2). Therefore, by definition, Andean water user communities operate under conditions of legal pluralism (legal complexity) whereby, in the same hydro-ecological and socio-political space, different sociolegal

sources and water rights orders exist, encounter and influence each other (Cf. Benda-Beckmann et al. 1998; Roth et al. 2005; Sousa Santos 1995).⁶

Actually, local water rights are not so ‘local’ as they appear to be (and as I will highlight, neither were they before Spanish colonization). Local water laws and ideologies do not have just local or historical roots, but result from the way diverse actors select and intercalate elements from a variety of water rights regimes, with the aim to strengthen their water rights positions (Boelens & Dávila 1998; Roth 2003). Thus, the concept of ‘local’ water rights rather than referring to strict time- and place-related origins relates to the users’ perception that the water rights’ access, content definitions and control are ‘theirs’, that they ‘belong to them and the locality’, that they orient local users’ behavior, and that the locally appointed authorities are the ones who have legitimate power to enforce these rights – rather than ‘outside’ rules and rule-makers (F. and K. Von Benda-Beckmann 2000; Beccar et al. 2002). Therefore, an analysis of the construction, reproduction and transformation of Andean water rights systems, beyond focusing on the ‘truthful representation’ of their sources of origin, or the ‘academic accuracy’ of local *usos y costumbres* constructs, needs to consider their constitution as local-national-global hybrids and focus on the question of their political use and convenience for either intervening agents and supralocal rulers or for user groups who struggle for livelihood defense and rule-making autonomy.

In sum, water rights *embody* social and power relations (e.g., they organize inclusion and exclusion), they *contribute to the constitution and profiling* of power relations in water society (e.g., they may accelerate or curb social differentiation within the agrarian structure), and they are *shaped by* the way power is socially and culturally organized in the practice of water governance. In everyday encounters, different water interest groups as well as divergent water rules and rights frameworks interact and confront. While State agencies, water lawyers, policy institutes and even peasant and indigenous federations pay most attention to the legal battle on water laws and rights construction, most struggles for water and ‘legitimacy’ take place within in the local water territories themselves – everyday water battlefields – with major consequences for the frameworks of both positive and local water rights justice. To analyze water rights struggles, according to the issues at stake, at different grades or levels of abstraction, we have suggested four Echelons of Rights Analysis (see also Boelens 2003; Zwartveen et al. 2005):

- First, in order to concretize water claims, we see a struggle over **Resources**: access to and withdrawal of water, and the fundamental material means to concretize water rights – such as technological artifacts and infrastructure, labor, financial resources, etc.
- A second basic field of contention refers to the substance and meaning of the **Rules**: the contents of water rights, operational and management rules, and mechanisms to acquire rights. The bundles of rights and obligations; categories, roles and responsibilities of users; criteria for allocation based on the heterogeneous values and meanings assigned to water; diverse ideas and constructs of fairness; etc., are key elements of this field of analysis.
- A third level of conflict relates to **Regulatory Control**: the authority to formulate and enforce water rights, to command water management through binding prescriptions, to make decisions and sanction the implementation of user categories and their norms of conduct. It refers to the institutionalized faculties to govern water affairs and involves hierarchization according to class,

⁶ As the book’s cases and chapters show, the simple, dichotomous categorization of water rights as ‘*de jure*’ and ‘*de facto*’ or ‘formal’ versus ‘informal’ rights (as in neo-institutional analysis) obstructs a dynamic, contextual understanding of legal diversity and interaction; rather, it prepares instruments for universalistic, a-historical and a-political rational-choice based intervention policies, stripped of any complexity (Boelens et al. 2002; Roth 2003; Zwartveen 2006).

gender, ethnic or other lines, and the differentiation of access to water decision-making.

- The fourth and most abstract level of the water rights battle refers to the **Regimes of Representation**: the discourses⁷ that establish, impose or defend particular water rights policies and regimes. Regimes of Representation legitimize use and distribution of resources; contents of rules; and regulatory control or authority to set the rules of the game. As powerful discursive practices, they make the moral, institutional and political linkages among the social and technical, human and natural, theoretical and practical water worlds, *as if* these bonds were entirely natural.

All echelons interact. At the level of discourses and ideologies the aim is to create particular forms of consciousness that can and will be called upon and applied (presumably in a self-evident manner) in order to defend particular water policies, legitimize water authority hierarchies, and affirm particular water control institutions and water distribution practices.⁸ So, the struggle over water rights is simultaneously a battle over resources and legitimacy: the legitimacy to formulate and enforce water rights combines the four levels, shaping socio-technical discourses that blend discursive and material ('physical-technical') elements together with water truth and knowledge claims, in particular ways.

Forced engagements, cultural politics and dynamic identities

The above disputes over local water rights' access and legitimacy in the Andes provide insight into how positive justice and local forms of 'equity' (i.e., in their legal essence, respectively, official 'right-ness in general' vis-à-vis local 'fair-ness in particular cases') are socially and politically constructed, and interconnected. For instance, the fact that many water rules and rights constructs that are considered as 'local-Andean' were actually official or colonial norms that have been locally appropriated, adapted and internalized (Cf. Benda-Beckmann 1996; Hoekema 2006; Sousa Santos 1995), means that local law (whether 'indigenous', 'peasant' or other) cannot be conceived of as normative repertoires that either pre-existed or are autonomous vis-à-vis the State. Local water rights in the Andes assume the presence of State law, and define themselves in contrast and relation to it (Boelens & Doornbos 2001; Guevara 2001). This works in *both* directions, a fact that is usually ignored in positive-law analyses: State law also (though differently) grounds its existence and survival in the active functioning of multiple, locally particular socio-legal repertoires:

Besides their interaction, State and local water rights systems have very different functions and characteristics: State law is formulated to regulate water control throughout the country, whereas local law is specific and context-based. Therefore, in most (heterogeneous) cases, official justice is seen as inadequate, and it faces the problem of losing legitimacy by not 'doing social justice' (i.e., it is seen as unfair (inequitable) in particular situations). Totally ignoring these local fairness concepts

7 See below my socio-technical understanding of the concept of 'discourse'. When I use the concept of 'regime of representation', this is *not* to refer to *hegemonic* systems of power-knowledge-truth that do not allow for alternative reasoning and acting (as e.g., in Escobar 1995). I use them as powerful discursive constructs, which forcefully aim to represent the order of things – but which are always challenged and hybridized by alternative representations. (Whenever I use the term 'hegemony', it is in this sense: as dominant systems that forcefully aim and claim to make reference just to them).

8 As I will elaborate on in this book, in the Andean conditions of legal complexity, not all authorities (institutionalized faculties to govern) are seen as possessing (equal) legitimacy. This holds true for local community authorities which often are sent away by their members whenever they fail to respond to community reciprocity obligations and interests (see chapter 4), but equally for official State authorities. For instance, during the last decade, most of Ecuador's corrupt presidents and governments were dismissed by massive popular protests and revolts. Moreover, Andean history knows of many instances where authorities were installed by force, without popular consent and legitimacy. As I will detail, diverse 'power mechanisms' have been put to work to provide these authorities with legitimacy.

endangers the State's legitimacy and possibly challenges the broader political economic structure (as commonly happens in the Andean nations). Therefore, in many instances, customary law has been used, 'incorporated' and codified: not to substitute positive law, but to supplement and adapt it (Boelens 1998a; Hoekema 2004). In fact, it is ironic that official Justice has often been able to survive *thanks to* the 'equity' and 'acceptability' of customary laws that were incorporated (Schaffer & Lamb 1981).⁹ Hence both orders base their existence on mutual interaction and strategic 'recognition',¹⁰ and are partners to a 'shotgun marriage' (Boelens et al. 2005b, see chapter 8).¹¹

However, this 'State-institutionalized equity' is a *contradictio in terminis*. It commonly leads to the de-contextualization and de-politicization of local rules and rights, the latter becoming part of a *general* formalized system, which takes away their nature of suitability, acceptability, relevance and being 'fair' in particular cases (cf. Schaffer & Lamb 1981). Local socio-legal repertoires make sense only in their dynamic context, whereas national law demands 'order and stability'. Indeed, there is a danger of 'freezing' or even 'fossilizing' customary rights systems by incorporating them into relatively static, universalistic State law, in which local principles lose their identity, functionality and capacity for renewal (Benda-Beckmann et al. 1998; Roth et al. 2005). Moreover, if they are legally recognized, will local rights frameworks fall prey to expert-dominated redefinition (chapter 10) or face assimilation and marginalization? It is not uncommon to see that only those rights and principles that fit into official legislation and policies are recognized, thereby muzzling the complex variety of 'unruly rules' (see chapter 5 and 8). Thus, as I will analyze, the arena of local water rights definition and acknowledgment – parallel to that of local identities – offers a huge arsenal of weapons in the struggles for 'recognition from above' and 'from below'.

Law-making (in local, national and supranational societies) is a process that aims to resolve historically and context grounded contradictions and conflicts. Fundamentally, to naturalize the (often arbitrary) nature of their laws and water rights framework as 'Justice', the dominant classes and ethnic groups in the region (and abroad) tend to put the political and legal system to use so as to look for responses to particular rights conflicts rather than addressing the *basic* class, gender and ethnic contradictions that underlie these conflicts (cf. Bourdieu 1977, Chambliss & Zatz 1993). Thus, commonly, temporary (or ad-hoc) changes are introduced – to safeguard the structure of domination and its rule-making and enforcing legitimacy – but which do not address primary contradictions "which can be identified as fundamentally and inextricably involved in the system reproduction of a society..." (Giddens 1986:143). Since the fundamental contradictions remain, this soon creates new dilemmas and triggers new conflicts – as the ongoing Andean water rights and identity battles make manifest (Boelens & Dávila 1998; Chambliss & Zatz 1993).

The struggles of Andean water collectives 'against', 'with' and 'for' also give a deeper understanding of how, at the same time 'mutual bonds of rights and obligations' and 'sense of belonging' among

9 This phenomenon is not typically Andean. E.g., Roman Law (*jus gentium* was 'added' to *jus civile*), English Law (common law 'complemented' statutory law), among many others, provide the same dualist rationality of 'protecting formal law systems'.

10 Strategic recognition of legal orders differs from analytical recognition (focusing on the possibility of co-existence and interaction among multiple orders, see Benda-Beckmann et al. 1998). On the concept of 'academic-analytical recognition' (independent of e.g., State recognition) vis-à-vis 'political-strategic recognition' (e.g., validation of non-State orders by the State legal hierarchy): see section 1.3 and chapter 5 (in which I will detail various sub-forms of both recognition modes).

11 In the Andean region, customary laws and water rights are sometimes incorporated into State law as 'special laws' (Boelens et al. 2005b; Vidal 1990): special norms that are enacted solely for certain societal (commonly essentialized) stakeholders and relationships, often in order to leave the official norm unmodified.

water users is strengthened, how a common ‘hydraulic property’ is created and re-affirmed, and how ‘water cultural identities’ are given their actual substance. As Cohen observes, “to operate effectively, a group must define its membership and its sphere of operation, by defining its identity and exclusiveness, within the political field in which it operates” (1986:68). This political field has many levels, from household and community to global ones, and at each level dominant players try to present its members with “a ready-made blue-print for living, with a design for selfhood” (Ibid:60). As I will investigate in the following chapters, to understand the water cultures of the subjugated it is crucial to also focus on the water cultures of the subjugating, which stand in direct relation to each other. The ‘social organization of cultural difference’ (Barth 2000), which is based on ‘situational facts’, historical roots and actual perceptions of group difference as well as on the ‘invention of traditions’ (Hobsbawm 1983) and the construction of ‘usable pasts’ (Patterson 1991) and ‘imagined communities’ (Anderson 1983), takes place as a relational (‘intersubjective’) and most of all confrontational process, within economic and political structures and struggles. Ethnicity, identity, and subject-formation stem not just from the Self and self-definition but also, and importantly, from the confrontation with the Other and the ways in which the Self is ‘othered’ (Fanon 1967; Said 1993). To this respect, Gelles (2000, 2006) rightly observes that the hierarchic submission of local water control systems to the State takes on an added dimension in the ethnically differentiated and culturally plural Andean societies, where the cultural politics of irrigation bureaucracies, mercantilization projects, and secular forms of water organization generally reflect and reproduce the legitimacy and authority of a dominant culture and ethnic group (Cf. Boelens and Gelles 2005). Historically, indeed, a deep-seated racism was what has characterized bureaucratic myopia in the Andean nation-States (Gelles 2002. Cf. Abercrombie 1991; Baud 2006; Castro 2004; Flores Galindo 1988; Starn 1991). Therefore, a central issue of the book is to analyze the ways in which ruling groups have aimed to supplant the diversity of water cultures and rights to make everyday water management and social relations graspable and controllable, by installing the categories and frames of rights and reference of the dominant water players, often presenting them as objective, universal schemes of rational water culture, identity and belonging. In what ways do Andean countries’ policies of recognition imply a ‘politics of recognition’ that aims for the normalization of deviant groups, rights and behavior, to keep them from ‘wrong-doing’?

Besides normalization, the following chapters seek to highlight how local water user groups define their own cultural-political projects. In what ways do they refuse to accept selfhood as a mechanical reflection of prevailing power relations? How do they react to, modify and strategically use the ruling symbolic order? On the one hand, as was mentioned, they dynamically shop around in other normative systems and discourses, appropriating those elements that can legitimate their claims. Here, ethnicity and Andean or indigenous identity can be considered as a political strategy in the struggle of local communities and supralocal organizations to defend their rights vis-à-vis the colonial and postcolonial State, its agencies, and other powerful water interest groups (also see Baud et al. 1996; Boelens & Albó 2007; Salman and Zoomers 2003). On the other hand, Andean communities show specific historical and cultural forms of collective action and resource management, embedded in specific Andean cultures with their particular normative repertoires, symbols and meanings, livelihoods and local economies (Gelles 2006; Mayer 2002). Their water identities and boundaries are not just and only ‘limitless’, ‘tactical’, ‘fluid’ and ‘disposable’ (Cohen 2000; Gelles and Boelens 2003). Both these identification processes dynamically combine, and require an understanding of the Andean highlands “... as a place of synthetic and shifting identities that have grown out of the multi-layered interactions of the local, the regional, and the global since pre-Columbian

times” (Starn 1994: 20).¹²

So, ethnicity and identity in contemporary Andean society is the outcome of intensive interaction between different classes and cultures. Battlefields of water rights contestation constitute important arenas for this. As I aim to study and illustrate, issues such as water subject- and identity-formation, cultural policy effects, or the working of the ‘politics of recognition’ of water rights and ethnicity, rather than seeing them as uniform, hegemonic patterns, as universal categories of understanding or as nation-State level products of the ‘imagined community’, can be understood only when placed within their local water control contexts. Here, they acquire many, often profoundly divergent, manifestations. As I will show, the claims for rule-making autonomy and respect for distinctiveness are not the results of a tendency to separatism, independization or cultural conservatism. Far from efforts to ‘Balkanize’, they result from the intensive struggle between the actors over water access and control rights, over the privileges to norm and regulate, and over the strategic positions of legitimate authority within the structures of State and non-State water orders.

Norms, power and truthful water knowledge

“Truth isn’t the reward of free spirits, the child of protracted solitude, nor the privilege of those who have succeeded in liberating themselves”
(Foucault 1980:131).

Water rights, as the pivotal building blocks that steer water control in Andean irrigation systems, inform both the design and implementation of hydraulic technology and the organizational framework – in terms of practical distributive issues, moral and symbolic contents, and the alignment of humans and non-humans in socio-technical hierarchies. Though local Andean systems and State- or NGO-based water rights repertoires deal with basically the same issues, I will scrutinize how the definition and categorization, the contents, the range of application, the sources of legitimacy and the modes of alignment and command tend to be entirely different. Also the process of their constitution and re-affirmation follows different pathways. For instance, while the latter policy-based regulations are written in ink (and mostly result from simply copying existing or foreign ‘best water laws and regulations’), on the contrary, user collectives’ rights repertoires tend to be written in blood, sweat and tears. Current and ancestral investments to establish and shape rights represent long-term collective action and profound suffering, often including casualties, and the enduring debates on rights issues involve huge collective energy. On top of that, struggles to materialize rights, now and in history, commonly reflect the Andean saying: “*Junto al agua corre la sangre*”¹³.

When analyzing water rights and norms, therefore, the description of their contents and structure gives only a very partial answer to what they *signify* and how they work out in practice. For example, the above-described process of hybridizing local normative systems can strengthen the latter but it also may erode existing forces of the ‘locality’ and intensify external domination, so it is of crucial importance to identify the power mechanisms that give authority over production and defense of norms and

¹² As Gelles argues, “Andean culture is best viewed as having been created from a hybrid mix of local mores with the political forms and ideological forces of hegemonic States, both indigenous, Iberian and others. Some native institutions are with us today because they were appropriated and used as a means of extracting goods and labor by Spanish colonial authorities and republican States after Independence; others were used to resist colonial and postcolonial regimes” (2002:12).

¹³ ‘Blood flows along with water’.

their usage in practice. If norms should be ‘reclaimed’ (Oliverio 1998; Lauderdale 1998) to serve the interests of communities that want to control their own decision-making process and livelihood strategies, then, aside from analyzing the rules of the game it is necessary to study the game of the rules, i.e., the ways in which rights are normalized and how this normalization is mediated or resisted.

The etymological origin of the ‘norm’ is the Latin word *‘norma’*, which literally means *‘carpenter’s square’* and refers to a square angle (Webster’s Dictionary 1994; see also De Folter 1987). In a metaphorical sense it refers to ‘rule of conduct’, ‘basic criterion’, ‘line of action’ and it refers to particular ‘standards’ of a certain social group. Norms are rules that prescribe, permit, forbid or authorize social behavior and technical design and in this sense they are intended to structure, allow or constrain people’s repetitive actions and material artefacts, following certain specific procedures. These rules relate actors to each other and to their environment. They order the social relations that bind people together in their common normative framework (sociolegal repertoire, legal order, rights system), and at the same time they form an expression of and legitimize power relations among them. Norms define rights and obligations (rights are products of norms); they authorize and arrange the distribution of benefits and burdens in production relations. Though interrelated rules of conduct are accepted by a social group (and third parties), it does not mean that they are not contested or changeable, nor that the particular legal order would be ‘complete’, homogenous, and clearly demarcated in practice, on the contrary. As chapter 2 explores, fierce contestation takes place both within and among legal orders, whereby actors as well as legal orders are not on an equal footing in terms of influence or coercive means to enforce water rights. This, again, leads to the conclusion that it is crucial to analyze the relationship between diverse legal orders and power (Benda-Beckmann 2007; Bruns & Meinzen-Dick 2000; Roth et al. 2005).

In this power play among norms, rules, rights of diverse actors and sociolegal orders, I will not concentrate on just the above ‘explicit’ norms, be they written or orally popularized, State-based or ‘local’. As I analyze below, there is another ‘sphere of norms’ that strongly influences both official and local water rights, water policies, and water governance; which inserts into the interaction among plural water rights orders and also stretches far beyond that. These norms are present in everyday water control interactions, where they are reproduced, adapted and appropriated *‘as if* they were of users’ own making’ but in fact respond to dominant control interests: they operate as *disciplinary, equalizing standards* that mediate between ideology and structure, they function as the ‘moral glue’ to sustain water power hierarchies, to defend or strengthen dominant rules and forms of water governance, and to force non-compliant water users to accept the standards of ‘modern, rational, efficient, orderly water management’. Foucault analyzed the strategic working of these disciplinary norms, ‘normalization’, as realized by a system of finely graded and measurable intervals in which individuals can be evaluated and judged according to their correspondence with or deviation from a set of standards that are not fixed but change according to dominant interests.

This way, normalizing power *invades and expropriates agency and annihilates local norms*. The norms organize subjects in hierarchies, and – in an all-inclusive and participatory way – make subjects self-organize in and conform to these lines of command and obedience. Normalizing power imposes homogeneity and at the same time individualizes: it compares, categorizes, hierarchizes and corrects people according to the gaps that they show when measured against the norm. Therefore, as the tools of disciplinary control, ‘inclusive, participatory power’ not only equalizes but also tends to prosper well in modern societies with systems of formal equality, since “within a homogeneity that is the rule, the norm introduces, as a useful imperative and as a result of measurement, all the shading of individual differences” (Foucault 1995[1975]:184). These differences, categorized by a

satisfactory-unsatisfactory dichotomy, are the material for self-correction to not just diminish the aberrant behavior but also produce the very subject. Subtly, the standards for ‘equality’ (thus comparison: ‘equal to what, to whom? To which norms and models?’) are taken away from the diverse local water user communities.

Not meeting these moral, ‘self-evident’ principles of ‘water reason and rationality’ goes far beyond violating the Law or the ‘water rules of the rulers’: it means violating one’s *own* capacity for reason, violating one’s *own* possibilities to progress and join modern water management. Fundamentally, it entails not just being irresponsible and offending those things that rational water society holds sacred, but most of all, not bearing responsibility for one’s own irrigation practice, household, user organization and community. The Foucauldian ‘invisible norm’ – presented as ‘natural’ and ‘inevitable’ but in fact ever changing – is the primary mechanism through which water users are measured and measure themselves, in order to subtly stabilize and reinforce the dominant power structures in modern water societies. Questioning these modern norms, their integrity, and showing the overwhelming errors of ‘modern water policies’ and their non-correspondence with Andean water control societies is complicated since nobody would like to ‘stick to backwardness, irrationality, superstition or unruliness’, to ‘non-development’.¹⁴

Maybe even more importantly, questioning this ‘normal power’ is complex since it is not based on top-down control, exclusion and discrimination (as Foucault remarked: nobody would consistently obey only negative, oppressive, prohibitive power)¹⁵ but on positive, productive values, on participation, on inclusion, on knowledge generation. “We must cease once and for all to describe the effects of power in negative terms: it ‘excludes’, it ‘represses’, it ‘censors’, it ‘abstracts’, it ‘masks’, it ‘conceals’. In fact, power produces; it produces reality; it produces domains of objects and rituals of truth. The individual and the knowledge that may be gained of him belong to this production” (Foucault 1995:194). Thus, power both produces and controls reality and its subjects, forging their beings and molding their minds. The norms, as observed, often are not explicitly expressed in legal rules. The more powerful norms are those that do not appear to come from ‘outsiders’ or ‘rulers’, they are implicit perceptions of what is ‘normal’, what is marked as ‘abnormal’ and about how people should behave, feel and think. ‘Normalization’ means ‘*to make normal*’ or ‘*to restore to a normal state*’ (Webster’s Dictionary 1994:683). As argued above, the dominant classes and cultures are, and always have been, interested in inventing or promoting an ideology that legitimizes, naturalizes and ‘normalizes’ its oppression and/or ruling and intervention. The norms respond to the naturalizing model that serves as a vehicle for an invisible, subordinating power of normalization (Foucault 1982a, 1995; Fanon 1963, 1976. See also Achterhuis 1988, 1991; Dorfman and Mattelart 1973; Galeano 1995).

Therefore, the power game of making local water rights, irrigation systems and water users ‘*normal*’ according to the standards of powerful others (so expropriating *local* norms regarding fitness and order, by inducing outside standards as markers of normality), vis-à-vis the local struggles and claims of water user collectives to ‘deviate from uniform, subjugating normality’ and construct their own normative, socio-technical and political practices – is exactly what is at the heart of the study. What is to be considered normal, and who defines the standards? How are Andean peasant and

14 Particularly, in a region characterized by strong class, ethnic and gender divides that profoundly pervade water governance, challenging the ‘Norm’ and its high moral grounds of Water Rationality, Progress, Democracy and Justice will easily be equated with both abnormality and immorality - “...because no person can disobey reason, without giving up his claim to be a rational creature” (Jonathan Swift 1947[1726]:291. [Gulliver’s words, when visiting the highly moral and moralizing land of the utterly rational Houyhnhnms, who constructed an insurmountable divide between the moral and rational Selves and the immoral, irrational Others]).

15 See also Arguedas 1968; Dorfman & Mattelart 1973; Gramsci 1971; Scott 1990.

indigenous water users and communities made ‘normal’? But also: how and why are the normalizing norms challenged?

Normalization in its most extreme, *fictitious* form, occurs as in Orwell’s novel *1984*. History, agency, thought systems, ontologies, human collectives, families, people’s bodies but also their minds and inner motives, were torn to pieces and put together again in new shapes, according to the choosing of the ones in power: utter individualization, destruction and recomposition in a new normative framework. Main figure Winston Smith, in the hands of the regime, lost all capacity of own thought. In the end, he wanted to be saved, to be normal. Oceania did not have a legal system, there were no laws, did not need universally fixed standards anymore since the norms could be (and were) shaped at any moment according to the wishes of the regime. Two plus two could be five, or three, or six. Society was entirely ‘predictabilized’:

“O’Brien held up the fingers of his left hand, with the thumb concealed.

-There are five fingers there. Do you see five fingers?

-Yes.

And ... he saw five fingers, and there was no deformity. ... there had been a moment – he did not know how long, thirty seconds, perhaps – of luminous certainty, when each new suggestion of O’Brien’s had filled up a patch of emptiness and become absolute truth, and when two and two could have been three as easily as five, if that were what was needed” (1977[1949]:207).

Abandoning his deepest convictions, norms, beliefs, and even informing against his love, Julia, became a voluntary act, as if it were ‘normal and right’. He was entirely moldable and normalized, just like society and any of its human and non-human members. “It was like swimming against a current that swept you backwards however hard you struggled, and then suddenly deciding to turn round and go with the current instead of opposing it. Nothing had changed except your own attitude: the predestined thing happened in any case. He hardly knew why he had ever rebelled” (Ibid:223, 239).

Even though, historically, most *elements* of the (power-intentional and power-negative) Orwellian dystopia have been tried and put to practice in the Andean Region,¹⁶ by military dictatorships who aimed to make the normalization dreams come true, obviously, Orwell’s totalizing *system* is far more deterministic than all real-life functioning of power and normalization. As the ‘later Foucault’ (mistakenly criticized for being ‘deterministic’)¹⁷ argued, “aside from torture and execution, which preclude any resistance, no matter how terrifying a given system may be, there always remain the possibilities of resistance, disobedience, and oppositional groupings” (in Rabinow 1984:245). Thus, history and current development are not determined just by powers that cannot be influenced and understood by those who are subject to those powers. Human choice – rational or not – remains a key element, even when humans are severely constrained. Giddens, tellingly, refers to Marx’ observation that it is human beings who make history, even though not in conditions of their own choosing

16 Though ‘1984’ is fictitious, documentaries such as “*La Flaca*” show how Pinochet’s extreme torture machine on bodies and minds was able to realize *part* of Big Brother’s utter normalization project in the Andean Region.

17 I argue that common critiques on Foucault’s determinism such as by Giddens (1995) are largely misplaced and based on a very biased reading – omitting the later ‘resistance’ works – and on the misinterpretation of concepts (e.g., contrary to his critics, his concept of power is not that it is “all-powerful” but “infinite” (cf. Gordon 1991:47). Foucault (although not always consistently) elaborated on subjects’ resistance to disciplinary, normalizing powers, while maintaining the fact of their embeddedness in discourses and socio-technical, normalizing environments (e.g., 1982a, 1988a, 2002b. See also chapters 12 and 13).

(1995:265). Human agents are knowledgeable subjects, they shape and make a difference. In other words: “There is no power without potential refusal or revolt” (Foucault 1988b:84). But as many of my cases will highlight, *not* in independent, autonomous ways, as conceptualized through the liberal, presumably ‘self-made man’.

Next, though dreamt of by most Andean (water) governors, not all mechanisms of power operate by means of the ‘interiorization of power’ and subsequent self-correction of subjects. In a general sense, I use a definition of power as a relational means inducing the capacity or potentiality to make or to receive change, or to resist it (adapted from Foucault 1980, 1995; Bourdieu 1977; Lukes 2005). As I will analyze extensively, in Andean water policy practice the invisible, ‘omni-present’ powers (type Foucault) are only one (important) part of the game (see chapter 6 for a detailed analysis):

First, the ‘classic analysis of power’, based on ‘power over’ (as formulated by Weber: elites’ possession of power is exercised to dominate the subordinated against their will) was accurately responded by a Foucauldian analysis in which power is not possessed or exercised by agents, but ‘subject-less’. It functions because of the presence and proliferation of norms, including both the dominant and subordinated in a normalizing web (see also Achterhuis 1988; Girard 1986; Rabinow 1984). But my cases manifest how the latter does not replace but rather strategically complements the former. As Lukes (2005) stated, there is a need for seeing power as both subject-centered and agent-centered. Sometimes, people actively participate in their own subjection through self-correction, often unintentionally (‘subjectification’, i.e., subject-formation as a ‘strategy without strategizers’); and sometimes they are intentionally forced to subordinate by powerful agents. Where the first is subtle, invisible, inclusive and ‘bottom-up’ (I refer to this subject-centered power as ‘*capillary power*’)¹⁸, the latter agent-centered form may occur both through subtle forms (e.g., strategic normalization through indoctrination)¹⁹ and by ‘classic’, visible, outright oppressive forms of power (I refer to this agent-centered form, excluding people or forcefully compelling them to conform to ‘the standards’, as ‘*coercive power*’; see chapter 6). The interaction between capillary power and coercive power gets central attention in this study, while indoctrination (see Bourdieu 1998a; Dorfman and Mattelart 1973; Lukes 1974)²⁰ is an in-between form.²¹ Obviously, this analytical categorization is never strict, not in theory, much less in practice. They operate along a sliding scale.²²

Second, not all forms of power function as to co-opt or dominate. And beyond the reactive response to Weber’s ‘power over’ in similar power-over terms, there are other human agency-based alternatives.²³ For example, Arendt elaborates on power which “comes into being only if and when

18 My wording is based on one of Foucault’s characterizations of this power mode: “... its capillary form of existence, the point where power circulates into the very grain of individuals, touches their bodies and inserts itself into their actions and attitudes, their discourses, learning processes and everyday lives” (1980: 39).

19 In Orwell’s ‘post-socialist, post-capitalist’ thought experiment of 1984, dictatorship was not built on the typical colonial, ethnic or class relations, or on hereditary aristocracy, but on membership (high, middle and low) in, and adherence to, a common doctrine; the central aim was to reproduce ‘the system’ and its world-view. Inheritance of class privileges or continuation of the blood-ties is not fundamental for its hierarchy; “a ruling group is a ruling group so long as it can nominate its successors” (Orwell 1949:167-168). For this, Big Brother’s Oceania enacted doctrine examinations (see chapters 10 and 11).

20 Indoctrination comes close to Lukes’ ‘third dimension of power’: “A exercises power over B ... by influencing, shaping or determining his very wants” (1974:23). His later wording is closer to Foucault: “the power to shape, influence or determine other’s beliefs and desires, thereby securing their compliance” (Lukes 2005:486).

21 Other manifestations of agent-centered but ‘invisible’ power are, for example, forms of anonymous bureaucratic power (e.g., Weber or Kafka), and the depoliticizing ‘rule by Nobody’ (Arendt).

22 This differs in the Andean (‘feudal/modern-capitalist/postmodern mixture’) context from Western countries.

23 Giddens, for instance, elaborates on power as the intentional use of resources to secure outcomes: “the transformative capacity of human action: the capability of human beings to intervene in a series of events so as to alter their course” (1995:214).

men join themselves together for the purpose of action, and it will disappear when, for whatever reason, they disperse and desert one another” (Arendt 1990:175). This form of ‘power with’, built on confidence in one another, binding people together through mutual pledges, the “worldly in-between space by which men are mutually related”, is based on human action to *make and keep promises*. Obviously, it may be severely affected or co-opted by normalizing, capillary power but, as I will show, may also act to resist it. Arendt, among others, also worked on the idea of (agent-centered) generative power. ‘Power to’ is enabling, based on skills and capabilities to shape. Next to power-over, power-with, and power-to, Moffat et al. (1991) distinguish ‘power-within’, based on inner strength and uniqueness, identity and self-acceptance. Foucault (1988a) entirely detached such a concept from the myth of ‘authenticity’ or ‘autonomous self-determination’ and relates it to (re)creation of the subject. He elaborated on this power-within not as a given but as an intersubjective political relation of change, as an ‘art of the self’, seeking to take it out of the hand of the normalizing experts: “... couldn’t everyone’s life become a work of art? [...] From the idea that the self is not given to us, I think that there is only one practical consequence: we have to create ourselves as a work of art” (in Rabinow 1984:350-351). But similar to the rightful critique by Van der Ploeg (2003) of Giddens’ strongly individualistic notion of ‘human agency’ (see below, cf. Vincent 2001a) I argue and demonstrate through case analysis that this ‘power-within’ is to be detached from just individual selves and is also a powerful mechanism practiced by Andean *collective* selves in the struggles vis-à-vis normalization. Together, these forms or mechanisms of power²⁴ appear to combine or intermittently replace each other in day-to-day practice.

As in most national water administrations and global water expert-communities, in the Andean Region, water expertise and the corresponding policy decision-making privileges are largely preserved to those who are political-economically and ethnically selected to hold water knowledge, speak water truths and exercise water authority. Formal water authority in the region, rather than following from actual expertise and knowledge of local water reality, importantly stems from economic structures, cultural politics, and gender divisions; legitimate water expertise and the labeling of ‘water science’, in its turn, banks on formal accreditation by water officialdom. Water expertise and knowledge development, therefore, largely focuses on those questions asked not by the water user communities and families in the Andes but by official water rulers. Not surprisingly, beyond any argumentation regarding a presumed ‘wickedness of persons’, these questions and expert solutions strongly relate to class interests and gender and cultural assumptions. The questions, rather than directing at constraints of water collectives in controlling their water affairs, focus on the issue of controlling water collectives and individuals, by means of water governance techniques. As a result, the production of water knowledge, ontologies, disciplines and truths – and the ways these penetrate and inform the shaping of particular water artifacts, water rules and rights, organizational structures, as well as the ways in which they are functionally combined into systems – concentrates on the issue of how to align local producers and production to the imagined supralocal water-power hierarchies.

In this same vein, the exercise of power, as Foucault observed, constantly generates knowledge and, in turn, knowledge continually brings about the effects and reinforcement of power, and they mutually depend on each other. Power cannot be exercised without knowledge, and knowledge nec-

24 Though the above power theories commonly contradict at a ‘meta-theoretical level’, many of the conceptual tools that these theories use do not *necessarily* contradict each other, and I will look for ‘conceptual hybridization’ whenever it may deepen understanding. This, by no means, implies that either ‘conceptual shopping-around’ or ‘adding-up’ leads to acceptable, explanatory and coherent theory, on the contrary. Its coherence needs to be demonstrated.

essarily engenders power (Foucault 1980:52). Power, thus, produces reality, knowledge and truth claims, it even produces the ways in which ‘truth is made true’.²⁵ “Truth is linked in a circular relation with systems of power which produce and sustain it, and to effects of power which it induces and which extend it. A regime of truth” (Ibid: 133). This goes beyond ‘ideology’, ‘subjective opinions’ and also beyond falsehood or un-truthfulness of constructed facts. As Latour argued, facts are fabricated, but this does not make them less true. We know the nature of facts since we have brought them into existence under those conditions that we fully master (Latour 1994:32).

The larger and more stable (‘powerful’) the social-material network in which such facts have place and are defined, the stronger their truth-claims. “Nothing becomes real to the point of not needing a network in which to upkeep its existence” (Latour 1991:118). No science and no truth can ever extend beyond their network. The network provides standards, categories, measurement instruments, etc., and aligns actors and points of views. As Latour argued, scientific facts such as the laws of Boyle, Newton, or Pythagoras’ formula enter schools, machines and instruments and certainly are universal, but universal within a network. Scientific truth becomes more universal according to the expansion and stabilization of its network (Latour 1994:40). Once we are located within this universalizing truth-producing and -diffusing network, we are ‘immanent to truth’, located within its universe (Latour 1991:128).²⁶ As in the metaphor of an extending railway network that connects rails, stations, trains, schedules, passengers, etc., powerful networks proliferate their standards, tools, artifacts, and truths into new areas and aim for commensuration and aligned inclusion of the facts there encountered. The capacity to (socially and materially) ally and normalize these allies determines the network’s strength. An example: Irrigation canal rugosity (roughness)²⁷ always existed from the time canals were constructed. The Incas built magnificent irrigation canals, calibrating canal slopes, rugosity, water volumes and losses, and flow regimes; but according to truths that did not extend beyond the history and territory of their Tahuantinsuyu Empire’s network: the precise hydraulic formulas and rationality they applied have been lost in history. Manning’s now ‘universal’ rugosity formula to calculate canal designs arrived and became ‘true’ in my research area, Licto, only when the scientific network sustaining Manning’s formula ‘universalized into Licto’ – i.e., through intervening Ecuadorian engineers who first studied hydraulics in Belgium and national universities. The Inca social-material network (including its military elements) was less powerful and less expansive, therefore, making its hydraulic facts true *only* within its particular time and place.²⁸

Foucault formulated a similar statement on the production of truth, putting more emphasis on its political-strategic nature: “It is the production of effective instruments for the formation and accumulation of knowledge – methods of observation, techniques of registration, procedures for investigation and research, apparatuses of control” (Foucault 1980:102). Thus, in endless ‘degrees of validity’, *valid water knowledge* (a full range: efficient water use, effective infrastructure, pro-

25 Not contradicting the fact that my conceptualization is constructivist, my standpoint is that both Transcendental Truths (as a belief, and beyond the matter of my research) and ‘factual reality and truths’ do exist, but they can be known in diverse ways, so producing situated truths (as well as non-truths), according to one’s position in ‘networks’ (see below). Foucault argued in this regard that truth is to be understood as a system of ordered procedures for the production, regulation, distribution, circulation, and operation of a statement (1980:133).

26 Once immanent to such network, we cannot easily rise above it as Plato’s ‘enlightened philosopher’, or as positivist scientists claim to do (see chapters 7 and 11)

27 Canal (or river-bottom) roughness co-determines water gravity flow in open canals and conducts. In hydraulics the Manning formula (among others) is used to calculate flow conditions: relating average flow velocity, slope, cross-sectional area and wetted perimeter, and the canal’s roughness factor.

28 Except for those Inca network facts and truths which have been aligned/incorporated into the new (or superimposed) network, or in the still existing alternative and competing networks.

ductive irrigation systems, rational water rights, equitable water allocation, best watering practices, democratic water governance, sustainable water development, modern water users) is objectified and judged according to its deviation from the standard. This way, truthful knowledge is entirely depoliticized, as are the agents and relations that set the standards.

As a logical consequence, beyond the question of how ‘true’ water statements are and how ‘valid’ water knowledge and science are when placed in the current Andean context, this brings questions to the fore of how these statements and knowledge claims are produced; how the rules are established that separate true and non-true water knowledge; how they are linked to the power relations that sustain them; and obviously, what the relation is of ‘Us’ to ‘Others’ and to ourselves (how are ‘we’ formed to judge and consider certain water control and rights practices to be ‘best’ or ‘true’ and others ‘in-efficient’ or ‘false’). Different from the objectivist, scientific quest in the name of truth, and closely connected to the earlier-mentioned politics of legitimacy and battles around legitimization, there is a politics of truth, a battle around truth.²⁹ In the field of water control, scientific research and policy-making in the Andean region, these battles produce permanent, clear results³⁰ in terms of separating forms of water knowledge and rights that are legitimate from those that are illegitimate.

Rather than investigating all the official and non-official water rights concepts and their discrepancies, and beyond the study whether certain water knowledge and rights claims are rightfully accepted as true or false, my analysis concentrates on how the perception of a water rights claim, presented as being ‘true’ and/or recognized as a ‘truthful’ account of water control reality, is constructed, appropriated and transformed. In a broader sense it focuses on the question of how humans, nature and thought are enrolled and aligned within a network that is able to transform the diverse social and natural Andean water worlds into a water governance system that is structured according to ‘outside’ (e.g., scientific, bureaucratic, global market) truths, concepts, categories and frames of reference (cf. Callon 1992; Latour 1994) – and the ways to resist. As I will discuss, while ancient Andean empires applied mythological or religious thought to glue such networks together, today, more and more, it is the empires of scientific and discursive representation that blend the various components of the ‘system’ – the regimes that have the authority and accreditation to formulate the ‘fundamental problems’, to define ‘solutions’ in line with ‘progress’, ‘development’ and, in general, ‘truthful knowledge’, and to establish the methods to discover the necessary ‘truthful facts’.

Discourses and networks

It may come as no surprise, considering the above argumentation, that in my use of the ‘discourse’ concept I divert from the linguistic tradition³¹, but also from the ‘hegemonic discourse’ school.³² As

29 Foucault (1980:132) states that this is “a battle about the status of truth and the economic and political role it plays”. About the politics of truth, he argued that each society has its regime of truth, “the types of discourse which it accepts and makes function as truth; the mechanisms and instances which enable one to distinguish true and false statements, the means by which each is sanctioned; the techniques and procedures accorded value in the acquisition of truth; the status of those who are charged with saying what counts as true” (Ibid: 131).

30 Results which also depend on the situatedness of the knowers (Haraway 1991) and their position inside the battlefield of truth, legitimacy and legal complexity.

31 It is common to see discourse used as ‘what is presented through language’. Also the earlier works of Foucault on ‘discursive formations’ or ‘discourses’ (1976[1971], 1994[1966]) had this tendency. His elaboration on ‘*dispositifs*’ (‘apparatuses’) comes close to later social-constructivist works of scholars as Latour, Callon, Law and Bijker (see Foucault 1980: 194-197).

32 E.g., Ferguson 1990, Escobar 1995. Escobar, for example, refers to the dichotomizing idea that “development started to function as a discourse, that is, that it created a space in which only certain things could be said and even imagined” (1995:39. For critiques, see Autumn 1996; Hilhorst 2000). See also my earlier critique on the idea of ‘hegemony’ when-

‘socio-technical stabilizers’ (see below), discourses strategically glue together the social and the technical, the human and the non-human, the physical and the meta-physical, in a particular field of practice (i.e., water control), give them specific meaning so as to secure a particular political order. Discourses present a problem field of reality as if it were a naturalized system, by making fixed linkages and standard logical relations among a specified set of issues (actors, objects, categories, concepts), by defining their identity, status and hierarchies, and by forcefully prescribing the nature of problems as well as the solutions to overcome them. So, discourses, beyond just language and conceptual ideas, are a conjunction of knowledge and power put to work to establish and legitimize the game of the rules in, for example, Andean water governance *practice*. As practices they form the objects to which they relate. Discourses, thus, are at once vehicle, tools and product, and though they aim at consolidating particular orders of things, their strategic nature makes them dynamic, constantly adapting to contexts, opportunities and counter-forces.³³ Moreover, they are not hermetically sealed systems but by nature hybrid since contested, renegotiated and reframed in heterogeneous societies as those of the Andean region where, apart from legal complexity, strategic practices of ‘discourse shopping’ and a profound ‘discursive pluralism’ (chapter 11) characterize the water struggles. These chapters also show that this phenomenon of discourse hybridization, paradoxically, rather than leading to an overall ‘discursive melting-pot’, *intensifies* the battle among regimes of representation and *deepens* the divides among discourses by joining new elements. A fundamental reason is the strategic nature of discourses as both instruments of domination *and* arms of resistance in a fierce struggle over resources, rights, and legitimate authority.

Similar to norms and institutions³⁴, discourses (that dynamically shape the latter) gain in force and effectiveness when they are actively being *used*,³⁵ when they are called upon by an extending network, the same network that, in turn, it tends to support, strengthen and ‘stick together’. For example, water privatization practices in Cochabamba, Bolivia, implemented by Aguas del Tunari Ltd., were permeated and constituted by a powerful neoliberal discourse, international but sharpened to materialize particular, localized effects. Its global Bechtel-centered network was made up of policy concepts on water rights and governance as much by international, national and local institutes and institutions, commercial enterprises, financial means, water laws and regulations, project documents, infrastructure, administrative procedures, water bills, courts, judges, the military apparatus, jails, helicopters, tear-gas, etc. An actor-network was established, consolidated and implemented, aligning the material and the social, based on the production, circulation and functioning of its sustaining discourse. At the same time, in 2000, a counter-discursive actor-network was created, around the *Coordinadora del Agua y de la Vida* (see chapter 12), an urban and rural water users alliance. It strategically selected and blended discursive language (e.g., its very name referring to Water and Life; the starting of ‘*The Water War*’, calling water users to engage in ‘*La Última Batalla*’; etc.) with

ever it refers to the idea of all-inclusive, hermetically sealed systems of power that are not just presented as the *objectives* of ruling groups but also as their *achievements*. See further my analysis (chapter 7) of the difference between how Bentham saw the Panopticon (the objective achievement of omni-present power) and Foucault’s analysis (he examined the liberal thinkers’ quest for realizing panoptic power).

33 See also Grillo 1997; Hilhorst 2000; Long and Long 1992; Van der Ploeg 2003; Roth 2003; Zwartveen 2006.

34 I use the concept of ‘institution’ to refer to both ‘organizations and institutes’ and to the set of rules used by actors to order their relationships and organize their repetitive activities (Ostrom 1992): ‘patterned behavior’.

35 To be effective, norms, laws and discourses have to be used, but not necessarily is this actual use according to its *stated contents*; norms, Law, discourses – and their adversary ‘counter-norms’ – also have an *ideological* content that effectively mobilizes people. For instance, in *all* Andean communities the normative myth “In our community all water users have equal water rights” is not according to practice. But invoking the ideological contents of this norm or discourse may have great actual force. I will examine this fact in chapter 11’s ‘monocular regimes of representation’.

a diversity of human and non-human allies (from ‘Water Warriors’ and radio-stations to road-blocks, pickaxes, and stones; from constructed images of indigenous past, to people’s water courts and collective meals on the streets) – in which the diffuse, moldable, but extremely strategic material-normative-discursive notion of defending water rights’ *‘Usos y Costumbres’* was central. It appealed to a huge group of international activists who discursively connected themselves to the network that extended from Cochamba to Bolivia to the global scene – not in the last place through the Internet-network, both virtual and real. The same but ever adapting network protested against similar water rights and service privatization consortia in other Bolivian places (e.g., La Paz- El Alto), and even on other continents. At the moment, for instance, the Bechtel-network has chosen Guayaquil, the largest city of Ecuador, as one of its water privatization objects and as a direct response the water-warriors defense network/discourse is engaging its counter-discursive arms and allies.

Like the legal orders described earlier, networks interact with and contest networks, but they are not the same and do not represent equal force. Accentuating a diversity of strategies and ‘modes of power’, chapters 4, 12 and 13 elaborate on ‘control-localizing’ Andean water management networks while chapters 7, 8, 9 and 10 concentrate on the particulars of dominant, ‘control-externalizing’ water governance networks. While, in different ways, both engage the global, their particular (commonly opposing) interest is on the local. At this level, for instance, the use of irrigation technology necessarily demands ‘socio-technical stabilization’, a process in which the technical, organizational, sociolegal, cultural-metaphysical and political-economic water control domains are mutually ‘tuned to each other’ – with an important role for the above discourses. As Bijker and Law (1992) observe, this socio-technical stabilization process is close to the problem of securing the social order (cf. Van der Ploeg 2003; Roth 2002).³⁶ Alignment, stabilization and normalization of local systems in a national imagined community, in the global experts-network or in water market society (Boelens & Zwartveen 2005a; Swyngedouw 2003) is of major interest to the ones who rule these levels. “When actors and points of view are aligned, then we enter a stable definition of society that looks like domination” (Latour 1991:129). Politics of alignment (or ‘machination’, Latour 1987) try to ally actors and artifacts in a machine-like chain or network, relating forces to each other and to a common strategy, aiming to make water users’ behavior and irrigation system outcomes predictable (see chapter 10). In Callon’s words:

“Normalization makes a series of links predictable, limits fluctuations, aligns actors and intermediaries [...]. It operates by standardizing interfaces – that is, by standardizing and constraining actors and intermediaries. [...] if a relationship between actors is normalized, it may contribute powerfully to the production of systemic effects [...] A network whose interfaces have all been standardized transforms its actors into docile agents and its intermediaries into stimuli which automatically evoke certain kinds of responses. The rules of coordination then become constraining norms which create and control deviance” (Callon 1991:151).

The art of water governance and stabilizing the water rights order

A major issue of these chapters is to see how ‘stabilization’ takes place. Colonial States such as the Inca and Spanish empires fundamentally based their control over water on sovereignty, it was the

³⁶ Not just the State or ‘external’ agencies but also local communities (albeit with different objectives and in different ways) strive for this stability and fine-tuning among water infrastructure, water norms and water organization, so materializing the interdependence among these irrigation ‘subsystems’.

property of the Sun King or the Emperor, and through Him, the Crown distributed water rights to the lower echelons. Law and legal force (though in different forms) were central in these ‘States of naturalized Justice’, even though its actual enforcement in water users’ practice often was difficult or even a myth. All water users were to obey the Law, whereby the law of the governor was naturalized as constituting the law of God or the Nature-governing Sun. Legal systems and water property doctrines since then always have directly linked State and Law in a Hobbesian way (see Hobbes 1985(1651)), exclusively “deriving law from the notions of sovereignty and the State’s monopoly over legitimate use of violence” (Benda-Beckmann 1996:4. Cf. Correas 1994). The fundamental, circular aim of such sovereignty, according to Foucault (and Machiavelli), was to exercise sovereignty: submission to and conservation of the Ruler’s Law and Order.

Liberal, administrative nation-States after independence inherited this fundamental belief in State law and order, and even strengthened it with the liberal equality ideology (excluding deviant rights repertoires, see chapter 8)³⁷ but rather than just Law itself, increasingly, they developed a range of multiform government tactics which were not just based on legal force and violence but particularly on the need to productively (and economically) *manage and direct* society, e.g. its water users and resource management. It is no longer “the right to kill, to employ force, that forms the essence of the figure of the governor ...but rather the knowledge of things, of the objectives that can and should be attained, and the disposition of things required to reach them” (Foucault 1991:96). Not conservation but production and development. In short, as I will investigate in chapter 7, the *design and management* of water society by means of techniques of governance becomes the fundamental issue. This transition from a legal regime dominated by structures of sovereignty to a water society governed by government techniques did not replace the formal rule-making system of the nation-State but, in terms of Foucault, the State of Justice was ‘governmentalized’. Thus, beyond its institutional structures the State increasingly becomes a set of *practices* of government that dynamically ‘structure’ (Gordon 1991; Giddens 1984). The key to modern control efforts by supra-local governors is less “the *étatisation* of society as the ‘governmentalization’ of the State”, which (as in the above ‘recognition politics’) is, at the same time “what has enabled the State to survive” (Foucault 1991:103). Indeed, the tactics of water governance politics (not just at the national level, but from the local to the global) enable ongoing redefinition of the competences and faculties of the (very unstable Andean) State, the definition of what pertains to the public realm and what to private sectors, and in what ways. “Thus, the State can only be understood in its survival and its limits on the basis of the general tactics of governmentality” (Ibid. Cf. Gordon 1991). Rather than the State pulling all the strings, increasingly its water controlling tasks and techniques are ‘delegated’ to private micro-power structures. At the same time, the neoliberal water policy project aims to implicate water users as individual agents and private right-holders – similar to commercial water entities – into the private water market game, with important consequences for Andean water user collectives (chapter 9). As I will analyze, current water policy debates on and practices of ‘inclusive and participatory water control’ through, e.g. Irrigation Management Transfer, Decentralization, Privatization, Public-Private Partnerships, etc., have a direct link with the above governmentalization process (see

37 As the chapters demonstrate, liberal-utilitarian ideas such as Bentham’s ‘greatest happiness for the greatest number of people’ (1988; see Ch. 8 and 10) or moral techniques as Rawls’ ‘veil of ignorance’ (1971; see Ch. 8) tend to have disastrous effects in such strongly stratified, legally plural and culturally diverse societies as the Andes. Also, recent Andean history is proof of the fact that the (widespread) de-contextualized, assumption that State law and the Constitutional State by definition would be essential to defend common people’s rights is entirely mistaken. The functioning of *both* State and non-State laws needs to be scrutinized critically in this regard.

chapter 10). Such techniques of water governance (chapter 7) interact in a complex Andean society that combines the traditions and traces of local water ruling communities, semi-feudal and religious structures, modern-capitalist global markets and the secular hydro-bureaucracies of nation-States.

What follows from the above sections is that representing the Andean reality and identity, the way water users would ‘relate, behave and desire’, proves to be a powerful tool in the struggle to gain control over local resources, local rights conceptualization, and the decision-making processes and authority – i.e., the four ‘rights analysis echelons’. Inside and outside actors have a strong interest in having their view or interpretation accepted as ‘true’. Not just water rights but also ‘the (individual/collective) water user as subject’ appears to be a key ingredient in this struggle. As the chapters evince, both the individualization of water rights and the individualization of actors (in all-encompassing externally-controlled networks) is an important phenomenon or implicit objective. Where classic and modern liberal theory represents water society broadly as a contractual association of isolated, rational, juridical subjects (with potential equality), it is in particular the school of new institutionalism, powerfully present in the irrigation and water management world, that tends to oversimplify individual freedom and individual choice, and so mask these power structures.³⁸ But most ‘actor-oriented approaches’ (although often presented as a critique) in a similar way tend to simplify the concept of ‘human agency’ and ‘free will’ of, above all, the individual³⁹ (although they rightfully place a greater emphasis on power differentials, human interaction and contingency).

As argued above, this bias toward individualized agency and individualistic choice leads to difficulties in analyzing the local rules of the game in Andean water control, where (more than land tenure and most other forms of resource property control) water management is by nature a collective affair – far beyond the sum of individual enterprises (see chapter 4). But most of all, it leads to problems in understanding the game of the rules. The currently intertwined State, market and expert networks forcefully aim to create the contemporary Andean water society according to their own image, caging and standardizing the subjects in the norms and laws of their actor-network. Though the individual is the main focus of modernist water policies, this individual is ‘virtual’ and ‘should-be’, “an image developed in the expert system”, systematically putting trust and initiative in the hands of control-externalizing networks. The individualizing agency and actor focus thus makes *real-life* water users increasingly ‘non-agency’ – “without non-agency as a conceptual and empirically manageable counterpart, agency becomes a non-concept” (Van der Ploeg 2003:22,16). It is precisely in this modernizing water world, by interlocking user groups’ interests and strategies more than just by individual efforts, that the notion of agency as a water users’ *collective* affair (i.e., “the capability to create an actor-network”, Ibid:18) has the potential to make a difference.

I will investigate if and how modernist, control-externalizing actors and networks strategize towards a ‘one water-rights world order’, through subject- and agent-centered modes of power, through subtle and less subtle techniques of governance: how do agents succeed in “winning the hearts and minds of those subject to their influence? ... To what extent, in what ways and by what mechanisms do powerful agents influence others’ concepts of their own interests?” (Lukes 2005:493). And in

38 They close their scientific and policy eyes for (among others) the ways in which Andean water user communities and families are subject to – and aim to escape – normalizing techniques that constitute water users and uses, and rules and rights, as correlative elements of power and knowledge in a class-, gender-, and ethnically structured society. Instead, they preconceive individual economics-driven, rational choice as *the* basis for decision-making on collective and individual water control, always obeying the universal logic of ‘game theory’.

39 Giddens, for instance, argues that: “agency concerns events of which an individual is the perpetrator, in the sense that the individual could, at any phase in a given sequence of conduct, have acted differently” (1984:9).

what ways do those subject to such power succeed in widening their strategic scope for self-defined water rights and water control? Such questions are basic to both the normalization projects and the resistance efforts that challenge normalization of water rights and water users and aim for ‘control-localization’ in the Andes.

1.2. The research: From the powers of illusion to the forces of con-fusion

“For if it is true that all thought begins with remembrance, it is also true that no remembrance remains secure unless it is condensed and distilled into a framework of conceptual notions within which it can further exercise itself”
(Hannah Arendt 1990(1963):220).

Remembrance, going up and down, back and forwards, and sometimes criss-cross through history, is surely a fundamental element in this book, which attempts to gather, re-order and probe into not only common ideas and theories about ‘water control in the Andes’ but also, above all, my own patterns of thinking. The book does contain several chapters that proceed on their ways back and forth between present-day and historical realities in the Andes, their peoples, communities and irrigator families; however, it also attempts to hark back to and re-locate my own stories and experiences in the Andes, since early 1988, when the rural families of Marcahuaylla, a small Peruvian village, taught me that, behind superficial appearances, there are many different worlds of water, of law, and of life. Even after ‘two decades of action-research’ in Peru, Ecuador, and in different ways, partly also in Bolivia and Chile, I don’t think I have managed to understand more than a tiny part of these complex worlds – even after learning so very much during the many years of intensive interaction with community families, their leaders, my academic colleagues – amidst all the discussions, network and partnering, godfathering and friendships.

But it is a relief to know that *no one* knows, not even the real water experts, i.e., the irrigator families. The definition of a complexity is that it is *complex*, in countless ways: legal complexity, cultural-ethnic complexity, economic stratification, agro-ecological and hydraulic diversity, a huge diversity not just in water control forms but also in ‘types of water’, etc., etc. Moreover, how *can* anyone understand, for instance, the profound injustices and suffering permeating everyday histories in the Andes. As Rosa, from Licto, Ecuador, cries out, “*Why us, why did they do to us whatever they wanted?*” Or as Ana, from Molobog, explains in another part of the book, “*I saw so many injustices here ...*”. But at the same time, there are as many local efforts to change these injustices. For example, as Ana continues, “*Since then, I had this dream, someday this situation must change, yes, since I was a little girl*”.

What role do water and water rights play in such efforts: in local families’ efforts to construct livelihoods ‘from within’; in dominant rulers’ efforts to control and ‘normalize’ these intangible populations who deviate from presumed ‘rationality’ and ‘efficient water use’, and again, in local family and community efforts to challenge these disciplinary efforts of the rulers and water civilizers? It is such questions, and the tremendous open and hidden conflicts they entail, that have made me re-think and re-conceptualize the multiple water control arenas I have come across and participated in. Together with the many people who have guided me in Andean water worlds, and within the networks we were able to join and extend, time and again there was this friction to be faced: among, on the one hand, local water rights practices (considered equitable or not) and struggles for

self-definition and user-controlled water development, and on the other hand, the many efforts to domesticate them and bring them under control. Consequently, this is reflected in the **main question** of this book:

How do local water rules and rights give substance to Andean irrigation water control systems (and vice-versa), and in what manner do processes of normalization restructure and subjugate these local water institutions? How do Andean water user collectives defend themselves against water rights encroachment, resist the disciplining of their water socio-legal repertoires, and create strategic space for community-controlled water rights definition and enforcement?

Re-membering and positioning myself

Thought begins with remembrance, as Arendt argues. And at the same time, it asks us to elaborate on the conceptual framework within which my reflections – and I hope that of the readership – can further exercise themselves. But beyond this, *re*-conceptualizing and *re*-ordering my ideas also requires ‘*re*-membering’. Fundamentally, my journey of research, action, and action-research, is also and necessarily an effort to *re-member* myself to my networks of thought and action, and to re-new myself (intersubjectively, ‘*compartiendo*’) as a conceptual and political *member* of Andean water worlds. This, far removed from either relativist knowledge production, or any philanthropic or developmentalist notion of ‘identification with the poor or with the target group’, vitally relates to the earlier observations on water rights knowledge and truth being immanent to existing networks. Or as Latour argued “The judgment of reality is immanent in, not transcendent to, the path of a statement [...] This point is not relativist: all statements are not equal. It is relationist: showing the relationships between the points of view held by mobilized and mobilizing actors gives judgments as fine a degree of precision as one could wish for” (Latour 1991:128). Membership in actor-networks is inherent to any water research; therefore, value-free ‘scientific impartiality’ is an illusion, just as ‘participatory observation while avoiding intervention’ is a *contradictio in terminis*. Researchers cannot ‘observe’ norms and rights in action without interpreting and, thus, using their defining power and network relations (Boelens et al. 2002; Hoekema 2006).

As a consequence, there is a need to make explicit, as far as possible, my positioning in the water rights field. Taking a position (consciously or not) is indispensable if researchers want to see anything at all. [“... and after the pathway that leads us to the edge of town, up to the beginning of the last street where people live – or the first (you will never find out if you don’t take a position)” (Eco 1989:118)]. Therefore, the standpoint I take and elaborate on in this book is situated (Haraway 1991), in both conceptual and political terms. It looks at how the dynamic continuity (*not* conservation) of Andean collective water rights repertoires is threatened, thereby endangering the self-sustained reproduction of the very water management collectives themselves. This situated-ness is political in the sense that it concentrates on the position of those many user groups with less clout in the Andean water world who find social and political-economic shelter and livelihood security precisely within collective water rights systems (see Boelens and Zwartveen 2005a; Mayer 2002).⁴⁰ Continuing and improving their livelihoods requires a shared rights system and institutions for collective action to defend and control their individual and common water resources (see chapter 2 and

⁴⁰ Even without expressing the need for a situated view in water rights affairs (e.g., attaching ‘equal weight’ to all normative systems), “the analytical distancing from the dominant ideology is likely to be interpreted as a political act directed against the dominance of that ideology” (Benda-Beckmann 1996:23).

3). As I will argue, a strong focus on such bonds of mutual dependence does not deny the internally existing class, gender, or ethnic differentials – quite the reverse. Moreover, the less powerful water user groups are precisely the ones who cannot afford to deny such power differentials within their water control systems.

At the same time, situated water knowledge and analysis do not imply any departure from commitment to objectivity. On the contrary: the art of seeing well – and recognizing its intrinsic distinctiveness and particularities – necessarily requires being located (Haraway 1991; Zwartveen 2006; chapter 11). Very similar to Foucault’s above statement on truth, Latour correctly posits that “... objectivity does not refer to a special quality of the mind, an inner state of justice and fairness, but to the presence of objects that have been rendered ‘able’ [...] to object to what is told about them [...] Nothing is more difficult than to find a way to render objects able to object to the utterances that we make about them”. This is as valid for objects as irrigation artifacts as it is for subjects as water users: if researchers strive for objectivity, “they would have to find the very rare, costly, local, miraculous situation where they can render their subject of study as much as possible able to object to what is said about them, to be as disobedient as possible to the protocol, and to be as capable to raise their own questions in their own terms” (Latour 2000:111).

This book’s action-research does not claim any objectivity in terms of the positivist-objectivist tradition (which, as I will illustrate, paradoxically champions the construction of water-scientific myths), but it is and has been objective in the sense that the statements could extensively be objected to. Although maybe not a usual part of what is called ‘research methodology’, most of ‘my’ statements, over the years, have been discussed intensively with a large variety of water users, leaders, professionals, scholars, policy-makers and governors from the local levels to national and international encounters, and they have been checked against non-human actants alike in, for instance, irrigation technological design processes. They have been exposed to objection in a large number of round-table discussions, workshops, seminars and congresses, in Spanish-language books and films, in Quechua and Kichwa-language radio broadcasts, but with particular intensity in the debates, assemblies and everyday conversations in and with the water user communities themselves, over a period of many years ‘in the field’.

Fieldwork, cases and methods

My research focuses on (in particular but not exclusively: irrigation) water control and water rights in the Andean highlands, including the modes in which national and international policies, legislative processes and water expert schools and discourses have sought and seek to have an impact on the rights practices of water user communities and families. While focusing on water user settings in two countries in particular – Peru and Ecuador – the research is not ‘comparative’, and neither are these countries themselves ‘cases’ that are studied. Cases do not exist but are constructed by the researcher (see also Hilhorst 2000, Zwartveen 2006) and in my book, far removed from any clear, conscious intellectual effort to look for the most adequate field cases to be studied and compared, the issue is very basic and straight: the ‘cases’ have constructed me, I have interacted with the ‘cases’, and for the purposes of analysis I have selected ‘events’ and ‘illustrations’ from two decades of interaction (many of which are informed by the patterns and contingencies characteristic to my respective and overlapping jobs and lives as water engineer, trainer, action-researcher and academician; as colleague, friend, *compadre*, partner in crime, etc.). In these chapters, I interpret and

re-interpret these ‘diagnostic events’ (Moore 1986, in Benda-Beckmann 2000)⁴¹ as pieces of a large conceptual-empirical puzzle. In turn, missing pieces and concepts steered my research. Although some interactions (not their evolving contents) were planned, most cases ‘crossed my path and I crossed theirs’. The resulting hybridization, obviously, has both colored my methodology and my results (e.g., many Ecuadorian NGOs now talk about “irrigation as a political and socio-technical construction”) and, simultaneously, made these results and conclusions to a large extent ‘objective’ in the terms as outlined above.

Despite the fact that my case construction largely follows the clear rationality of a sometimes irrational sequence of personal encounters, interestingly, combining the Peruvian and Ecuadorian sceneries provides an additional dimension to the research. In general terms, their water political, legal and organizational histories have run very much parallel throughout the pre-Conquest, Spanish-colonial and Republican eras. Also, in both countries peasant movements and revolts (1950-1960s) were taken over by top-down revolutionary regimes that installed Agrarian Reforms (1970s), prescribing bureaucratic farmer cooperatives and water user organizations, at the same time and in similar terms. Water property was first privatized and then nationalized in the same decade, and both countries now have similar Water Laws (1969 and 1972). In both countries, indigenous cultural identity was officially replaced by class-based denomination. But the resistance reactions since the early 1980s have greatly diverged. In Ecuador, indigenous organizations have asserted their claims vis-à-vis the State through both electoral politics and popular mobilization, including numerous national uprisings. In contrast, in Peru, violent terror (Shining Path) and brutal military counter-force have crumbled peasant and water user organizations and federative initiatives; social mobilizations have, in the last decades, usually been more localized and temporary. Therefore, notwithstanding common water histories and the presence of mutually intertwined socio-ethnic and geographical situations, current points of departure are different, making analysis in times of (market-equalizing) neo-liberalism extremely interesting.

The Peruvian and Ecuadorian highlands provide the core arenas for analysis; water control, policies and legislation in the Andean countries Bolivia and Chile provide important reference cases. I make use of some Bolivian events and illustrations, either for their similarity or for their influence on the Andean region’s waterscape (e.g., the Bolivian water wars). As in Ecuador and different from Peru, indigenous-ethnic identity plays a powerful role in both official water politics and local water rights defense struggles. Chile’s neo-liberal water laboratory and ideology are also examined. To understand the policy proposals, water debates and discourses in Andean government circles, peasant and indigenous federations and local water user organizations, it is of central importance to focus on the key contents of this world’s most extreme model for water rights privatization, the way this policy has been promoted and imposed on South America in the 1990s by international banking and policy-making institutions, and the people’s reactions against the model in Peru, Ecuador and Bolivia.

In the book I focus on a variety of Andean irrigation systems and watersheds. Case analyses such as the ones of Mollepata and Marcahuaylla in Peru date from my first M.Sc. research in 1988 and have been ‘followed’ since then by means of later years’ field visits. Most intensive contact and action-research was with the families, organizations and institutes involved in the Ceceles and Licto irrigation systems with whom I worked on an everyday basis from 1992 to 1997, and with ongo-

41 Studying ‘diagnostic events’ uses the notion that events express more than the occurrence itself, as ‘episodes’ they form part of (and partly articulate) larger socio-economic, organizational and cultural-political practices and ongoing historical processes (Moore 1986, in Benda-Beckmann 2000).

ing collaborative action since then. In the same period I also worked with the user organizations in systems such as Pungales, Patocochoa, and many others. During these years I collaborated with/in Ecuadorian and European NGOs, with local, provincial, national and international farmer organizations, and interacted with State agencies, donor institutes, research centers, etc. Particularly within user organizations and NGOs my action-research often had more the character of ‘living social processes’ and ‘joining everyday practices’ than structured academic investigation. Taking part in festivals, water *faenas*, user meetings, day-to-day office practices, everyday conversations, political debates, water design plans and discussions, marriage parties, water struggles and mobilizations, just as the ties of friendship, obviously, connect and often subdue academic interests to emotional feelings and political experiences.

As an intrinsic result of action-research, much information and many outcomes were collectively and interactively gathered and constructed. Interactive water design, for instance, requires water users to co-investigate their own past, present and desired future. Or, for example, a large number of ‘life histories’, on the issues of genderedness of water development and struggles for water control, were as much the results of water users’ self-reflections as they were ‘my findings’. Another example is how, together with local water leaders, I organized the radio-broadcasting festival “*Let’s talk about justice in our irrigation system*”. A large number of communities, women’s groups and water user collectives from different provinces wrote down or tape-recorded their narratives and histories, many of which were broadcast by the popular-indigenous radio station and subsequently debated. The films we made together with user collectives, some of which directly interfered with the ‘research results’, were also important ‘methods’, even up to having a strong impact on local political events – e.g., when government’s hidden tactics were visualized. Next, though deviating from common research methods, in-the-field role-plays and water design & operation theater in a large number of communities, making use of portable ‘hydraulic design puzzles’ [*las maquetas vivas*], significantly deepened my understanding, simultaneously of farmers’ views and interests and of the problems associated with experts’ plans and notions.⁴²

Researcher-water user collaboration has also continued when, since 1998, I have come to work with Wageningen University. But despite the fact that, each year, I have had multiple field visits to Andean countries’ user organizations, irrigation systems and water platforms and institutes, research has become more structured and concentrated in short periods. Still, it has also offered me an opportunity and a clearer view on how the construction of local but embedded Andean water rights needs to be studied not just ‘in the field’, within local or national communities, but also at the international level of policy- and expert webs and in the wider fields of domination and contestation. Next, collaborative research projects such as ‘Searching for Equity’ and ‘Water Rights and Empowerment’,⁴³ the discussions with my colleagues and students on Andean water control, and the collaboration with and academic supervision of Centro AGUA in Bolivia, have provided many new elements to my ongoing research, which is also reflected in this book. Particularly after setting up the WALIR international research program (Water Law and Indigenous Rights, with national research teams

42 To understand local water rights relations, studying local users’ conceptions is fundamental not because they would provide better theoretical or empirical accuracy (though often they do) but because they provide insight into how systems work or have to work according to *their own* reasoning and perspectives. This does not deny the need for elaborating on my own situated knowledge from my own situated position. It does however challenge many of the water analysis tools (and answers) which presume universal behavioral schema.

43 See: Boelens & Dávila 1998, and Boelens & Hoogendam 2002. See also the Andean part of our film project ‘*Tail-enders: struggles for water in times of neo-liberalism*’ (Hazeleger & Boelens 2003).

in Ecuador, Peru, Bolivia and Chile, and comparative research in Mexico and the USA)⁴⁴ and later Concertación (Ecuador, Peru and Bolivia), the research focus and arena widened to include a large number of water networks at diverse local and global levels. The many workshops, seminars, policy debates, congresses, and capacity-building courses on water rights pluralism that we have organized with hundreds of water users, campesino and indígena leaders, water professionals, politicians, scholars, from multiple academic fields, both in the Andes and abroad, may not have been a ‘formal’ part of my research methodology but certainly have given me an enormous amount of information, just as the many in-depth case studies that were developed, many of which enabled me to further answer the research questions below.⁴⁵

Within this larger ‘ethnography of processes’ (Malkki 1995, in Hilhorst 2000:28), literature research, obviously, was another important method and source of information. Aside from academic information and research reports, an important secondary source of information for me is the novel. Novels (such as those of Peruvian anthropologist and writer José María Arguedas, but also non-Andean ‘classics’) often may provide even more information than the writer him or herself intentionally wrote down, and my personal interpretation probably sheds a different light on the processes that are described. Novels are not taken as a ‘truthful representation’ of Andean reality (as often happens, see the rightful critiques by Baud (1993) and Ouweneel (1993)); rather, they create their own world. But novels also construct interpretations of social reality and as such take part in reality.⁴⁶ As Méndez (2000) states, they contribute to the constructions of personal and collective identities; often they may have even more impact on symbolic representation and identity (re-)formation than academic works on history, politics and society. And the focus on reality may be innovative and eye-opening. Indeed, sometimes far ahead of academia, literature may point at key societal issues and deepen human interactions around such questions; it “often precedes philosophical and discursive thought since it tends to sharply and inevitably express contemporary feelings and experiences” (Achterhuis 1998:406).

As I have explained, several of my chapters dive back and forward into Andean history. History is not just knowledge, but also an instrument. Beyond the sequence of facts or presumed facts and happenings, history shows how ideas, ideologies, discourses, heroes and myths have been invented, recreated, glorified. For this reason, the study of Andean water myths and legends is also an important instrument in my methodology. “A myth is the ideal system to reproduce an ideology, whichever it may be” (Méndez 2000:13. Cf. Cáceres 2002). In the Andean waterscapes, significantly, water myths and oral traditions function to both *mobilize* local water communities and *stabilize* the status quo. They explain existing water control patterns or justify water power structures as much as they provide hope and motivation for action and change. As I make manifest, throughout Andean history,

44 Since 2001, I have coordinated the WALIR program, together with United Nations/ECLAC and national academic and action-research teams in the fore-mentioned countries (WALIR’s counterpart network is much broader, from user organizations and grassroots federations to policy institutes and activist platforms). WALIR analyzes local water rights and their discrimination or undermining by official water legislation and policies. As an inter-institutional network of water leaders, scholars and practitioners of various disciplines, WALIR attempts to be a kind of think-tank to critically inform debates on indigenous and customary rights in water legislation and water policy, both to facilitate local action platforms and to influence the circles of law- and policy-makers.

45 See also, e.g., the WALIR Research Volumes series (Un.Wageningen/UN-ECLAC), and the WALIR academic book series ‘Water and Society’, published with IEP (Lima) and others with Abya-Yala (Quito).

46 Science also constructs its interpretation of truth and reality but according to other procedures (e.g., as Latour (1994) argues, modernist science mechanically separates the network of social/natural (or human/nonhuman) interaction, at the same time projecting its social categories on nature (a fact it must deny to defend its positivist foundation) and inducing standards to compare and commensurate existing realities): see the first section.

control over mythical water-power production and the water-related constructions of origin and distinctiveness have been crucial to ruling classes to regulate and normalize society; and as counter-normative narratives they have been equally important to challenge this power and dominance.

Finally, in both the chapters on ‘normalization’ and ‘resistance’ I present some cases of overt domination and manifest struggle against it, clearly visible to everyone. But since my research most of all touches upon the issues of tacit and subtle, or invisible, domination and resistance, the common short-cut methods of ‘structured interviews’, ‘organized group meetings’, ‘participatory mapping’ or ‘gender analysis frameworks’ were not at the heart of the research methodology. Although these tools may sometimes be useful to produce overviews of, for example, available resources, water infrastructure, geographical spaces, organizational frameworks, paper rights and tasks and obligations, they tend to miss the subtleties of local and supra-local struggles, relationships and change processes. They also tend to ‘trans-color’ the researcher’s perspectives – e.g., suffering cannot be analyzed without color. (Though, simultaneously, intermittent moments of distance and ‘outside’ reflection are equally important). Probably, long-term involvement through, for example, action-research and collaboration, is essential (though no guarantee) for conducting such research.

The counter-side of research that attempts to go ‘beyond formal structures and appearances’ is equally obvious. Starn (1991), among others, made this dramatically clear in his work on ‘anthropologists and the war in Peru’. As I will analyze extensively, power groups in modern Andean society benefit from shedding light on informality and ‘darkness’ while remaining in anonymity themselves. Since (intermittent) invisibility strategies (chapter 11) constitute an important element of resistance practices, whenever considered important by myself or by the water users whom I worked with, their ‘right to secrecy’ has been respected in order not to unnecessarily expose my community co-researchers to the dangers that are part of Andean (water) politics. Not necessarily does everything have to be ‘told to the paper’: there are boxes that should remain unopened, or at least, their contents need not be made public. In by far the most cases, however, water user communities and families cry for shedding light on ‘dark practices’: politics and practices that aim to continue and intensify subjugating water-power relationships.

How this book is organized

While this first chapter presents some of the central notions, statements, assumptions, and conceptual links of my theoretical argumentation and research positioning, it does *not* provide the complete conceptual framework that I use for studying Andean water rights practice in, what would be, subsequent ‘empirical chapters’. On the contrary, my conceptual elaboration takes place throughout the chapters, whereby each chapter provides new theoretical building-blocks and links, worked out in conjunction with the results and illustrations that spring from my fieldwork in the Andean water-scapes. Together, this conceptual elaboration does not make any pretense to represent *the* conceptual framework on how to analyze and understand water rights and water control; it is *a* frame of analysis: the one that enables me to interpret and re-interpret Andean water rights reality, and answer my questions (which, in an iterative manner, lead me to a further conceptual elaboration and a deeper understanding of my own answers). As a consequence, the elaborations on rights analysis echelons, domains of water rights, contents of water rights bundles, etc., are not exclusive or exhaustive, but serve *my* purpose of analyzing water control and contestation. While they aim to constitute a coherent set of mutually constituting windows for looking at reality, I realize that such selection of concepts, principles and links is contested and equally forms part of the broader struggles over

legitimate water knowledge and discourse development.

The book consists of five parts, covering the issues of thematic introduction (“Andean irrigation and rule-making”), contextualization (“Andean communities and water policies”), encounters with normalization (“Inclusion of the excluded and the cultural politics of participatory domestication”), strategies that challenge domination (“Localization and resistance”) and the conclusions. These parts bring us, first, to my efforts to introduce and organize ‘the wild profusion of things’, second, to ‘the powers of illusion’ and, finally, to ‘the forces of con-fusion’.

To answer the question that guides my research journey, each part consists of several chapters, and each chapter responds to a fundamental question and pivotal concern related to the main themes of, respectively, Andean rule-making, normalization, and resistance: there are twelve ‘sub questions’ that, together, lead me to answer the main question, which is introduced in this first chapter. Though all chapters start with a brief guideline and introduction, below I briefly introduce the respective sub questions of the research.

1.3. The introductory chapters: Water rights conceptualization and the order of things

Water rights, as I have stated, do not embody natural resources or assets but socio-technical arrangements between humans as to how water and related resources are to be used and distributed and how its dominion is decided on. Beyond being ‘allocated’, water rights in Andean systems are commonly – individually and collectively – created and given substance, in multiple ways. Because of the fact that this takes place in contexts of interaction among diverse notions of justice and frames of rule-making, locally dominant water rights repertoires are internally complex and also differ from one community to the other. This multi-layeredness of water rights also becomes manifest in and is enhanced by the fact that, on top of ‘reference rights’ (for instance, those formalized in statutory law, local community’s irrigator regulations or cultural and religious dogmas), there is another, inter-linked world of ‘rights in action’. While ‘reference water rights’ offer a formal normative framework to water users and – depending on their legitimacy, socio-technical capacity of enforcement, and user interests and contingencies – orient their water use and control behavior, it is the ‘activated’ and ‘materialized’ water rights that provide insights into how water rules, rights and obligations actually become embedded and embodied in everyday social relationships and become concrete in the water scenery (Boelens & Zwartveen 2001. Cf. Benda-Beckmann et al. 2000). The second chapter pledges to develop a conceptual orientation to look at and deepen understanding of the contents and dynamics of Andean water rights repertoires and property regimes.

Question 2: How are water rights defined, acquired and given concrete substance in the water property regimes that prevail in Andean irrigation systems?

Water rights and distribution practices become manifest, simultaneously, in water infrastructure and technology, normative arrangements, and organizational frameworks to operate and maintain water control systems, all embedded in their political-economic and cultural-symbolic context (Boelens and Zwartveen 2003). Beyond just law and rights in a strict sense, technology, organizations, cul-

ture, economy, and ecology also fundamentally influence and structure possibilities of water capture (Zwarteveen et al. 2005). Thus, water rights analysis requires formulating an interdisciplinary focus – one that allows for analyzing the politically contested nature of water resources and rights as well as the interacting domains⁴⁷ that constitute Andean water control systems.

Such schemes of ordering and analysis inherently face the above dilemmas of power-knowledge interaction. While Borges (1942) strikingly ridiculed the absurd attempts to categorize the whole world in rigid analytical frameworks (see chapter 3) – a fact that Foucault (1994(1966)) used to question our own modes of ordering – Kant argued that we cannot even know *‘das Ding an sich’*. From positivists to social constructivists, his saying is applied that (even if we cannot know reality) we have to construct and arrange categories in order to be able to know and share knowledge *at all* – “categories are the conditions for the possibility of knowledge”. Ontologies, categorization and conceptualization are conditions for water knowledge, in general, and water rights, in particular, to exist, to be understood, to be worked with, to be communicated.⁴⁸ But this does not tell us what these categories should look like, what criteria can differentiate one category from the other, or who has the privilege to establish the order of things (Guzzini 2005; Kearney 1996; Lukes 2005; Li 1996). In other words, “the theory of knowledge is a dimension of political theory because specifically the symbolic power to impose the principles of the construction of reality ... is a major dimension of political power” (Bourdieu 1977:165).

Next, categorization is not just necessary to interpret the world, but, in analogy with Marx,⁴⁹ also a precondition to change it. Here lies the fundamental step from *‘analytical categorization and recognition’* of, for example, legal pluralism, local water rights, user group identities, or indigenous cultures (which does not establish a legal, political-hierarchical division among cultural and rights systems), to the multiple manifestations of its *‘political-strategic recognition’* (which explicitly ranks the political-administrative hierarchization among the ‘recognizers’ and the ‘recognized’: see chapters 5 and 8).⁵⁰ Nevertheless, both forms of categorization and recognition have profound consequences for the ‘categorized’ and their linkages, in terms of public rights and political participation, their status as (non)water right-holders, their definition as ‘target groups’, ‘poor’, ‘natives’, ‘rebels’ or ‘environmental terrorists’, the validity and position of local rights repertoires, etc. Thus, it becomes imperative to analyze the actual embeddedness of these categories in both analytical and political frameworks (Guzzini 2005:507). In the third chapter, therefore, I elaborate on and make explicit my own water control and rights categorizations, my ordering-of-things, to enable reflection on water rights reality and to be able to reflect on the social and political construction of categories and orderings as made by others, in later chapters.

Question 3: What are the conceptual domains of water control and water rights, and how do they mutually interact with and constitute each other?

47 As chapter 3 details, I use the concept of ‘domains’ of water rights and control not in the sense of ‘arenas’ or social fields of interaction with territorial and political boundaries but as (distinct but interlinked) thematic fields producing knowledge on water control.

48 Categorization also occurs in case we do *not* consciously construct categories. This, among others, is a strategic notion for normalization practices as analyzed by Gramsci (1971), who saw ‘hegemony’ as a product of powerful institutions’ practices to influence common sense. Rather than falsifying truths (Popper [who, nevertheless, rightly argued that observation is theory-laden]) these institutions aim to proliferate their truths. Cf. Bourdieu 1989; Lauderdale 1998; Oliverio 1998.

49 “The philosophers have only interpreted the world, in various ways; the point is to change it” (Marx/Engels 1969[1845]:15).

50 See also Benda-Beckmann 1996; Boelens et al. 2002; Roth et al. 2005; Zwarteveen 2006.

1.4. The contextualizing chapters: Andean water user communities in a changing policy environment

Water management in the Andes, because of its complex physical-ecological and adverse political-economic operating settings that forces water users to collaborate intensively, by definition, builds on relationships of mutual dependence. Fundamental tasks in water control organization, related to activities such as system operation and maintenance, resource mobilization, decision-making, communication and conflict resolution, are intertwined with shared bonds of rights and obligations and depend on both effective and affective relationships. Therefore also, within broader identification processes, it is common to see that water user families strongly identify with their water sources, user organization and water territory. But far from any romantic understanding, these necessary bonds and arrangements to regulate and distribute access to water tend to be the result of processes of internal struggle, negotiation and ‘concertation’. Networks and interpersonal relationships, in a similar vein, are fundamental to the collective defense of water vis-à-vis third parties, such as landlords, mining corporations, neighboring communities, State agencies, and others. Here, commonly, the Andean community institution plays a key role, and in user-managed systems many of the water tasks and rights are ‘community embedded’.

These communities are dynamic constructs that aim to collectively respond to context-specific challenges of resource control and defense. They are formed through “processes of political and cultural creation and imagination – generating meaning in the context of unequal power” (Roseberry 1989:14). Moreover, as De la Cadena puts it, “since the development of capitalism in peasant economies has not managed to secularize all facets of reproduction, the community is an institution interweaving diverse aspects: technological rituals, magical and administrative authorities, and commercial ceremonies. Economics, politics and ritual ‘braid’ together in peasant reproduction and are manifested in their institutions [...] Community borders are not only territorial but also social and political, the boundaries within which rights and obligations are exercised under the community organization’s sanction” (1989:77-78).

The notion of ‘community’, however, is fiercely debated and contested in terms of its conceptual constitution and empirical existence. In rural development analyses and policy proposals different ‘schools’ present its existence and behavior (or ‘required behavior’) in different ways. Such community images powerfully legitimize actions to either ‘protect’ or change water normative arrangements (Urteaga & Boelens 2006. Cf. Cleaver 2000; Guevara 2006; Starn 1994). To analyze the rules and the game, there is a need to also examine the schools of thought on community (de-)construction and the ways in which water rights and bonds of cooperation are conceived of in such schemes of representation – whether they claim to be rooted in the Andes or to be universally applicable. Together with historical and empirical analysis, they are an important ingredient to investigate, in the fourth chapter, ways in which water control is entrenched in Andean ‘peasant economies’.

Question 4: How are Andean water rights embedded in (inter-)community control structures, local livelihood strategies and water society context?

Since water rights – in either the conceptions of local communities or that of the nation-State – intrinsically combine issues of (material) water resource distribution with those of water control deci-

sion-making, legitimate authority and cultural-political organization, water policies and politics are intimately linked with both the questions of ‘socio-economic justice’ and ‘cultural justice’ (Boelens & Dávila 1998; Zwartveen et al. 2005). Traditionally, economic structures and water administrative policies in the Andean countries have largely aggravated access inequality and, despite continual normative interaction, they have mostly neglected or undermined local water collectives’ rights frameworks and authorities. Currently, within a context of growing pressure on water resources and increasing claims and conflicts among multiple use sectors, rather than contributing to any solutions, conventional bureaucratic and free market water allocation approaches seem to have worsened the crisis.

However, there seem to be opportunities for customary rights systems and peasant and indigenous water cultures; since recent, constitutional recognition of ethnic plurality and multi-culturalism is a fact (Castro 2004; Sieder 2002; Stavenhagen 2002); and the ‘decentralization of water regulation and management’ has become a formal part of national and international policies (Dourojeanni 2000a; Hendriks 2006; Vos 2003). But questions arise about the effectiveness of current approaches that foster water cultural recognition and socio-economic justice. Can it be construed that, as a successor to the ‘bureaucratic water management tradition’, the latest policy proposals and transitions towards a new ‘user-centered modernization tradition’ aim to hand over the costs, tasks and responsibilities to the water users, while decision-making authority and control, again, concentrate in the hands of outside agencies and power groups? Which policy mechanisms prevail to deal with water rights distribution, in terms of allocating both water and decision-making faculties?

Question 5: What are the fundamental water policy approaches to address ‘the water crisis’ and water rights conflicts in the Andean region?

1.5. The domination chapters: Coercive and capillary powers and the politics of participatory domestication

As I have outlined, the existence and proliferation of diversity in water rights and organizational practices appear to constitute a fundamental obstacle for economic and political power groups to govern resource management, control user behavior and direct the outcomes. Through a variety of strategies, techniques, and often also unconscious (routine- and paradigm-driven) procedures and practices, water users are forced to accept the uniform patterns that enable their submission and obedience. The modes of power and control to ‘correct and rationalize’ water users and their disobedient rights repertoires have changed in Andean history, from coercive, top-down forces based on exclusion, to more subtle, participatory powers and discourses based on self-examination, self-blaming, self-correction and, definitely, inclusion. But, as the chapters examine, these modern bottom-up, polymorphous mechanisms of participatory normalization have not replaced the ancient vertical mechanisms but now combine in multiple, strategic ways.

While subsequent chapters focus on the role of technological design and techniques of governance, legal strategies and administrative procedures, hydro-policy and expert models, and regimes of user visibilization and correction, chapter 6 looks in particular at the cultural politics of water control and property ownership. It focuses on the politics of disciplining and converting Andean water users and collectives into ‘objectified subjects’ (see Rabinow 1984; Kearney 1996; Gelles 2000) and examines both the classification schemes and dividing practices by which dominant groups catego-

rize ‘the others’ and assign their ‘identity’ to them (e.g., colonial and postcolonial racism) and the process of subject-formation by which Andean water users ‘turn themselves into subjects’ according to models that are not of their own making (cf. Fanon 1963, 1967; Said 1993; Galeano 1995). In the Andean region, the well-known fact that the categories used to classify and name people interact with the self-conception of those subjects (Guzzini 2005:499) is basic to ongoing, dramatic political games, both ‘coercive’ and ‘capillary’. As I will analyze, given the fact that Andean water rights and property creation are intimately linked with processes of user identity formation, the processes of expropriation of water resources, labor and control also directly relate to the expropriation of identity and water culture. Throughout Andean history, local practices and beliefs about water control, in a technical, operational, and cultural sense, were connected to broader ‘identification policies’ and authorities that aimed to effectively organize compliance and surplus extraction (Boelens & Gelles 2005).

Question 6: In the history of Andean water control, how is power exerted to influence both identification of and self-identification by people in order to subjugate their labor and collective action, and control their water rights and resources?

The apparent demise of the ‘grand theories’, the infeasibility of designing and running ‘societal machines’ and the fact that, currently, most social science perspectives tend to negate the makeability of society, does not imply that *all* fields of knowledge construction and implementation have largely abandoned this utopian/dystopian dream. As day-to-day practice manifests, the worlds of water science and hydro-intervention in particular have not given up their hope to discover or design overarching, instrumental principles to construct water society and direct its course. The conviction that ‘human agency and stubbornness’, or ‘intersubjective mediation’ are flaws in the pattern and evidences of ‘lack of understanding’ persists as a powerful tenet. As Vincent rightly states, “the users of systems are usually hidden inside design routines, described crudely through empirical factors that link them to inefficiencies, losses or uncertainties in system behavior” (1997:11). Therefore, most irrigation managers are functionally interested in the clear spatialization, visualization and disciplining of water users in the socio-technical system, in the most effective and efficient way to control their everyday water use practices, and in their hierarchization in terms of command and obedience.

The enlightened words and socio-technical design orientations of principal liberal-utilitarian philosopher Jeremy Bentham, when explaining his panoptic system, may relieve them: “To say all in one word, it will be found applicable, I think, without exception, to all establishments whatsoever, in which [...] a number of persons are meant to be kept under inspection. No matter how different, or even opposite the purpose: whether it be that of punishing the incorrigible, guarding the insane, reforming the vicious, confining the suspected, employing the idle, maintaining the helpless, curing the sick, instructing the willing in any branch of industry, or training the rising race in the path of education” (Bentham 1995[1787]:33). The design would be applicable to “penitentiary-houses, or houses of correction, or work-houses, or manufactories, or mad-houses, or hospitals, or schools”, so, as chapter 7 investigates, why not to modern irrigation systems in which sophisticated control technology neatly intertwines with the wish to oversee, moralize and discipline users? Foucault (1995) analyzed the panoptic, socio-technical design in combination with its moralizing philosophy

as a metaphor of modern, disciplinary society: inducing in the people a feeling of being continuously monitored for their own sake, which guarantees the ongoing functioning of normalizing power and the self-correction of subjects – even if actual vigilance would be irregular or an illusion. Independent of any rulers, people would internalize and so strengthen their subjection to the norms.

The chapter analyzes the case of State-agency driven irrigation development in Ecuador. It examines how hydro-political and technical designers' norms structure the development of irrigation technological dream schemes and, in turn, how irrigation technology embodies designers' norms, which search to structure the social practice of irrigation. In this process, it is not just the engineers and planners who obey their disciplinary norms but, by defining the system's standards, they also aim to design the ideal, obedient water users. "The rules of the game construct the players, who in turn construct their own particular version of the game. And those who play the game the best are the winners who continually reproduce the game in its infinite variety, and create the illusion of freedom whilst the rules become ever more fixed" (Wilson 1998. Cf. Bourdieu and Passeron 1977). However, engineering the water world and instrumentalizing its users and uses may be a (conscious or unconscious) objective of water policy-makers, planners and interveners, but is it realizable? Is it possible to reshape water user communities and install a uniform set of water rules and rights and a rationally aligned administration through design and governance techniques? Will it produce effective command, efficient water use and high productivity? If this appears to be an illusion, does it imply ineffectiveness of these socio-technical designs and normalizing forces?

Question 7: How does the interweaving of socio-technical networks for irrigation water control by the State agency – aligning the social and the material to conform a dominant, moralizing set of forces of a strategic nature – order local water society, enforce productive and disciplined behavior by subject families and communities, and normalize their water rules and rights?

Chapter 8 focuses on the multiple, increasingly subtle law-based strategies to normalize local water rights repertoires. As I have outlined, a fundamental principle of Andean water laws is blanket enforcement throughout national territories, based on the proclaimed liberal equality of all citizens before the law. One ideological function of such an equalizing law (Correas 1994) is to create national identity within an 'imagined community' (Anderson 1983), a uniform nation in which water users share the same 'natural' objectives. Despite the fact that the reference model of equality, in practice, is based on the class, gender and cultural standards and interests of a small but powerful water interest minority (Boelens & Dávila 1998; Gelles 2000), the image of a natural, objective and neutral normative framework for all is maintained. In how far does legal equality discourse, rather than facilitating water property redistribution, fulfill an important role in denying rights to diversity of water norms and cultures?

As I have argued, this monolegal fundament has been severely challenged by plural legal practice and users' claims to water access and decision-making rights, and thus, national administrations somehow have engaged in policies of recognition of local water rights, organizations and cultures. Paradoxically, pressures have not just come from 'the inside' but also from global, neoliberal policy actors to open up space for 'multi-culturalism' (cf. Assies 2006; Hale 2002). Besides liberal justice's recognition of individuals as primary right-holders, neoliberal multiculturalism increasingly also

advocates for providing collectives with private rights. But what are the economic and political interests behind these recognition policies? How well do legal reforms towards decentralization of water management decision-making actually foster local rule-making autonomy and resource redistribution? What are the conditions for ‘recognition’, which water rights and cultural-organizational forms are ‘recognized’ and which ones are declared illegal? How do recognition policies generate and naturalize new subjects and rights categories, and how do they foster new forms of subject’s self-knowledge and self-correction? How have new forms of water normative rationality subtly invested and penetrated in the practices and procedures of law-making and enforcement?

Question 8: In what ways have Andean countries’ legal systems dealt with local water rights complexity, and what politics of tangible-ization, containment and disciplining of local rights and identities are inherent in these legal strategies and official policies of recognition?

“What is incumbent on government is to conduct a policy towards society such that it is possible for a market to exist and function” (Gordon 1991:41). Where socialist water bureaucracies in Andean history have commonly tried to standardize, suffocate and abolish local collectives’ water rights in the name of ‘equality’, liberal nation-States foresaw the equalization of water users as (‘potentially equal’) players in the water market – likewise demanding a fundamental transformation of existing rights repertoires. Probably far more aggressive, still, were and are the neo-liberal water rights projects that have actively intervened in shaping users and uses, and also water society. As was mentioned, the world’s farthest-reaching case and exemplary model imposed on the other Andean nations is Chile. Here, in the name of freedom of water use, military arms and oppression combined with Chicago-school economics to realize the utopian dream of free water markets, silencing all protest. Pinochet offered a nation-wide water rights laboratory to the neoliberal economists and water scientists, where conditions for experimentation could be ‘controlled’. Beyond liberal ideology that States are not to intervene in the matters of individuals, neoliberal policy-makers and governors regarded water users, their rights and identities, as entirely moldable and correctable. But, again, it was not just brute force but also the model’s discourse that was to lead to normalization, self-correction and inclusion.

Chapter 9 examines how private rights, the reallocation of water rights through market transfers, and equalization of users and rights through market-based normalization, are linked by means of a naturalizing economic-scientific water discourse and forceful policy implementation (Boelens & Zwarteveen 2005b; Castro 2002; Gentes 2006). It analyzes how water rights contents and allocation are detached from context, from water’s collective nature, and presented as devoid of social and economic powers. While its truths are based on pretensions of universal validity and rationality (see Bourdieu 1995, 1998b), in fact, the model rests on many pre-rational claims. As Arendt observed for another context, such pre-rational truths, by virtue of being self-evident, “inform reason but are not its product – and since their self-evidence puts them beyond disclosure and argument, they are in a sense no less compelling than ‘despotic power’ and no less absolute than the revealed truths of religion or the axiomatic verities of mathematics” (1969:192).

How to bring the anomalous, deviating water users and water rights to accept the ‘universal notions and self-evident order’ presented by neo-institutionalism and neo-liberal policies? What are the contents of the Chilean neo-liberal water experiment, which has provided an important ‘utopian’

reference for international donors, transnational water policy-making institutes, and Andean nations' water rulers? How does it recognize local and indigenous water rights? Why do water user organizations and grassroots federations in other Andean countries, as Peru and Ecuador, see it as a 'dystopian' mirror? What are the consequences of a policy, geared to enforcing marketable private ownership rights and inter-user competition, for local water user collectives and common property water use systems?

Question 9: What are the conceptual underpinnings and political strategies of neoliberal water policies and water elites to encroach on, undermine and normalize Andean user communities and their collective water rights?

"It's not knowledge or skill alone that's wanted of the expert ... What matters is the halo of impartial prestige his skills lend him, allowing him to neutralize conflict-laden encounters – between governments, between a government and its governed – and disguise political issues, for a time, as technical ones" (Adams 1979:474). Water expert communities, linking the local and national with the international, indeed, are influential not just in the field of constructing 'modern, advanced water rights' but also in their implementation by means of water policy and technology intervention projects. Water experts and water rights expert knowledge embody modernity, progress, and 'development'. But, as Illich observed, "the professional definition of rights can extinguish liberties and establish a tyranny that smothers people underneath their rights" (2000:36). Are Andean water users squeezed under the expertocratization of their water rights?

Vast field evidence confirms that most (social and technical) water experts are not experts because they express truthful water knowledge, rather, this water knowledge is truthful because it is expressed by the experts. It is common to see that many national and international expert centers, even after long-term interfaces with user organizations and their plural water rights constructs, cannot express and discuss communities' water rights in any way but in the reductionist terms of Water Law regulations or in the illusory policy language of neo-institutionalism. 'Should-be water rights' according to expert notions are confused with reality and make understanding actually existing rights nearly impossible (Boelens et al. 2002; Roth et al 2005; Van der Ploeg 2003). At the same time, legal engineering assumptions often make existing local rights irrelevant since – 'whatever those may be' – they are to be substituted for 'rational and efficient rights' after legal training. Orwellian Newspeak? Devspeak? Lawspeak? Do experts transcend above space, time and context, as 'pre-rational subjects'? How do experts acquire the agency and legitimacy to deny the agency and legitimacy of water users, and at the same time establish the users' needs? How does DevSpeak produce new water user and rights categories subordinating the latter to formal frames and power structures? How do expert-based water governance notions become incarnate in reductionist hydropolicy models and dream schemes that actively negate living water rights systems? How do expert notions materialize in the 'development arena' and what are the consequences for *actually existing* water users when they are faced with the 'fantasy-loss' (Anders 1988) characteristic of water expert and hydro-policy models?

Question 10: What are the mechanisms that expand expertocratization of Andean water control and how do hydro-policy making expert networks contribute to standardizing existing water rights?

1.6. The resistance chapters: Mimicry and the struggles for water and identity

In contrast to those political and development projects that seek to inscribe local water rights in the hierarchical structure and legal ontology of power, sustained by expert communities and disciplinary hydropolicy models, the issue at stake is to also and simultaneously understand local water rights creation and recreation as a struggle precisely against this imposition of formalized rights, ethnocentric policies and universalistic regimes of thought – be they top-down or ‘participatory’. Therefore, I will analyze water users’ forms of critique: “... if governmentalization is indeed this movement through which individuals are subjugated in the reality of a social practice through mechanisms of power that adhere to a truth, ... critique is the movement by which the subject gives himself the right to question truth on its effects of power and question power on its discourses of truth: critique will be the art of voluntary insubordination, that of reflected intractability” (Foucault 2002b:194). Indeed, while Andean user collectives face policies and strategies that powerfully work towards the normalization and control-externalization of their water rights and management systems, they engage in multiple forms of resistance to defend their resources, rights and decision-making faculties. Their resistance ranges from opposing current distributive inequalities and undemocratic forms of representation to challenging the very politics of truth themselves.

These chapters examine a variety of strategies by which water user communities contest the objectivist, universalistic modernization policies and the subjugating politics of recognition, so trying to prevent water rights from being dictated by extra-communal institutions, power groups and markets. The book, rather than presenting (non-existing) ‘final outcomes’ of (ongoing) water rights battles, aims to highlight and characterize the opposing forces and strategies. While these forces and counterforces in the water power game may reveal coherence, as mentioned above, they are not neatly plannable and are strongly influenced by contingency, mediation and internal contradictions. The resulting heterogeneity of water rights development, therefore, is a structural phenomenon (cf. Long 2001; Van der Ploeg & Long 1994); such heterogeneity by definition counteracts normalization but not always and necessarily as a consciously devised strategy. Nevertheless, in turn, user collectives do make conscious, strategic use of this rights heterogeneity and thereby extend existing normative complexity.

Resistance, as I will show, goes far beyond the revolutionary stigma attached to the region; it is far more subtle and, in its most literal sense, *creative*: creating something entirely new while staying ‘rooted’. Three fundamental questions on the reflected intractability of Andean water user collectives guide my study of resistance against normalization.

“In the darkness of secrecy sinister interest, and evil in every shape, have full swing,” and: “Where there is no publicity there is no justice. Publicity is the very soul of justice. It is the keenest spur to exertion, and surest of all guards against improbity”. These could have been Thomas More’s words in *Utopia*, or the introductory lines in a development manual aiming for class and gender justice; they certainly are much quoted words in court cases and on Internet sites about public justice.⁵¹ They are, again, from liberal grandfather Jeremy Bentham, who focuses on the need to bring the hidden to

51 I took them from www.marywardlegal.org.uk, Oct. 2007; for their origin, see www.ucl.ac.uk/Bentham-Project.

the light and to public scrutiny. But, not coincidentally, he was also the architect of panopticism, the quest for realizing the modernist dream of utter control over society. What if the visibilization of the common people and their practices is also the fundamental condition and mechanism of subordinating, normalizing power?

Currently, most participatory policy and development approaches argue for the need to make the poor, the indigenous, women, in other words, the subordinate, *visible*. This includes visibilization of their (water) rights and resources, institutional arrangements and strategies. Chapter 11 analyzes and challenges this generic, mainstream idea. For this purpose, I examine first the question of *how* women and the gender dimensions of water rights are visibilized. How are they ascribed a subjectivity; how do both the institutionalized practices of classification and the prevailing discourses on ‘gender and water’ in the Andes (which I call ‘monocular regimes of representation’) constitute techniques of subjection by themselves? Second, I concentrate on the above problem field and question whether the *overall* visibilization of women and their water rights is in their own interest *at all*. How do politics of visibilization lead to ‘subjection by illumination’? What are the interests of powerful water players, to illuminate local water users, rights and practices whilst making the actual workings of power invisible?

In power struggles among groups with unequal clout, often, “the purpose of secrecy is above all, *protection*. Of all protective measures, the most radical is to make oneself invisible” (Simmel 1950:345, quoted by Cohen 1986:129). Scott argued that “it is exactly in a society, where any open, identified resistance to the ruling power may result in instant retaliation, loss of home, employment, tenancy, if not victimization at law – that one tends to find acts of darkness” (1990:148). But while Scott’s analysis of coercive (‘visible’) power and its resistance reaction (off-stage, in hidden spaces) may be accurate, his exclusive focus on top-down, oppressive, visible power entirely overlooks the far more generalized, normalizing, ‘invisible’ modes of capillary power which so dominantly influence contemporary society, not in the least the current water management world. It is in particular this participatory, inclusive power that seeks to highlight ‘the dark spaces of the common people’. At the same time, as Foucault argued, this power itself is more effective the more it can remain masked or in the dark: “its success is proportional to its ability to hide its own mechanisms” (1978:86).

How do Andean water user groups and peasant and indigenous women in the Andes challenge the biased representations that organize their visibilization? How do they challenge the modernist ideal that foresees their overall visibilization? How do they, at the same time, organize their own strategic ways and moments of visibilization? Can such alternating visibility/invisibility strategies counteract the standardization efforts of normalizing power?

Question 11: What are the backdrops and dangers of currently influential ‘gender and water rights’ visibility strategies, and how do Andean female water users struggle for and shape their rights to self-decided ‘invisibility and visibility’?

“Just sticking to local norms could only lead into a trap” as a Bolivian community leader explained their strategy to actively search for interlegality, cross-breeding local and official norms (Hoekema 2006:210; Orellana 2004:150). Apart from the fact that traditional law is easily side-lined, they aimed to take shelter behind written, officialized regulations embellished with Western-style legal jargon. At the same time, rather than awaiting imposition, they wanted to gain more control over

the process of normative mixing and forum shopping. In a similar vein, Bustamante (2006a) shows how water user federations, who consider themselves the original rights-holders because they held rights prior to the creation of the Bolivian Republic, have recognized the constitutional precept – that “Original Dominion” of water is in the hand of the State – only for strategic purposes: the aim was to get legal status in order to claim the rights and funds associated with that status. However, they have by no means accepted governmental control over management of their waters.

Chapter 12 analyzes how the creation and recreation of water rights, profoundly intertwined with processes of local identity formation, harbors a world of difference below the outer appearances of uniformity and formality. Multi-layered collective water rights systems proliferate legal pluralism, necessarily questioning the exclusiveness and self-evidence of formal State- and market-based water rules. Andean communities construct new, diverse water rights and organizations that strategically represent collectivities in their struggles against control-externalization. To this respect, I will examine the production, reproduction and strategic uses of water rights in social action, and the ways collective action structures and extends informal networks, as community undercurrents that actively challenge domestication. I also analyze how these ‘undertows’ enable action on broader political scales, constituting flexible trans-local networks.

If the tactics of water governance increasingly come to rest upon not just formal laws and official administrations but on the precise ways in which water users and water user collectives (e.g., through their water rights and identities) become subjectified and engaged in ‘government politics’, how do they *themselves actively respond* to these government practices? Is ‘resistance to normalization’ merely a reactive effort to counterbalance its negative effects for local water user communities, or do the latter engage in active, purposeful action to build their own collective water societies and autonomies? How do material-economic and symbolic-political orders and struggles interweave in the effort to defend local water rights, normative frameworks and livelihoods?

Question 12: How do Andean water user communities resist against processes of water rights encroachment and the subordination and undermining of their water rights socio-legal repertoires?

“*Soon you will have to obey the invaders and their gods. Do so, but not in your heart*”. Since resistance leader Manco Inca, according to local narratives, spoke these words in 1536, just before the Spanish re-conquest of the Ollantaytambo fortress and the Inca’s retreat to the Vilcabamba stronghold, the power games have changed. But an essence powerfully remained: adaptation is not the same as conformism. Arguedas’ novels also narrate about the comuneros’ non-conformity with ‘white-mestizo norms and practices’ and the simultaneous, strategic adoption of their methods and means, of the powerful elements of their symbolic order.

With the authorities’ support the mistis began to plunder the ayllus ... The judges and notaries signed all kinds of papers; that was enough. After K’ollana, then K’ayau. Those neighborhoods had the land with the most water....

But from so many times they had to go into offices, from so much running around because of the papers that were used to take away their land, the Puquios learned to defend themselves in court, paying off the judges, the clerks and the notaries... No, the water, the ayllus would never let it take away.... (Arguedas 1987b[1941]:15).

Already in early history, the indigenous communities used the rulers' system of justice in which they selectively 'shopped around' to fight injustices, solve water conflicts, or regain their water rights. Or, as Getches (2005:44-65) strikingly described for North-American cases, now and in history, they "defended the indigenous water rights with the laws of a dominant culture" (Cf. Getches et al. 1998). Commonly, such strategies of imitation and adaptation may both reinforce the legitimacy of the ruling system and, quite the opposite, serve counter-hegemonic objectives or hinder the water rights plundering practices of the invaders. As Stern argued, "by mastering the art of juridical politics, ethnic groups, ayllus, and even individuals won battles on pressing real life issues such as mita, tribute, and land rights" (quoted in Baud 1993:190). If it was convenient to them they invented traditions and institutions that could strengthen their defense and claims; "in this way they adapted to the colonial system in order not to endanger their traditional agroproduction systems and their economic and cultural autonomy" (Baud 1993:191).

Probably, the current water rights battlefield is far more complex than it was even in highly complex colonial times. Dichotomous representations of normalization vis-à-vis resistance, or formality versus informality, obscure the workings of the rules and the game rather than clarifying them. Non-final outcomes, as was argued, rather reflect continual confrontations among opposing forces. Here, as the book analyzes, a fundamental question is who, and to what extent, controls 'the process of imitating the other'. Do water users internalize the formal truths and structures, and assimilate to powerful agents' norms and rights – i.e., are they 'subjectified to normalizing power' – or do they rather use imitation as a subtle, subversive strategy to shield below and take over the sources of power of dominant groups? Do they incorporate these elements into their own water control practices but assign a different strategic significance to them?

Chapter 13 investigates alternative representations and practices in concrete local settings, in contexts of hybridization, collective action, and political mobilization (Escobar 1995), but simultaneously puts forward the issue of why water user groups support water norms and regulation that do not correspond to their interests and reality. It scrutinizes water material and symbolic resistance, analyzing how they reject the categories in which the dominating groups want to enclose them (Scott 1985), but at the same time it looks for the ways in which they use formal categories for their own purposes. It analyzes socio-technical, political action to challenge coercive and capillary forms of power and so 'localize' water control, by simultaneously deepening their own water rights repertoires and shopping around in the power factory of the rulers. If defending water rights plurality and water identity-based distinctiveness is a means of resisting commensuration and control by the ruling economic-political and symbolic orders, how does this resistance take shape? How do orders of water rights non-conformity generate the maneuvering room in order to deviate?

Question 13: Given powerful agents' interest to influence and domesticate local water rules and rights and considering water users' multiplicity of interests and identities, how does the water rights community emerge from plurality and how is 'unity within diversity' blended to counteract normalization and defend endogenous water rights definition and reinforcement?

chapter 2

CREATION AND RECREATION OF DIVERSITY. CONCEPTUALIZING WATER RIGHTS IN COLLECTIVELY MANAGED ANDEAN SYSTEMS

IN WHICH I dive into the deep waters of the ‘living water rights’ that prevail in Andean water user communities. Far beyond and underneath the world of universal text books on ‘law’ and ‘water management’ or the national Water Laws and irrigation regulations, there is another water world, entrenched in the actual and day-to-day lives of real people. To escape this seemingly ‘messy’ and ‘complex’ clew of actual water norms, rights and practices, and to be able to rely on one’s own truths, ontologies and disciplines, water rights are typically analyzed as ‘black boxes’ loaded with universal prescriptions. These may nicely juxtapose the equally universalist fundamentals of positivist technical water science formulas, but deny the fact that there is an enormous variety and hybridization of definitions and uses of the water rights concept, and that its meanings and functions cannot be assumed from galactic space, the study hall, or the policy laboratory. Therefore, in order to comprehend the existing forms of irrigation water control in the Andes, the space- and time-specific meaning and versatile, dynamic appearances of water rights need to be appraised. Through contextualized analysis of water rights’ embeddedness in the cultural, agro-ecological and political environment of Andean water user collectives, their importance and contents can be understood: the definition of and balance among the faculties a water right contains, the duties linked to rights, the conditions and mechanisms to acquire rights, the operational rules attached to rights, the legitimacy and enforcement capacity attached to certain rights, etc. In this chapter, with illustrations from diverse Andean water control situations and practices, I show how the multi-layered access and control rights attached to water are closely linked to a great diversity of normative sources and interacting socio-legal frameworks. At the same time, water rights – both in their contents and distribution – are the object of contestation, the product of power relations, and constitute a power relation by themselves.

Question: How are water rights defined, acquired and given concrete substance in the water property regimes that prevail in Andean irrigation systems?

2.1. Ceceles contra Tzaticahuán

June 1995. The Ceceles people are furious. How on earth is it possible that the comuneros of Tzaticahuán dared to go to the office of INERHI in order to ask permission to use the secondary irrigation canal above Guitarrapamba?! *“Never, I’ll die first; they cannot and will not use this canal unless they pay it back to us with their own blood, sweat and tears! The Tzaticahuanes are lazy, they don’t know how it is to fight for your water rights, they just wait and see, till the work is done by our families. We went to the State offices in Riobamba and Quito to negotiate and raise funds, we mobilized our families to work for many months on the terrible, rocky slopes of Guitarrapamba, we faced danger; got hurt and could not work on our own fields all those days, while the Tzaticahuanes refused to participate and were waiting for the job to be done by others. They even threw stones at us when we were carrying the construction materials, when we suffered because of digging this canal close to their community. This canal is ours, even though we will never be able to use it. We would rather see it break down than just hand it over to the people of Tzaticahuán!”* Jorge Huaranga, leader of the indigenous community Cecel Grande, expresses the feelings of all families that gathered on the central square. They were prepared to defend their position fiercely in front of the engineers of the Municipality and INERHI,¹ the State agency responsible for irrigation development.

In the inter-institutional meeting of the Licto irrigation project the INERHI engineers were astonished, as were their colleagues from the Municipality. How was this possible?! They could not understand the rationality of Ceceles’ attitude. More than 160 million Sucres were spent by the Municipality of Riobamba to finance the design and construction of the canal track, and now this nicely lined canal would simply be left unused, waiting for its final collapse?

For the Ceceleños the question was very simple. For many years they had been fighting in order to assure that their communities would gain access to the water from the newly built Licto Irrigation System, a system from which they were excluded according to the official design (see chapter 12). They managed to raise funds and technical assistance from the Municipality to build a lateral canal from the Licto main canal. This canal was to cross the 300 m. deep gully of the Chambo River by means of a huge inverted siphon carrying 1200 liters per second. Then, according to the Ceceles villagers, before delivering the main flow to the downstream Licto communities, this canal could branch and bring some 150 liters per second to the command area in the Ceceles communities (see figure 2.1., “track A”). Even without receiving the respective water rights concession from the State irrigation system of Licto, hundreds of Ceceles families already started the construction of the lateral canal. They constructed it along the contour lines, just below the communities of Tzaticahuán and Geseche, but above the flat and irrigable fields which these communities owned in the Guitarrapamba area (see map). Therefore, at the start of their risky and technically very difficult project, the Ceceles organization offered the Tzaticahuán communities to make a deal and collaborate for mutual benefit: in exchange for Tzaticahuán labor contribution in the construction of their canal, these communities would receive water rights and have their own outlet at canal section km 2, so that they could irrigate their Guitarrapamba fields. The Tzaticahuán communities, however, did not have any confidence that the large Licto Irrigation System would ever succeed and cross the Chambo River, let alone bring water to the lateral canal as planned by the Ceceles communities. Consequently, they did not accept Ceceles’ proposal and even boycotted this effort out of fear that the Ceceles communities might claim land access rights once they had cut a canal platform in the slopes just below

¹ INERHI, *Instituto Ecuatoriano de Recursos Hidráulicos*

the Tzaticahuán communities. Despite disbelief and resistance of the Tzaticahuánes, the Ceceleños started their arduous endeavor alone, and with the municipal funds a private consultant was engaged to make the technical canal design and supervise construction.

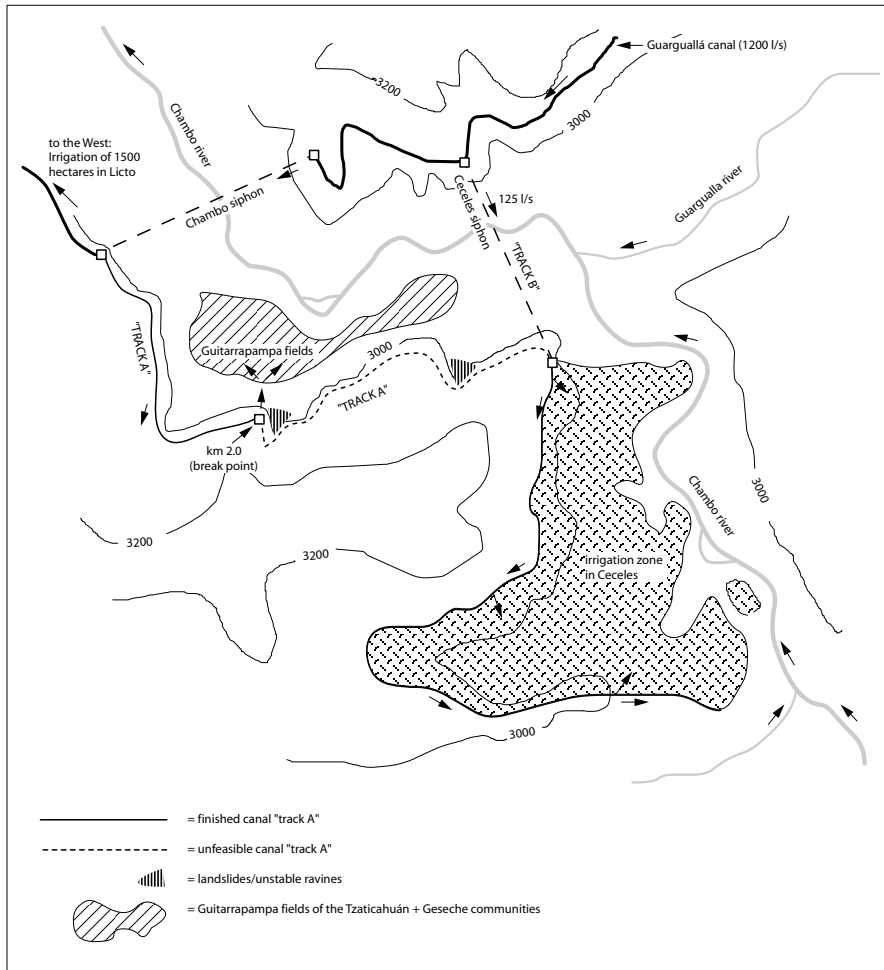


Figure 2.1: Map of the Tzaticahuán and Ceceles irrigation areas
Source: own elaboration

But the efforts of the Ceceles villagers – which by then already included construction of a long track of lined canal in very steep slopes – were in vain. The feasibility analysis and design study of the engineer were based on his wish to ‘get the project’ rather than on a technically sound evaluation. Apparently, for him, the risks of local communities’ tremendous disillusion, of spoiling their investment of thousands of labor days, and even the very concrete danger of human casualties, weighed less than his personal commercial interests. When trying to cross an impressive landslide at km 2 of the canal project, the subsoil appeared to be too unstable to allow for any type of crossing. One of the Ceceleños did not survive the bridging endeavor, and after a long period of severe collective sacrifice the Ceceles people realized that they had to give up this effort and leave the canal as it was.

This, however, was not the end of their struggle: they negotiated the technical support of an NGO and funds of the Swiss government to construct another, much smaller, inverted siphon to cross the Chambo River, and they fiercely claimed rights on the basis of locally prevailing water rights repertoires (see chapter 12). Finally they were formally allocated water rights to 125 liters per second from the Licto project (see figure, “track B”). At that moment the Tzaticacahuán people saw their chance and requested the use of the original, partly government financed canal which had fallen into disuse (“track A”). Without the need for any new investment, the two kilometers of platform and lined canal could bring the water precisely to the fields in Guitarrapamba. The State agency was eager to consider this interesting request and wanted to approve it since, in their opinion, it would signify a very efficient use of existing water and infrastructure resources. The Ceceleños, however, did not allow this since, according to the local norms prevailing in most Andean communities, they had been creating the property rights of the canal – property, not only interpreted as the right to use and control the water but also as the right to use the canal infrastructure.

‘Hydraulic property creation’, the idea of ‘creating water rights’ through users’ investment of labor and organizational and intellectual inputs in irrigation infrastructure development, did not appear in the rationality of the State employees. Instead, they reasoned from a State legal framework and engineering criteria. After calculating the irrigation water requirements of a certain area and comparing these with the available discharge, water rights were to be granted through State concessions to those users who fulfilled the application criteria and who applied by means of the ‘solicitud única’ – the official, standard application form. Furthermore, this official concession of water rights was not in any way related to the appropriation of property rights over the infrastructure itself, as the Ceceleños claimed.

Obviously, leaving a new canal to be destroyed by the forces of nature rather than handing it over to the neighboring communities in need of it is an ‘extreme’ example of the rationality of property rights creation. However, unlike the State agency engineers, the Tzaticacahuán people *did* understand the divergence of rationality between the two conflicting normative frameworks quite well. Moreover, they wanted to make use of this contradiction between official and peasant rules, and although they knew they had a weak case in the particular setting of this region where local norms often were decisively defended by the indigenous communities of Ceceles, they thought it was worth the effort.

The canal was left abandoned. Efrain Lema, another important leader of the Ceceleños left the door ajar: *“The Tzaticacahuánes can gain their water rights to the Guitarrapamba canal, but only if they personally contribute by providing their days of collective labor to the work that has to be done in our new canal!”*²

2.2. Water rights’ diversity and legal complexity in Andean communities

Irrigation systems managed by peasant and indigenous communities in the Andes typically feature an enormous diversity of rules and rights to operate and maintain the infrastructure, strengthen and

2 Only after many years an agreement was reached and the Ceceleños allowed the Guitarrapamba canal to carry water. Action-research with the Licto and Ceceles communities was done throughout the period from 1992 to 1997, followed by shorter visits (Ceceles: in 2002 and 2005; Licto in 1998, 2000, 2002, 2004, 2005 and 2007). See also chapter 12; Boelens & Doornbos 2001.

reconfirm management organization and guarantee water distribution according to locally established allocation principles. This diversity is an intrinsic consequence of the historical process of matching regulatory norms, organizational forms and hydraulic infrastructure to the particular social and agro-physical requirements of each locality. Next, they result from the water users' negotiations and users-managers encounters within each irrigation system, and the confrontation with local and wider power structures. Hereby the interaction among different socio-legal frameworks is crucial, as is the incorporation of rules related to the subsequent 'irrigation traditions' in the Andean region (chapter 5). As such, this local, contemporary 'peasant and indigenous irrigation management law' embodies particular combinations of various normative sources and organizational forms (official and non-official) which interact in the field of each specific irrigation system.³ The largest part of these local rights and rules is not written down, or rather, as the notion of hydraulic property creation shows, it is 'written' in infrastructure, just as it is 'materialized' in bonds of mutual obligations and agreements. Though largely 'invisible' to outsiders, nevertheless, such a rights repertoire usually consist of a clear, widely popularized pattern of norms that are part of the collective local memory and reference framework. And in each system, along with certain more general norms, there is also its own particular background logic, which together constitute the heart and fundamental pivot of the system.

As a consequence, to understand local irrigation management in the Andes it is critical to analyze these plural normative roots, within their historical and cultural perspective and the current constellation of powers. Thereby it is not sufficient to focus on just the local, community or inter-community level. First, because local Andean irrigation systems interact with and often unconsciously adopt non-local rules and rights, particularly those emanated from State law. Understanding local socio-legal repertoires requires an understanding of how 'original norms' of formal law have become entangled and re-interpreted in local communities. Second, notwithstanding the fact that in the Andean region 'local law' is a basic source for users' behavior and orientation, State law and other non-local normative systems cannot be underestimated as powerful sources of 'normalization' (see chapters 6 to 10).⁴ Third, since State law constitutes an important source of power, local water user communities – just like individual irrigators – often seek to use a strategic selection of its rules, rights and procedures in their own favor, according to very divergent strategies (see chapters 11 to 13).

State law therefore constitutes an important threat and opportunity for local water user communities in the Andes. They face it as a challenge to local autonomy and tool for eventual redistribution. Notwithstanding the recent constitutional changes towards legal recognition of multiculturalism and location-specific rights diversity in Andean countries such as Peru (in 1993), Bolivia (in 1994), and Ecuador (in 1998), the State's normative system is grounded in a general, nation-wide, positivistic application of law. It expresses the equality of all members of society in terms of rights and obligations, generally without any exceptions that would recognize the validity of different normative sub-systems. Particularly the Water Laws and Regulations tend to follow a monistic juridical-political model (see chapter 8), which does not recognize local cultural principles of water management, or acknowledge particular needs, assets or organizational forms. De la Cruz (1993: 81) concludes that

3 Benda-Beckmann et al. conceptualize this mixture as *local law*, an umbrella concept referring to "the locally dominant mixtures of interpretations and transformations of the surrounding universe of plural legal repertoires" (1998:60).

4 Although strongly differing per community and region, and according to the 'relational distance' to State institutions and intervention agencies (Benda-Beckmann et al. 1989), it is common to see that State institutions and officials have little knowledge of or simply deny local water rights constellations, and necessarily draw on their own normative background. But even when State agency efforts to legitimize the legal framework do not succeed, local resistance *against* this 'non-local' legal order underlines the importance of the latter.

“the principle of equality before the Law is valid for the identical and profoundly unjust for the diverse”.

However, as outlined, the ideology of official law does not simply materialize in practice in the way its authors had presumed (see Benda-Beckmann et al. 1998; Castro 2000; Correas 1994; Sousa Santos 1995). The modes and effectiveness of official rights enforcement vary according to the context. This is due to the above-mentioned ongoing interaction in which, on the one hand, officials responsible for enforcement interpret rights as they see them and ‘distort’ them in practice, whereas, on the other hand, the supposed ‘receivers’ are highly heterogeneous in their ‘acceptance’ of official rights. Next, there is strong interaction among locally already existing normative systems (e.g. State water resources law, religious⁵ and cultural laws and customary irrigation rights) and the rights repertoires generated or imposed by multiple project interventions in irrigation, which often set their own criteria for irrigation management (Gelles 2000; Long & Van der Ploeg 1989). This ‘project law’ (Benda-Beckmann et al. 1997) usually finds its roots in local NGO principles, in national intervention practices and in international policies and rights-development programs.

As a consequence of the processes of interaction, normalization and resistance, in the practice of Andean peasant and indigenous irrigation we may simultaneously find norms or normative systems operating according to the law (sometimes the State itself institutionalizes ‘special laws’ for specific sectors, see chapter 8), others operating outside the law (normative systems without legal backing, neither accepted nor prohibited by the law), and others operating against the law, with their own rules that are illegal according to official legislation (Assies et al. 1998; Boelens & Doornbos 1996, Stavenhagen & Iturralde 1990; Wray 1993).

In Moore’s words, we can analyze the socio-legal frameworks of local irrigation systems in the Andes as ‘semi-autonomous social fields’, surrounded by rules and forces emanating from the broader societal setting. This field “has rule-making capacities, and the means to induce or coerce compliance; but it is simultaneously set in a larger social matrix which can, and does, affect and invade it” (Moore 1973: 720). They are semi-autonomous, not only because they can be affected by norms and forces in effect under other normative systems, such as the national legal framework, but also because stakeholders in the social field can mobilize these outside norms and forces, or threaten to do so, when negotiating or confronting other actors in the social field. However, they also have a certain degree of autonomy, because the legal or ‘outside’ norms have a limited function and scope within the local arena, and users’ own rights and obligations are often strong and quite important.

When the locally present rights system of a collective of user families has not set all the rules required, or lacks authority and faces internal opposition or opportunism, certain actors may turn to other normative systems (‘legal shopping’). Especially when conflicts arise, users strategically select out of other socio-legal systems the norms, rules and procedures that may legitimize and strengthen their particular claims (Benda-Beckmann et al. 1997. Cf. Hoekema 2005, 2006; Sousa Santos 1995). The claim the Tzaticahuán families put before the State agency in order to obtain the rights to use the water and infrastructure of the Ceceles communities is a clear, common example. The possibilities for water users to ‘shop around’ among other normative systems depend both on the strength and capacity that they are able to manifest in order to sustain and ‘legitimize’ their claims, and on the water user communities’ overall acceptance of the legitimacy of the ‘outside’ normative system in question.

5 Religious law systems in the Andes do not just refer to formalized legal repertoires in, for example, Catholic or Protestant/evangelical churches; also the Andean supernatural world, with its own authorities, rules and rights conceptions, represents a strong and socially effective referent for most water users and communities.

2.3. Water rights' embeddedness

In the Andean communities, clearly, the water rules, rights and duties are linked to a great diversity of local, national and even international socio-legal sources and frameworks, and they are embedded in a plurality of local organizational forms for regulating and distributing the water. Still, water rights complexity is not restricted to water management practices 'alone'. Water allocation and distribution are closely enmeshed in economic and non-economic institutions and networks of social and political relations, and some of them have few relationships with the management of water resources themselves. Access to and consolidation of water rights are attached to all kinds of non-water related rights and duties.

The local transfer of water rights, for instance, happens in a social context in which gifts and donations function as important mechanisms to maintain networks of friends and relatives (Boelens & Zwarteveen 2003, Roth et al. 2005). And power games, discrimination and corruption often strongly influence water allocation by bureaucratic agencies (Gelles 2000, Lynch 1988a, Van der Ploeg 2006). Where the influence of political and economic power structures on the allocation of rights is broadly recognized as an important issue, less attention is given to the embeddedness of water rights in the frameworks of local peasant economy and community culture. Significantly, this embeddedness is usually forgotten by development programs, water reform proposals and 'functional' water resources policies.

Agricultural productivity in the Licto communities in Chimborazo Province, Ecuador, is severely restricted by the prevailing soil properties. Most fields suffer from a '*cangahua*' sub-soil, just 10 or 20 centimeters below the fertile top-soil. It is a deep, compact, almost rocky volcanic soil layer, which is nearly impermeable. These *cangahua* fields covered some 80 % of the future irrigation area of the twenty communities that joined the project. Irrigating such plots would certainly cause a great economic and ecological danger, especially on steep terrain, since the lack of filtration capacity would quickly cause the topsoil to erode, and a bare, unfertile *cangahua* layer would be all that was left. In a General Assembly many hundreds of future user families gathered to discuss the problem, which posed a threat to their collective subsistence. They agreed that, in order to obtain water rights in the system under construction, it was not sufficient to just fulfill the water-related duties – such as the construction of canals and participation in water user meetings; each family would also have to contribute to the collective labor days that were organized to break and plow the *cangahua* soils. Support for the heavy manual and mechanical work was given by a local NGO, and each community drafted the criteria and schedules for the '*mingas de roturación*' (deep-tilling labor days) and supervised their execution. The community and inter-community water user leaders counted the number of '*rayas*' (lines, each representing one *minga*-day) each family contributed, which were recorded to visualize and administer the process of water rights' creation.

In the indigenous community of Chumug San Francisco, in the same area, strong conflicts prevented collective action in water management for a long time. As is common in most Andean communities, community labor days for constructing and maintaining irrigation canals were embedded in the broader set of community activities. Each family had to contribute to the collective construction of roads, canals, collective terraces, the football field, the school, the church etc., in order to consolidate the status of being a 'good *comunero*' - both adult men and women could

join these *mingas*, representing the family. Fulfilling community-member obligations implied obtaining the privileges all members have, such as water rights.

Traditionally, the Chumug community consisted of members who were Catholic. However, the region was canvassed by U.S. and Ecuadorian Protestant ('*evangélico*') clergymen since the 1970s, and by 1995 a small majority of the community members was Protestant. In the Community Assembly this majority decided that the future *mingas* of the community would have to be devoted to building the Protestant church, while the Catholics refused and stressed the need to work on something that was a collective need for all: the construction of the secondary and tertiary canals for the irrigation system. Just as in the neighboring communities of San Antonio de Guagñag and Pompeya, where similar problems arose, both groups threatened to take away each other's water rights. The Protestants argued that the Catholics did not fulfill the *minga* duties established by the majority, and thus would lose their status and rights as good community members; the Catholics said that building a Protestant church was not a collective duty and moreover, the Protestants refused to fulfill their water rights duties. After several years of conflicts, when the lack of collective action threatened to break down communities' economic survival, the groups again joined in *minga* efforts, under the leadership of a strong and 'open-minded' president. Collaboration regained its crucial importance, particularly in the field of irrigation, drinking water system and road construction and maintenance.

In Peruvian communities we found this same embeddedness of water rights in the religious and cultural domain. Not only in the 'traditional Andean beliefs and customs' but also, among others, in the arena of encounters between Catholics and Evangélico-Protestants. For example, in the communities of Mollepata, Cusco, Protestants refused to work together in the communities' and inter-communities' collective labor parties for irrigation construction and maintenance – *faenas* as they are called in Peruvian communities. It was common that the *faenas* – till then headed by the Catholics in the region – not only included elements of worshipping Andean deities, such as sharing drinks and small offers with *Pachamama* and the *Apus* (see chapter 3)⁶ but most of all because *faenas*, just like *mingas* in Ecuador, are working parties with an important role for alcohol. During the *faena* a lot of *chicha* (home-made maize beer) and sugar cane liquor is consumed, and at the end of the day not just the quality of the meal but also the quantity of the liquor is an important ingredient for judging the success of the *faena* (this is comparable to the local valuation of the reciprocal labor exchange relation that takes place at the inter-family level, *ayni*, in Mollepata and other Peruvian regions). Protestants explained their non-participation arguing that they are not allowed to drink alcohol, and that the working efficiency of Catholic *faenas* is low because of drunkenness. When Catholics claimed that Protestants, therefore, should pay the collectively agreed absentee fine, so that the community can contract '*peones*' in their place to do the necessary work, the absentees refused, arguing that the money will only be spent to buy liquor. Collective action and, therefore, irrigation system sustainability are at risk and existing notions of water rights, embedded in a community rationality of collective construction and maintenance during *faenas* or *mingas*, are challenged.⁷

It follows that the questions of how to obtain water rights, to define their contents and to allocate

6 Cf. Abercrombie 1998; Gelles 1998; Mayer 2002, who also show the role of liquor (collective drinking and libations) in reinforcing relationships among *faenantes* and among humans and their ancestors and deities.

7 The three cases are based on my fieldwork in respectively Ecuador and Peru.

and materialize rights to user families in local Andean irrigation systems involve not only technical and managerial issues.⁸ Aside from reflecting the climatic, agro-productive and geophysical circumstances of the locality, water rights are strongly influenced by social norms that regulate distribution and redistribution practices in other (non-irrigation) spheres of community life. These have to do with, for example, the overall community rights and obligations, family and gender relationships, power structures, historically generated organizational forms and local rituals and beliefs.

For cases similar to distant indigenous communities in Peru and Ecuador, Gerbrandy (1998a, in Boelens & Dávila 1998: 315-321) shows the embeddedness of water rights in Sullcayana, an *ayllu* (traditional community) in the Department of Oruro, Bolivia, at an altitude of 3900 meters above sea level. Sullcayana shares the water of the Azanaques River with other ayllus. Community members recall that their great-great-grandfathers already held water rights. To consolidate their water rights, families must comply both with irrigation-related duties such as cleaning and construction and with other community obligations, for example joining working parties, accepting community positions and participating in ceremonies. The community organization monitors whether families are fulfilling their obligations and posts in order to grant them water rights.

Water rights are attached both to people and to plots (*chacras*), whereby the *Jarreador* (water distributor) and the judge search for an equitable balance between plots and users. The *Jarreador* evaluates the land's irrigation needs and the judge evaluates family needs. "Each morning at 6 am, users who need to irrigate that day gather at a sacred hill near Sullcayana called Paraj Huilque to ask the judge for water, telling him that their broad bean crops are drying up. To know how urgent this is, and the proper order, the judge gathers data from his *Jarreador*. The latter goes to applicants' cultivated fields and checks on who needs irrigation and who can wait for a while. The water judge, based on the *Jarreador*'s report, determines who will irrigate first in the morning and who next. Some will have to wait for one or two more days. To define water distribution priorities, the judge uses the parameter of the broad bean field that is nearest to its permanent wilting point. Broad beans are the top priority crop for irrigation and are restricted; a family is entitled to sow and irrigate broad beans only every two years" (Ibid: 318-319).

Besides embeddedness in the local agricultural production system, water rights are also enmeshed in the local religious system. Participation in water rituals is mandatory for having water rights, since according to Sullcayana community members, rituals reproduce balanced relationships among families, Nature and deities. One of the most important rituals is water exchange. The *Kamayoj*, the one generally in charge of protecting community's agricultural fields from damage, is in charge of organizing the ritual. When rains stay away, the *Kamayoj* agrees with the *Ayllu Cacique* (chief, highest authority) and both gather with the *Caciques* and *Kamayojs* of the other ayllus for joining the whole population in this ritual. "First, all community members gather at the sacred place Paraj Huilque (a chapel with an Andean cross). This meeting takes place the night before the 'water exchange'. During the meeting everyone dances with their pennants around the chapel, accompanied by their *ayahuayas* (native musical instruments), *pijchan* (chewing) coca and *ch'allan* (blessing). Afterwards they prepare 12 dishes (with, among others, native medicines, frankincense, figures of the elements to be blessed, with coca and alcohol). [...] All dishes are prepared by a *C'amili* (sorcerer, fortune-teller) and are brought the next day to

8 I.e., the formal right-holder application terms, the allocation of certain water volumes or flows, the issues of timing (interval and duration) and place (canals and fields), the purpose or destination of water, and the corresponding functional organization and operational rules.

the Azanaques (the main regional *Apu*) by a commission of community members. Commission members climb the mountain to bless and incense these dishes and to collect spring water (male waters that flow from the *Apu*, the mountain deity). The water exchange takes place at Paraj Huilque with neighbors from other ayllus, who also bring water in pails from Lake Poopoo (female waters from Mother Earth / Pachamama), at the foothills of the Azanaques. Finally, the exchanged waters are taken back to where they came from, and poured in the lake and the Azanaques springs” (Ibid: 320).

As Gerbrandy explains, in Sullcayana, decisions on water scheduling are also made at the sacred place, to confer with the deities. And every year before sowing, special rituals are celebrated to reproduce an equilibrium among land, people, water and gods. Thereby the most important community positions are appointed: those responsible for maintaining this equilibrium in the *ayllu* during the coming year. By rotating these positions all families become involved in contributing to the consolidation of their collective and individual water rights.

As can be observed, the formulation and enforcement of water rights and the definition of correct uses and rightful users are closely entrenched in local water control contexts, and form part of historically established cultural systems with their own values, meanings and symbols (Cf. Castro 2007; Cleaver 2000; Gelles 1998). Also, in some communities, people’s sense of community identity is strongly linked to a having a shared history of struggling against landlords for water- and land rights. Similarly, through years of collective investments in the construction and upkeep of infrastructure, communities have not only consolidated their water rights but also their sense of togetherness (Boelens & Zwartveen 2003). Therefore, these multiple forms of water rights’ embeddedness in local historical, political, economic, cultural, agro-ecological and socio-legal relationships both determine the nature and function of water rights, and strongly relate to the identity of the water rights holding communities and their territories - something I have called ‘hydraulic identity’ (see chapter 4).

In Manyaccla, Ayacucho, Peru, the irrigation system is governed by the communal authority, comprising the community president, the lieutenant governor, the municipal agent and the community vigilance president,⁹ the secretary and members. “The community authority handles water and all other decisions within the community and outside it, such as land distribution decisions, conflict resolution and representation of the community in dealings with outside bodies” (Paniagua 2005:35). Characteristically, the community chooses its authorities according to their behavior and they should be ‘*national*’. This status does not mean citizens of Peru, but “originally from Manyaccla, at least 18 years old, high school graduates and active and honest” (Ibid: 35). This term is constantly used by the villagers to refer to their members, thereby reinforcing the importance of local belonging and autonomous action. The main qualification to irrigate is to hold land within the community; otherwise, no man, woman or ‘returner’,¹⁰ is entitled to water use. “Returners” have to catch up with the other community members in *faena* work and collaborations. As Paniagua describes, Manyaccla community members have an obligation to occupy a position in the community at least once in one’s life. It is also a right: to be a leader for the good

9 As Paniagua (2005) observes, the community vigilance president (*presidente de ronda campesina*) is a locally important authority who arose when Self-Defense Committees were set up, in community defense during the dirty war between the Shining Path and the military.

10 *Returner (retornante)* is the term used for those displaced by the armed conflict during the violence period, who emigrated and now return and reclaim their water rights.

of the community. “It is interesting to note that taking part in system organization can also be a punishment for a community member who does not take part in the faena work, forcing them to be leaders to oblige them to provide community service” (Paniagua 2005:37).

Local rights’ contents make sense only in the local context, and lose their relevance in other contexts, for example in national legislative frameworks (Benda-Beckmann 1993; Hoekema 2006; Stavenhagen and Iturralde 1990).¹¹ For Andean communities, a water right without its embedding properties and relationships, or placed out of its context, is not a water right. Water rights are closely related to local processes of identification and user collectives actively ‘embed’ water rights in their community context. In the chapters 6 to 10, I will pay due attention to how national and international policies and discourses search to dis-embed local water rights and undermine local hydraulic identity, which at the same time is a process of de-identification. In chapters 11 to 13, I will analyze how local communities struggle to re-embed their water rights, and defend and reconstruct hydraulic identity.

2.4. Collective and individual rights

According to the right-holder, water rights in Andean communities feature the form of collective or individual water rights. Many definitions prevail in literature, whereby individual rights are often confused with ‘private rights’ and collective rights are sometimes associated with only ‘control rights’ or ‘decision-making rights’ (‘collective-choice rights’, see Ostrom 1990).¹² We have defined collective water rights as the demands on water use and control by the organization of users in an irrigation system vis-à-vis other parties (individuals or collectives), whose interests may collide with their own. These rights also determine the collective forms and conditions for access to the water source and the prerogatives and burdens assumed as a group versus third parties. Individual water rights, then, are inside each system, establishing relations for access to water among the different users and their respective rights, privileges and obligations (Beccar et al. 2002: 3-4).

Thus, particularly, individual water rights establish the relationships for community usage among irrigators associated for that purpose, determining rights and obligations for each. The need to clearly define rights and obligations is a direct consequence of the fact that irrigation is and can only be an organized collective activity in most Andean regions. All users need to join in order to satisfy their own crop and households water needs, aware that they require input from the rest to guarantee that the system will work and thereby ensure their own access to water (see chapter 4: ‘collective contractual reciprocity’). Therefore, the interests of each and every user comprise a juxtaposition of dovetailed, interdependent interests to make up an organizational network capable of managing its own system by itself.

In Andean community systems, the holder of individual rights is generally the family unit, most often formally represented by one family member. This has, obviously, important implications for gender relationships, since not only positive law but also many forms of local, customary legisla-

11 Umberto Eco’s hero, Baudolino, observes that “a door would not be a door if there were no palace surrounding it, because in that case it would be only a hole, or not even that, since an emptiness without a fullness surrounding it would not even be an emptiness” (Eco 2001: 104-105).

12 In my conceptualization, individual rights in common property systems are not private rights and should not be confused with ‘individualized rights’ (section 2.4.) since they are *derived* from and *embedded* in collective rights (Boelens 1999; Boelens & Albó 2007; Castro 2007); and collective rights are not just collective-choice rights since they also define the collective *access* a collective group has to water and infrastructure.

tion in the Andes establish that ‘household representatives’ are male – except for cases of female-headed households, for example, when widows, divorced or unmarried women run their irrigated farm. Chapter 11 analyzes how water rights are currently distributed along gender lines and the way diverging regimes of representation would like to mold reality to their gender truths and accordingly shape the notions of ‘individual rights’ and ‘formal representation’, and the respective water management policies.

Collective water rights, in turn, often have mainly a – no less important – external function outside the irrigation system (see also the section on ‘external usage rights’), because they determine community use and the conditions for controlling water from certain sources.¹³ A group’s collective rights therefore relates to other parties who may be interested not only in using the water, but also in a series of privileges related to water use, such as aqueduct easements, rights of way for their sources, and decision-making rights over the water sources. The third parties may be individual users, other irrigator collectives, other usage sectors within the watershed, or even non-user groups with particular interests in water rule-making. Thereby, the external function of collective rights is often also reflected in local rights system defense, authority and autonomy vis-à-vis other normative systems, such as State legislation and market-oriented rights privatization regimes.

Unlike government-granted water rights, which in many Andean countries are related to individuals¹⁴, water rights in community systems are generally granted to families *for belonging to a collectivity* and for meeting the corresponding collective obligations. This way, user families build important elements of their identity by being dutiful community and irrigation system members and, moreover, the rights of each individual are *derived from and embedded in* the collective rights and duties. In most systems with a strong community base all households who fulfilled their duties are entitled to use water. This right is normally not transferable by individual decision, because it belongs to the collectivity; when one stops using water, it reverts to the community. Similarly, as we have seen, water use norms are part of the overall set of community norms, so infractions in this area may also be penalized in other fields of community life, and vice versa (Beccar et al. 2002).

By contrast, in regions and systems in which water rights have become individualized over time, rights and duties are consequently ‘disembedded’ and separated from other fields of social community life. The notions of both individual and collective rights acquire different meaning and content. Being an irrigation user in these systems means that one has to meet one’s specific irrigation obligations, which cannot be exchanged for contributions to other walks of life. The type of faculties that one holds over one’s water rights also differs: in this case, the right to use a certain portion of the irrigation flow or volume often also entails the right to transfer it: by lending, renting or sometimes even selling it. In several systems where individualized rights are the general rule, this has led to redistributing water rights according to prevailing socio-economic relationships, giving way to the inclusion of other types of users, such as medium-sized growers or agricultural businesses with the economic power to buy up water rights within the system (Beccar et al. 2002). In Chile, for example, water rights are individualized by law, which means that users compete with each other within the irrigation system that used to be collectively managed.¹⁵

13 See also Benda-Beckmann et al. : “What is ‘one’ property holding unit in external relations, may be highly differentiated internally” (1997:82).

14 Particularly in bureaucratically managed systems, official regulations establish that the irrigator receives personal rights to water, pays water fees and fines personally to the governmental (sub) agency, etc. Since, this individual irrigator is generally defined as the ‘head of household’, which usually means a man, national law generally introduces or reinforces gender inequalities (see chapters 7 and 11).

15 See chapters 5 and 9; Castro 2002; Gentes 2006; Hendriks 1998; Isch & Gentes 2006.

2.5. Mechanisms of water rights acquisition

Apart from the question of what a water right consists of in a given irrigation system, user collectives have to agree on how to acquire water rights. The different authorities and socio-legal frameworks regulating Andean irrigation systems establish and recognize different mechanisms for obtaining water rights. Each mechanism's enforcement depends on whether the users and their communities recognize the enforcement capacity and legitimacy of the authorities regulating these mechanisms, and on whether they are able to defend their rights approach in practice, internally and vis-à-vis third parties. Often irrigation water rights are attached to land rights, and therefore land entitlement changes (e.g. through land reform) may change water property rights distribution. However, since water rights frameworks are social fields with relative autonomy, the link with land rights or the quality of this relationship is by no means a given. Sometimes water rights access is an issue relatively independent from access to land rights.¹⁶ Basically, we have found and distinguished among the following categories of mechanisms for accessing water rights in Andean irrigation systems:¹⁷

- A water rights *concession*: these entitlements to water are granted by the State administration. The formal resource ownership remains in the hands of the State, but users (collectives or individuals) are given rights to use, distribute and manage water internally for a given period. The State usually charges concession fees and, being the definite owner, it has ultimate dominion over the water (according to agreements, it may withdraw rights after the concession period, include other right-holders, hand over infrastructure property, etc.).
- *Historic rights*: rights refer to authorized claims considering a form of 'prior appropriation'. They are legitimized on the basis of recognizing acquisition by the first users in the past ('first come' claims: 'first-in-time, first-in-rights'), who may be settlers ('*colonos*') or indigenous first nations ('*pueblos originarios*').
- *Socio-territorial rights*: these are rights over water sources originating in or flowing through a socio-geographical territory (e.g., 'riparian rights' which are based on the possession of land with a water source, or located along a stream). Being the inhabitants of the socio-territory to which the water source 'belongs' legitimizes collective and individual water entitlement claims.
- *Transfer* of water rights from one rights-holder to another. According to the normative framework that users start from, very specific rules are set about which transfer mechanisms are considered legitimate. Transfer mechanisms may be diverse, for example, through sale, rental, barter, donation, inheritance, or marriage, and each mechanism is attached to particular norms (especially obligations and restrictions) on the conditions of transfer, the universe of possible transferees, etc. Generally, individual transfers are embedded within a collective property regime that establishes that rights cannot be 'taken out of the system'. So, transfer of rights is often a collective decision-making affair, also when the issue at heart is an individual's water right. In many communities selling and buying water rights is not even allowed *within* the system, to prevent water rights accumulation in the hands of a few people, and to avoid the loss of community control over water allocation. Selling of water itself, for example, an irrigation shift, generally encounters less restrictions. Gifting water rights to user families or communities, often by elites, landlords or formerly by royal families, often has the intention to build social and political alliances

¹⁶ See, for example, the principles of section 2.6. Much case evidence is provided in Boelens & Dávila (1998).

¹⁷ See, for example, our case material in Boelens & Dávila 1998; Boelens & Doornbos 1996, 2001; Boelens & Hoogendam 2002; Boelens & Zwartveen 2003; Boelens, Getches & Guevara 2006b; Urteaga & Boelens 2006. See also: Bustamante 2006a; Gerbrandy 1991; Gerbrandy & Hoogendam 1998; Gutiérrez 2006; Hendriks 2006; Vera 2006a.

(for example, *compadrazgo* relationships) and to receive future social and productive services. Rental and barter are forms of semi- or non-permanent transfer of water use and may become institutionalized rights after several years. Exchange of water use, for the right to use other production resources, is another specific form of such transfers: reciprocal exchange of scarce resources is very common in Andean communities where, for example, one family may provide the land and water, the other family may offer the labor and the seed or animal traction for plowing, and they will share the harvest ('*al partir*', or '*trabajar en compañía*'). Chapter 11 analyzes the gender dimensions of rights acquisition mechanisms, which become especially important in water rights transfers embedded in marriage and inheritance customs.

- Acquisition of water rights *by force*: Andean history features countless incidences of water rights having been expropriated from peasant and indigenous communities through coercive force exerted by powerful groups (landlords, mining companies, agribusiness enterprises, etc.).¹⁸ Appropriated rights have not always received State backing (though often they have), but it is very common for them to become institutionalized and legitimized in local proceedings, within prevailing power structures.
- *Users' investment*. Communities and families invest their resources (for example, in kind, labor, capital, time and intellectual and ritual contributions) to build or rehabilitate irrigation facilities, thereby creating water rights for the water users to whom the labor is attributed.

Within a given region, it is common to find several different such mechanisms being in force simultaneously and they usually appear in many different ways.¹⁹ Moreover, there is interaction among these mechanisms for obtaining rights; they may reinforce or oppose each other. A widespread example in the Andean region relates to the juncture of extra-economic force and State regulations, such as in Licto, Ecuador (chapter 7 and 13), where the *haciendas* took away indigenous land and water rights up to the 1970s, just as the *encomenderos* did at the time of the Conquest and the Incas before the arrival of the Spanish. After nationalizing water property rights in 1972 the Ecuadorian government, by means of the official mechanism of 'State concession', could have opposed this mechanism of 'take-over by force', returning irrigation rights through water concessions to the original right-holders (who claimed their rights by the mechanism of socio-territorial demands). In practice, however, the reverse has been true: the mechanism of State concession has reinforced the mechanism of forcible take-over. Another common example of confrontation between mechanisms: Many irrigation systems in colonized regions were built by peasants and/or indigenous peoples, such as the cases of the ancient systems in Mollepata in Peru or Gompue and Urcuquí in Ecuador, illustrated in chapters 3 and 12. According to the Andean mechanism of 'rights created by user investment', they should have obtained water rights. However, despite their claims, large parts of such systems benefit large landowners, who used the mechanism of force to make the peasants work and obtain water rights themselves. Not uncommonly, it is only after long battles, in which conflicts over these mechanisms figure prominently and where the authority and legitimacy of the rights frame-

18 The coercive acquisition mechanism is also a common theme in Latin American novels. For instance, as Jorge Amado relates: "At the lawyer's office of Itabuna this expropriation would be simply legalized, since, anyway, it already had happened, entirely according to the rules so much favored by the colonel: first the ambush, then registration; or more precisely, first violence and then the law" (Amado 1984:23). For the Andes, see in particular the novels of José María Arguedas.

19 Apart from these mechanisms, for each system and water source a highly diverse set of conditions usually have to be fulfilled to obtain rights - see also the sections on 'principles' and 'embeddedness'. For example, obtaining water rights may be conditioned to: having land titles in the irrigation area; belonging to a specific social group (e.g. class, ethnic, gender, age, kinship or community groups); being a 'good' community member; being an irrigator of a specific crop, ecological zone or geographical area (e.g. '*hanan*' and '*hurin*'), and so on.

works defending such mechanisms are strongly disputed, that State concessions happen to reinforce local collectives' mechanisms. Examples are shown in Chapters 12 (Ceceles) and 13 (Licto).

2.6. The contents of water rights

Access and control rights

In a general sense, the purpose of any irrigation system is to transfer the water from the source to the irrigation zone and apply it to plots and crops when precipitation is scarce. For each user to be able to take part of the water to his or her own plot, and to know when and how much or for what crops water can be used, under what conditions and according to which principles, all users' water rights must be well defined, since these are the normative foundation for user-controlled management of irrigation systems (Beccar et al. 2002). As elaborated on above, in most Andean irrigation systems water allocation is linked to land and/or to persons, but often arrangements may also be specified according to crops, according to age groups, according to cultural-geographical positions in the community, or according to prior rights. Actual allocation patterns have evolved historically, based on local principles of fairness and justice as well as on power relations and social contradictions.²⁰

We have defined water rights, in the context of farmer-managed or Andean irrigation practice, as "authorized demands to use (part of) a flow of water, including certain privileges, restrictions, obligations and penalties accompanying this authorization, among which a key element is the faculty to take part in collective decision-making about system management and direction" (Beccar et al. 2002: 3). A water right thus gives the right-holder the authorized possibility to obtain water from a particular source. The fact that others are not allowed to take the water before it reaches one's own field or community is part of the essence of the water right. It is the security of an individual water user or collective of users that one holds a particular right, as against others (Boelens 1998b, Hoogendam 1995, Zwarteveen and Meinzen-Dick 2001); the legitimization to lay claim ('authorized demand') on the use of a particular amount of water at a particular time in a particular place, sometimes with a specified quality. The conditions, obligations, penalties and, of great importance, the water control and decision-making privileges attached to water rights differ per system and per socio-legal framework.

In Andean practice, water rights are not only entangled in a multitude of societal relationships, but also consist of a diversity of components (privileges, restrictions, obligations and penalties). Consequently, in order to conceptually understand the functioning and use of water rights, it is essential to look at water rights *contents* as they become manifest in particular situations. We found that water rights in user-controlled systems in the Andean region generally establish the following aspects: 1) who has the right to use water and to use hydraulic infrastructure, 2) what conditions and criteria hold for obtaining these rights, 3) how, when, where, for what purpose, in what quantity (and sometimes quality), and with what certainty, each user is allowed to access water, 4) how, when and where users are allowed to use and operate infrastructure, 5) which access right-holders have to systems' management information, 6) what obligations must be fulfilled to maintain one's rights, 7) what penalties follow infringement, 8) to what degree users can take part in organizational, cultural

²⁰ For an elaborate overview of local concepts (in the Andes and in other regions) on equity in water allocation, which usually are quite different from legal or project-driven allocation principles, see our case collection in "Searching for Equity. Concepts of Justice and Equity in Peasant Irrigation".

and political activities related to system management, 9) who are eligible and what the criteria are for electing and occupying positions for system operation and governance – including processes of negotiation and alliance-building with third parties, and 10) to what degree each user will take part in collective decision-making about system management, particularly questions of system operation, acceptance of new members and changes in internal regulations and future system ownership (Beccar et al. 2002). A precise definition of these aspects is essential, so each player will clearly know what to contribute and what will be received in exchange; therefore, this is a basic condition for successful collective action. The absence of criteria established and accepted as necessary by the group, ordering community irrigation activity, will usually lead to uncontrolled competition, to water use conflicts, and to the failure to do maintenance work, which will in the future lead to destruction of the system.

The privileges related to water rights can be grouped, by thematic similarity, into the following ‘sub-bundles’. *Access and operational rights* include privileges to use part of the water flow,²¹ to use infrastructure, to access management information and the rights to occupy positions to perform certain management tasks. They basically relate to everyday system functioning (operation and maintenance). *Decision-making rights* concern the privileges to take part in decisions on system management, on inclusion and exclusion of users, on modifications in the hydraulic system, and on transferring the ownership of water or infrastructure (Beccar et al. 2002. Cf. Schlager & Ostrom 1992, Boelens & Doornbos 1996; Gerbrandy & Hoogendam 1998). Therefore, basically, these rights refer to authorized permissions to control irrigation water management and decide about resource use (see table 2.1).

Which types of rights are part of what is succinctly referred to as ‘water rights’, and whether users have equal or different rights, will depend on each system. Water rights are usually conceptualized as ‘bundles of rights’, since the contents of water rights, as we have analyzed for the Andean context, aside from the privilege to use water, also relate to several layers of permissions, duties, restrictions and penalties, and involve diverse levels of authority and multiple mechanisms for obtaining the respective rights (see also: Benda-Beckmann et al. 1998, Boelens & Hoogendam 2002, Bruns & Meinzen-Dick 2000; Correas 1994; Roth 2003).

Obligations and penalties

As for the obligations entailed as a counterpart to the enjoyment of these rights and to keep them over time, they are mainly overall compliance with the system’s water use and operational norms, pecuniary contributions (fees, *cuotas*), labor for water works construction and upkeep of the hydraulic infrastructure (*mingas, faenas*), material contributions (agricultural products, building materials), as well as intellectual and organizational contributions for sustaining and improving system management (*asambleas, cargos*, etc.).²² In many Andean systems, obligations involve not only the

21 Here, ‘access rights’ refer to claims of *withdrawal and use* of water. Note that in water use fields other than irrigation (e.g. navigation, tourism, etc.) access rights sometimes are defined as non-extractive claims to use the water. Further, withdrawal and use rights may be both consumptive (e.g. for crop or human consumption) and non-consumptive (e.g. when used for (micro) power generation or for washing and bathing, after which the flow is restored in the canal or river course).

22 Aside from irrigation-related duties, as I have illustrated, the embeddedness of water rights in local social structures means that in most community-managed systems users must also be active community members and take part in community duties outside the field of water control. Therefore, duties such as building churches, constructing roads, and leveling

Table 2.1 : Privileges attached to water rights' contents

Source: Adapted from Beccar, Boelens and Hoogendam 2002:5. (Cf. Boelens and Doornbos 1996, Gerbrandy and Hoogendam 1998; Schlager and Ostrom 1992).

When speaking of water rights, this generally refers to a range or 'bundle' of rights, which according to the respective socio-legal definition of property includes several or all of the following privileges:

Access and operational rights: rights to access water and infrastructure and operate the system	Control rights: right to take part in collective decision-making
Right to withdraw and use part of the water flow	Right to take part in decision-making about management and system operation: Decisions concerning water distribution, irrigation schedules, flow rates, water use purposes, organizational forms, posts and responsibilities, etc. – within the framework of the systems' regulatory arrangements.
Right to use the water intake, conduction and distribution infrastructure to get the water to a certain community or plot	Right to take part in decision-making about the inclusion and exclusion of members: deciding who can and who cannot be system members
Right to access information on the management of the system	Right to take part in decision-making about changing or expanding the hydraulic system and irrigation technology
Right to be eligible and to occupy positions in the water users' organization, to represent users, and to implement decisions regarding water distribution and system management, including punishment and enforcement of rules following infringement.	Right to take part in decision-making about transferring the rights to use part of the water flow, the source itself or the hydraulic infrastructure, to third parties
Right to take part in cultural, organizational and political activities related to the systems' water management	Right to take part in decision-making about changing the internal rights and regulations

world of human beings, but also the world of deities and sacred Nature – in terms of rituals associated with water and its management. These reaffirm mutual rights and relationships, and create a sense of protection against supernatural punishment. Rituals in irrigation water management have often a 'maintenance' function and are related to the re-creation of water rights.

Usually, an important obligation is the one of occupying a 'cargo' (post) in community water management. The Spanish, Quechua or Aymara names differ per system, and in many systems

the football field can interfere with the upkeep of one's water privileges.

various posts are appointed, for example : *yaku alcalde* (water mayor or water judge), *relojero* (watch keeper), *vocal* ('shouter', or communicator), *jarreador*, *unu kamayoq*, *rondador*, *aguatero* or *aguador* (water distributor), *vigilante* or *tityaq* (canal watchers or water guards), etc. In many Andean regions, according to national legislative prescriptions, the names of these offices have been formalized – for example: under the labels of president, vice-president, treasurer, secretary, etc. Nevertheless, the contents differ widely around the Andean region, and in many cases the traditional offices are the ones that have actual functionality. In these cases, the tasks, roles and responsibilities of the office-bearers are established locally, with or without major influence from officially established regulations.

According to the position, it may be a once-in-lifetime service, often burdensome and at the same time honorable, or it may be a post for which users can be elected by the assembly for several terms. Usually *cargos* rotate over the years among as many members as possible, in order to equitably share honors and burdens, to avoid concentration of knowledge and decision-making power in the hands of a few, and most of all, to improve system sustainability by building appropriate leadership capacities among a large number of users.²³ Not surprisingly, the ambiguous status of water *cargos* – burdensome, honorable and sometimes powerful, means that posts are subject to manipulation and fierce community debate, and it is not always social justice that prevails. Moreover, although gender roles are changing rapidly in most Andean irrigation systems (see chapters 11 and 13), traditionally most public water *cargos* are destined only to male water users.

Regarding fees that are charged in collectively managed systems, these are usually kept to a minimum and are levied to cover only those expenses that are necessarily market-related – for example, for paying building materials, transport and allowance expenditures for leaders when they have to negotiate with donors or State officials, or to hire a private hydraulic engineer for a complex design. Even when bribes are collected among users, in order to ease negotiations and 'convince' government engineers or other external actors, these often consist of non-commodities, such as local products and animals. This means that most community systems in the Andes do not build up a substantial repair and emergency fund for their system, to cover more expensive repairs in case of calamities. This has often been explained as Andean communities' 'failure to focus on long-term goals' and 'lack of planning capacity'. However, to confront emergency situations, local irrigation rationality is commonly based on quick mobilization of collective labor power and local means, rather than a commoditized security system.

In principle, when someone fails to comply with the duties linked to water rights, penalties are applied. Possible penalties include exclusion from a water turn once or more than once, payment of fines, demanding complementary contributions, or denial of water rights for one or more seasons. Usually, penalties are progressive in order to put increasing pressure on rule-offenders and also to give them opportunities to change their behavior after infringement.

Contrary to water rights embedded in community systems, State irrigation regulations are usually uniform, highly 'functionalist' and commodity-oriented, in other words, entrenched in a completely different rationality. The bundle of users' rights is very much restricted and biased towards obligations and some top-down established privileges. Taken all together, this creates significant problems for indigenous and peasant communities who are part of State-managed systems, among

23 With respect to the equitable distribution of obligations and burdens, obviously, this also depends strongly on prevailing power structures in the system. For example, in Cotahuasi (Peru), it is common for 'mayoristas' (larger land and water rights owners) not to contribute to maintenance by working themselves in the faenas, but to pay a limited (disproportional) amount of cash. The 'minoristas' provide the labor (field notes 2000, and Meier 2000).

others with respect to the issue of fee payment obligations.

In the 1990s, at the end of the ‘bureaucratic water management era’ in Ecuador, more than 11 % of total foreign debt had resulted from State expenditure in irrigation, especially related to large-scale systems (Whitaker 1994, 1996). Huge investments have been made in State-managed systems, to the detriment of attention to community-managed irrigation.²⁴ In order to earn back the investment costs, the State has installed the ‘basic fee’, apart from levying a ‘concession fee’ (a token fee for water concession rights) and the ‘volumetric fee’ (a fee to cover day-to-day operation and maintenance costs). Most users, however, are not able or willing to pay back costs, because of the economic crisis, poor system conditions and lack of service – often the water does not reach them at all. For this same period Whitaker (1994) calculated that only 4 % of the investment was being paid back. The fact that users considered that the system and its water were not theirs but State property strongly contributed to their unwillingness to pay fees. They claim that they should not have just obligations and responsibilities, but also privileges (control rights) associated to the bundle of water rights, as well as infrastructure, machinery and credit to enable them to make use of those privileges (Boelens 1995, Zapatta & Gasselin 2005). In other cases peasant and indigenous water users state that they have already contributed their part, not in money but in kind, since they have provided thousands of labor days to construct and maintain the system. This typical user contribution is not counted, much less recorded, by State agencies. At present, the State is not even able to collect basic fees of only 0.40 to 5.0 USD/ha which, obviously, already are far too low to recover the high investment costs (WALIR 2003).

Such top-down, high-cost, technology-driven policy also creates high-cost operation and maintenance (O&M) requirements for the systems, and undermines the prospects for sustainable management by users: To operate self-sufficiently, most current State systems need an O&M fee of at least 100 to 150 USD/ha, which would not be acceptable or affordable for users who are now paying a volumetric fee of 1.25 to 1.70 USD/ha (Hendriks et al. 2003; WALIR 2003). This is also one of the reasons why users protest against neoliberal ‘Irrigation Management Transfer’ programs, according to which they would have to bear the full costs.

Internal allocation principles and modes of water scheduling

Together with the question of *who* obtains water rights and *how*, an important question is, obviously, *when* (timing) and *how much* water will be accessed by the right-holder (in terms of flow rate, volume, share, or other expressions), and by what kind of principles this is decided. In water development literature and irrigation planning it is common to make a distinction among the three steps of water service provision: allocation, scheduling and distribution. Allocation generally refers to the assigning of water access rights (shares, volumes) to right-holders (fields and/or users) – ‘the distribution of water rights’. Scheduling is the next step: it refers to the set of operational rules that establish frequency, time, duration, flow rate, and the ordering of the water delivery among the water users and among system levels (see Vos 2006; Halsema 2002) – it is ‘the concrete distribution of the water resource on paper’. Distribution is the process of actual water proportioning in practice – ‘the concrete distribution of wet water’.

²⁴ The latter were built time ago, mostly by communities themselves, or recently, often with the support of NGOs. Where the unit costs to construct community systems are relatively low (up to 1400 USD/ha), State systems with generally a far lower quality and prospects for sustainability have cost between 2000 and 6000 USD/ha (WALIR 2003).

During several years of contact with the field I found that this neat distinction is easy to make when analyzing irrigation manuals, project proposals and documents of donor-driven irrigation systems, and even in practice this service approach could be relatively well traced in State-managed irrigation systems and those with a strong influence of NGOs and hydraulic engineers. In systems managed by peasant and indigenous communities, however, the distinction is less clear: the process of ‘allocation’ often happens to coincide strongly with the process of ‘scheduling’ and local definitions and manifestations of allocation and scheduling are commonly intertwined. For example, the idea that “families receive water according to labor investment in irrigation infrastructure construction” – a rule with dozens of variations – points both at the issues of *who* the right-holders will be (allocation mechanism) and *how much* water they will receive, whereby local specifications of the principle normally answer questions of when, where, and under what conditions the water can be accessed or will be provided (scheduling criteria). Most operational and ‘scheduling’ criteria in user-managed systems form an integrated part of the process of water rights ‘allocation’ and are considered as such by users. Therefore, apart from a totally different way of thinking about how to acquire rights and the contents of ‘bundles of rights’ in respectively State and farmer managed systems, planning concepts and procedures for operationalizing those rights also follow another rationality. Here, I will briefly analyze the issue of diversity regarding internal allocation principles and ‘scheduling’ modes used in Andean communities.

I have defined internal allocation principles as the rules that establish the basic terms, priorities and/or operating norms regarding right-holders’ access to water flows within the system, i.e., the distribution of individual water access rights once the group’s collective right is established and the right-holders are defined.²⁵ Thereby they shape the local reference framework regarding water scheduling. As an illustration of this diversity, the most important basic principles I found in the field are listed below²⁶ – an outline that is not exhaustive:

- Right-holders receive water proportionally to the irrigation area that they possess in the system (more land ownership means more water access rights, based on pre-established crop water requirement definitions);²⁷
- All right-holders have equal application times when receiving their (share of the) water flow (equal time shifts, irrespective of the available base flow and the area they want to irrigate);²⁸
- All right-holders receive water to irrigate the same pre-established irrigation area (equal area shifts: usually with more or less the same flow and the same duration);

25 Most of these internal allocation principles concerning individual rights are also valid, in a moderated form, for allocating collective rights. Further, it is common, when new water rights become available (e.g. system expansion), for them to be allocated according to the same, prevailing principle(s). But in some cases communities decide to select (e.g. by lot, see Gelles 2002:31-32) a limited group of beneficiaries in order to guarantee a minimum water use productivity. This collective decision is comparable to household dilemmas regarding the inheritance issue: handing over water rights to all children or just to one or a few.

26 Based on field research and visits to, among others, the Ecuadorian systems of Licto, Gompue, Pungales, Pungalá, Pujilí, San José de Basán, Guanguilguí, Imantaq, Urcuquí, Patococha, Nabón, Batán-Puela, Chambo, and the Peruvian systems of Cotahuasi, Aranjuez, La Estrella, Marcahuasi, Chaquepay. See also Apollin et al. 1998; Boelens 1999; Boelens & Dávila 1998; Gelles 1998, 2000; Hendriks 1988, 1990, 2006; Oré 2005; Ruf 2006; Urteaga et al. 2003; Vera 2006a. For Bolivian systems, see Bustamante 2006a; Claire et al. 2002; Gerbrandy 1998a and b; Gerbrandy & Hoogendam 1998, Gutiérrez 2006; Orellana 2004.

27 This principle, although present in many community systems, is not a distinctive local Andean design norm. Rather, it is the basic, conventional principle for allocating and scheduling water in systems designed by State agencies and development agencies.

28 This principle, as with some of the others, may give landless families opportunities to materialize water rights.

- All right-holders receive the same flow and the same duration without limits to the area they want to irrigate (equal volume rights, irrespective of the irrigated area);
- All right-holders receive an amount of water sufficient to ‘fill their field’ (‘until finishing’, without absolute limits on the duration of the turn, each one taking the time that is ‘actually needed’).
 - a) according to each right-holders’ land tenancy, or
 - b) for the same pre-defined irrigation area;
- Right-holders receive water proportionally to the irrigable area they possess, but up to a pre-established limit (rights ‘with a top limit’, to share scarcity among everyone: small farmers irrigate all their land, but large owners only a part until they reach this ceiling);²⁹
- Right-holders receive water according to the ‘investments’ they made during irrigation system construction (contributions in capital, labor, and others);
- Right-holders receive water according to transfer agreements that they have negotiated (e.g., purchase and sale of water shares; exchange of water rights for other resources, etc.);
- Right-holders receive water according to their land’s location (e.g., ‘upper and lower moieties’, ‘tail-end or head-end’, etc.);
- “Open access” (‘free usage’ depending on water availability, which in scarcity situations often means: access according to power structures and defense capability);
- “First come, first served”;
- Right-holders receive water according to demand (with or without restrictions);³⁰
- Right-holders receive water according to the utility or usefulness that this resource offers them (e.g., with flow compensation for those families with less productive utility of the water);³¹
- Right-holders receive water according to the size of their family unit (more household members means more need);³²
- Right-holders receive water according to their social position (for example, ‘priority for the elderly’; or water access priority according to class, gender or caste);
- Right-holders receive water according to the priority granted to certain crops they grow in the irrigation system (which often relates to household and community social security systems).

Such principles are building blocks for complex local systems. First, in Andean irrigation systems usually one or a few of such principles form the core framework, but there are many additional rules generating distinctive matrices of combinations among the basic principles. Second, since these principles for receiving irrigation benefits (in this case, to obtain water) are locally connected to the range of possible obligations accompanying water privilege rights, this opens up a huge variety of

29 Reduction of potentially irrigable area per household may also be installed as a local equity criterion in water-scarce seasons.

30 This principle generally applies to situations of water abundance or is grounded in social hierarchy structures in the Andes. In scarcity conditions it is also basic to ‘modern’ demand-management approaches, requiring ‘high-tech’ volumetric control devices and the capacity to enforce volume-based water fees.

31 For example, in the Andes, the higher areas have less ecological potential to increase their production with the same amount of water (longer growing seasons); and there is also the possibility of greater crop diversity at lower altitudes (ecological levels with different climates). So, the productive utility per unit of water at higher altitudes is usually less, and certain systems compensate for this by giving higher-up communities advantages such as more water, turns during day time or other compensatory measures. Another example already mentioned is the basic principle of ‘filling the field’, regardless of how long it takes, because a hectare of sandy land (lesser water utility) needs longer to ‘fill’ with water than one with clayey soil.

32 This is a variation on the rule of dividing water among communities according to the number of families in each participating community. This was not uncommon during Agrarian Reforms, whereby the land and water resources were sub divided among the tenants and *huasipungueros* belonging to the former hacienda.

compound normative models for distributing the water. Third, diversity is even more complex since – as is usual in Andean peasant and indigenous irrigation systems – water rights and the associated distribution principles are connected with the family’s affiliation or socio-administrative status as a requirement to receive water (for example, belonging to the community, the neighborhood, the organization, etc.). Fourth, so far I have only highlighted some principles basically related to water *access* rights; normative matrices constructed by user collectives become far more diverse when also taking into account local definitions of the other multiple components of the rights bundle: operational and decision-making rights (Table 2.1). Finally, aside from the fact that principles in one and the same irrigation system originate from different socio-legal repertoires – which ‘adds complexity’ for outsiders who reason from mono-legal perspectives – it is crucial to consider that the normative matrices discussed so far refer only to the *reference* framework of right-holders, and not necessarily represent the huge variety of *actual* rights that simultaneously shape water control practice (section 2.6.). Analysis and unraveling of water rights bundles in particular local contexts shows, however, that what seems to be an incomprehensible, unstable or irrational disorder, inappropriate for the task of governing the highly conflictive field of water control, can in practice be characterized as *organized complexity*.

In order to briefly illustrate some possible, simple combinations, out of many, within an existing matrix, let us take a look at the combination ‘families receive water access rights according to labor investment in system construction’:

In the department of Oruro, Bolivia, different ayllu communities joined a small-scale irrigation development program based on interactive design and construction strategies, and local rights concepts.³³ Communities decided on the issues of user inclusion and exclusion, and the input/benefit ratio, as is common in local community systems. The principles for concretizing access rights, however, were quite diverse despite the relatively similar backgrounds of the ayllus. In the ayllu of Jalaqueri all families contributed the same amount of labor for construction, and all obtained the same water access. In Yanuma, the ayllu decided that the labor input per family needed to be according to the land each user was entitled to, and water rights were in accordance with this land ownership. In Yucasa, the ayllu decided that families had to contribute the same amount of labor days for construction, despite the fact that their land tenancy was not equal and water rights were allocated according to this unequal ownership. In the ayllu of Lucumpaya-Pahua, as in Jalaqueri, users’ labor input was equal for everyone and the corresponding water rights were also the same for each user. But in this case, unlike the other ones, users without the status of community-member were allowed to join and gain water rights, since the community itself faced a lack of labor force to fulfill the necessary number of workdays and build the system. In Chillcani, new users were allowed to join and earn equal water rights, but only when they contributed an extra amount of labor days, on top of the number of days each user was required to deliver. Tail-enders of that same system were allowed to contribute only half the workdays, since their water access rights were less assured (Claire et al. 2002).

As in these examples, our field work showed that in some systems everyone works equally on construction (obligations) and all receive the same amount of water (rights). In others, they also work equally but they receive water according to the area of land they have; and in others, they work

³³ Based on Claire et al. 2002, in Boelens & Hoogendam 2002: 173-185.

equally in construction, but must contribute proportionally (according to the family's land area) to maintaining the system.³⁴ Next, of central importance, the user organization generally establishes its conditions regarding (minimum *and* maximum) 'investment' opportunities.³⁵

According to each zone's particular circumstances – physical, agro-ecological, socio-cultural and political conditions and the matrix combinations of rights privileges, obligations, and the right-holders' status – principles are transformed into concrete modes of water scheduling. Infrastructure designs (e.g. canal capacities) enable or limit opportunities for particular scheduling modes. These modes provide the water distribution plan for each irrigation system, the ways that irrigators define and plan the concrete usage of rights to water. They may be grouped in basic modes as 'continuous flow' (subdivided flows delivered simultaneously to all branches and fields), 'free irrigation' (open access), 'on-demand delivery' (individual users decide what they take, conditioned by system availability and conduction capacity), 'arranged scheduling' (schedule elaboration and delivery based on advanced requests by users) or 'rotation' (sequential turns). Flows may be further established by timed turns, land-area turns, water-volume turns, providing the entire flow or dividing it into parts (in absolute flow volumes or portions of the available flow), with constant flows in the system or on-and-off releases, and all sorts of combinations of these different forms (Beccar et al. 2002. Cf. Vos 2002).³⁶ Major operational decisions in rotation systems also relate to where to start the watering sequence – from the head-end of canals down-wards, from the tail-end upwards, or alternating sequences. Decisions on whether to plan night irrigation or schedule only day-time turns, and whether to install fixed (often simple and transparent) schedules or to allow for flexible turns (respecting diverse needs) are other crucial issues. In most irrigation systems, water distribution modes vary according to the period of the year, in order to respond to the changing conditions of water scarcity over time.

It can be observed that several of the principles and modes refer to characteristics related to *right-holding families*, and the allocation is also to right-holders, even in those cases in which the characteristics of their fields are decisive.³⁷ By contrast, projects designed by State agencies and development institutions usually allocate and distribute water to irrigated *land* or to irrigable areas only. In these designs, a basic principle such as 'allocation according to the utility of the water' means calculating crop water requirements and water use efficiency (water utility according to standardized procedures for defining evapotranspiration and filtration losses) and compensating for those crops and pieces of land that need more water, without taking into account the water's social function. Often, the technical balance among the system's agricultural and physical characteristics overrides the social balance among human users. Here we have one of the central issues around which peasants' and engineers' perceptions of equity diverge.³⁸ Such essentialized, blanket principles, among

34 See, e.g., our studies in Boelens 1999, 2002; Boelens & Doornbos 1996, 2001; Boelens & Dávila 1998; Boelens & Hoogendam 2002.

35 Aside from capital and organizational investment, again, labor input is especially crucial. In some systems, water rights are received according to labor input in construction, where the amount of labor contributed (the investment) is not directly restricted, and thus gaining of water rights is also 'unlimited' – these may even be sold or traded when there are surplus rights (Cf. Yoder & Martin 1998). In other systems, however, future users are obliged to contribute equally to construction in order to all have the same rights to water and to decision-making. Further, as we have seen, there are also systems in which everyone must work proportionally according to the land they hold, in order to be able to irrigate all of their land.

36 There are also many technical possibilities (water distribution and application methods) for putting each of these allocation approaches into practice, which lead to an even greater diversity in peasant irrigation.

37 A common idea in many Andean systems is for both families *and* their plots to have water rights. See, for example, Gerbrandy & Hoogendam (1997).

38 Moreover, unlike design and allocation criteria in conventional projects ('allocation of water only considering the land

other standards, are fundamental not only to bureaucratic rights' frameworks (chapter 8), but also to market-based rights approaches (see chapter 9).

Trawick (1996, 2003) rightly criticizes the World Bank, international consultants and national policy-makers in the Andean countries, for imposing a uniform market-oriented model as an alternative to the centralized State-model which has governed water management in the last decades. He recognizes the dangers that both State and market principles entail, especially for peasant and indigenous communities, and proposes a common property-based alternative. According to the author, the proposal is based on the same mode of scheduling the Incas adopted in times of scarcity and in the dry season: "equitably and contiguously, according to the order of fields along each canal..." (2003:982). The basic operation principles are 'autonomy' (the community is in control), 'contiguity' (distribution to fields in fixed contiguous order along the canal), 'uniformity' (everyone the same frequency and application techniques), 'proportionality' (water shifts according to the amount of land the users is entitled to), 'transparency' (related to mutual control and accountability), and 'regularity' (no exceptions allowed, operation is always done in the same way). Several of these principles have also been described for contemporary irrigation systems in Andean regions other than the area of Cotahuasi, Peru, where the field work was done.³⁹ Still, the idea of selecting one particular set of principles, one mode of 'scheduling', and proposing it as a the panacea for building the new Water Laws poses the risk of falling into the same trap as the bureaucratic and market models. The statement that these recommendations are based on "the only model that will work" must be challenged. According to the author, the proposal is not valid just for Peru and the Andean countries: "...the Andean tradition discussed here presents us with a promising policy alternative for improving management of the resource, for perfecting water laws and even strengthening local communities, throughout much of the hemisphere and the 'developing' world" (Ibid:979). Trawick's field work is highly interesting, and brings many interesting points of view to the water rights debate. My point in this debate, however, would be that officialization⁴⁰ of one 'common property model' may undermine the existence of an enormous variety of local rights systems in the Andes,⁴¹ all with their own rights principles and modes of operation. Some of them work very well, whereas some are under pressure. I would argue that 'indigenous-rooted' proposals overall, similar to the State and market models, run the risk of denying the embeddedness of local socio-legal repertoires in particular history, culture, agro-ecology, and the systems' socio-technical properties and power structures.

area and cropping patterns'), some of the principles mentioned make it possible to allocate water to landless families (generally the poorest people, or young people yet to start their own families). They can use their water rights on rented land; sell their rights; barter their rights or begin a reciprocal relationship with another family that has land but needs access to water.

- 39 These studies, at the same time, indicate the great variety of modes of operation, most of which have not resulted from uniform or dual Inca-roots. See, e.g., Apollin et al. 1998; Balmisse 2001; Boelens & Dávila 1998; Bustamante 2006a; Hendriks 1988; Gerbrandy 1991; Gerbrandy & Hoogendam 1998; Guevara et al. 2003; Guillet 1992; Gutiérrez & Gerbrandy 1998a and b; Meier 2000; Mitchell 1976; Mitchell & Guillet 1994.
- 40 Even though the proposal is to organize referenda in every community (Ibid: 986, 990) on whether to privatize their rights or follow this collective-based 'Inca proposal', according to the author the mode of operation should be legally enforced in all Andean communities with collective water management.
- 41 Trawick recognizes variety, but sees those local modes of scheduling which are different from the above-described 'Inca model' as inefficient practices stemming from a second operational mode of the dual Inca model: a hierarchical mode of operation favoring water rights to privileged groups in times of water abundance. The State model, and historical eras of privatized management in Peru, according to the author, reinforced these 'inefficient' local water management practices (Ibid: 982-985).

Since criteria concerning water rights definition and allocation in peasant and indigenous systems are wholly inserted into prevailing social and productive systems, with their own history and rationality, this implies that, for instance, it is impossible to replace a certain existing mode of water allocation and scheduling with another one that is presumed to be ‘technically more rational and efficient’, without causing many changes in other domains of the community irrigation and production system – for example the organizational, political, socio-legal and cultural domains.

In-house and external usage rights

Before implementing the newly built Licto irrigation system in Ecuador – formally a State system – the national irrigation agency sent the water users organization the standard regulations⁴² which detailed the national prescriptions for water management in the future system: rules, rights, obligations and authority structures. The intercommunity board was told to approve the regulations. But knowing that signing the document would curtail their autonomy and deny their own set of management norms, the users organization engaged in a lengthy process of inter- and intra-community analysis and discussion (see also chapter 13). With NGO support they first translated the engineering jargon, and second, changed the regulation into a document that was not ‘harmful’ to their self-established rules, rights and authorities. This was presented to the government as ‘the formal irrigators’ regulation of Licto’. Meanwhile they continued to draft their own internal regulation, an unofficial document, but the one that would become the real reference framework for their water rights and duties.

This case exemplifies the processes that occur in most systems in the Andes, whenever they have to formalize or register their operational rules and rights, for example, in order to legalize the water user organization, to obtain the water rights concession, credits or funds, or to engage in development programs. To understand the contents of peasant and indigenous water rights it is, therefore, necessary to distinguish between *rights for purposes of external identification* and *rights for purposes of internal regulation*. The first set establishes the rules and rights of the group of users versus ‘outside’ groups and agencies, the second set contains rules and rights – written or not - that are usually much more precise and establishes the internal framework users are required to obey, according to local agreements (see chapters 12 and 13). Commonly, internal regulations define the varied rights of one member of the group of right-holders versus those of other members. Rights for external identification may consist of sets directly following the national prescriptions but, as the case shows, may also be elaborated locally ‘for external consumption’. In the latter case, the rights are often defined strategically, many times incorporating elements of official rules with ‘strategic importance’. This does not mean that these rules are also practiced ‘internally’.

2.7. Water rights and property regimes

The bundle of rights a water user is entitled to is defined quite differently from one socio-legal setting to the other, and legitimate rights in an Andean community system are not necessarily considered legitimate by the government agency. As was stated, even within a single irrigation system several

⁴² “Regulations for Administration of Irrigation Systems under INERHI, Ministry of Agriculture, Rule no. 0261”.

normative frameworks co-exist, with their functions, uses and authorities often at loggerheads. To specify the notions of ‘rights’ within such frameworks, it is useful to conceptually distinguish among the property regimes that prevail in a water rights context. Depending on the social and political organization of water property rights – who authorizes the right, what regulations and faculties does the authorizing entity have, which claims and privileges are associated with the user’s right (the contents of the right) – a distinction can be made among: public property regimes (State-owned property rights), private property regimes (individual institutions or persons own the water access and control right), common property regimes (collective group ownership) and free access situations (no regulations for water use and control).⁴³ Property regimes in Andean irrigation systems then, can be categorized on the basis of the degree of public (State) involvement.

In bureaucratically managed irrigation systems the State or one of its agencies is the right-holder of all or most of the decision-making rights. The State thus determines water allocation, regulates water use and decides about system modification, inclusion and exclusion of new members, and transfer water and infrastructure ownership (Hoogendam 1995; Ostrom 1992). State agencies are legally entitled to hand over concessions of water to individuals or groups of users. Ownership formally remains in the hands of the State, and user rights refer usually to privileges concerning water access, operational rights and internal regulation.

In private property systems, on the contrary, all rights of access and control are vested in the individual owner. Except for private tube-well and river pump owners, water management based on private water property is not very common in the Andean small-holder communities since the use of irrigation water normally requires collective action (see chapter 4). Nevertheless, haciendas have traditionally constituted private water property institutions based on forced labor organization. And nowadays the number of large private companies holding private property rights concessions is rapidly growing. In Chile these private rights are legalized – in the sense of real ownership, whereby the right-holder has all the rights to use, manage and regulate the water, to exclude or include others, or to transfer these property rights (see chapter 5 and 9).

The third type of systems, with a common property regime, are entirely managed and maintained by a group of users. This is the case of most small-scale irrigation systems in the Andes. These are normally collectively owned by peasant communities, indigenous ayllus, and farmer cooperatives who have local control over the full range of water access, operational and decision-making rights. In these communities, the collective decision-making aspect of a water right is one important feature that distinguishes it not just from the other water property regimes but also differentiates water from most other types of resources property that can be individually owned and controlled.

Formally, all Andean countries establish a public water property regime at the national level (water is a public resource), whereby water at lower levels can be held under either public, private or common property rights conditions, or mixtures of these. As such, it is common for water property regimes to be (partly) conditioned by public domain regulations, restricting private or collective decision-making power. Actual property structures, however, often deviate strongly from the formal ones. In practice, most water rights in the Andean countries – with either a public, common or private property orientation – are accumulated by powerful individual property-holders, such as landlords and enterprises, who fundamentally treat their resources as private property (see chapter 3 and 5).

The academic ‘property regime debate’ has become strongly essentialized, especially since Har-

43 Cf. Bromley 1992, Bruns & Meinzen-Dick 2000; Ostrom 1990, 1992; Schlager & Ostrom 1992.

din (1968) made his well-known attack at the Tragedy of the Commons, whereby he mistakenly analyzed collective rights tenure frameworks as a kind of access-for-all, an open-access ‘property regime’.⁴⁴ Following Hardin’s line of thought, new-institutional thinkers and policy-makers proposed to counteract and solve the resulting ‘tragedy’ of over-extraction and resource degradation by installing either a regime based on strict water property control by a State regime, or a property regime based on clear, enforceable private rights, governed and regulated the market. But in most Andean communities water certainly is not an open access resource. On the contrary, it is governed by strict collective access and control rules and rights. As an answer to the generalizing picture and essentializing critique of Hardin and his ‘followers’, common property advocates in the region often fell in the opposite but equally stereotyped error, romanticizing and reifying the existing common property regimes.

Essentialization of empirically existing property regimes may ‘clarify’ the theoretical debate, but certainly does not help understand local water rights practice in the Andes. Internal division and formulation of rights in Andean system may be (partly) determined by official rules following State ownership and it may also be completely left to collective and/or community decision-making. Most common, however, is a dynamic juncture and interaction of rights originating from different sources, normative frameworks or property regimes.⁴⁵ The importance of this interaction also depends on the sort of water management system. For example, medium and large-scale canal irrigation systems in the Andes are mostly ‘jointly managed’ and are characterized by some combination of public and common property regimes.⁴⁶ The issue of confrontation, interaction and juncture of diverse property regimes becomes especially important now that current water policy debates seem to agree that solutions to ‘water crises’ should not be restricted to individual systems, but must be found at the level of multiple uses and users within river basins and watersheds. Here, a diversity of conflicting rights frameworks and property regimes come together (see chapter 5).

2.8. Fluid conditions and dynamic relationships: water rights in action

*Water rights’ dynamics*⁴⁷

Aside from impressive place-related variations in the Andes, the time dimension is also an important factor when analyzing water rights variety. Water rights are modified, historically and today, according to social, economic, ecological and even climatic changes. Adjustments in rights require new negotiations, in which power relations and ideas of equity shape a new normative configuration. These water rights changes can be gradual or abrupt. A widespread cause for gradual changes is

44 See, e.g., Achterhuis 1988; Beccar et al. 2002; Benda-Beckmann et al. 1997; Gelles 1998, 2002, 2006; Guillet 1992, 1994; Cleaver 2000; Hoekema 2006; Mayer 2002; McCay & Jentoft 1998; Mitchell & Guillet 1994; Li 1996; Roth et al. 2005; Schlager & Ostrom 1992; Zwartveen 2006; Meinzen-Dick & Pradhan 2005.

45 Depending on the degree of autonomy of the irrigation system, decision-making rights are limited, thus, shared with other institutions, or cover the full bundle: the distinction is gradual and depends on each case.

46 When discussing rights arrangements, it is crucial to consider the *water management levels* to which access, operational and control rights correspond: where users in farmer-managed systems usually have operational and control rights concerning *all* system levels, in agency- or co-managed systems their operational rights may be restricted to just the secondary canals or tertiary blocks. In top-down tenant schemes they may have only access and operational rights, at the field level. In the Andes, this issue is heavily debated as part of the process of transferring government management responsibilities to user groups.

47 This section is based on Beccar, Boelens & Hoogendam (2002).

demographic growth, which brings internal pressure to bear on water use, concluding at some point in a redefinition of rights among users.⁴⁸

Like the increase in users, a decrease is also the reason for major changes in irrigation systems and water rights. Temporary or permanent migration is another (often related) fundamental phenomenon in many Andean regions. Subsistence migration, in which males especially (generally the formal right-holders and representatives of the household in users organizations) go to the city or to other countries, entails a structural change in the management of many community systems. The absence of men – sometimes followed by the absence of many women as well – generates new challenges in the distribution of water rights, the solving of labor shortage for operation and maintenance, and the redefinition of irrigation and organizational roles and tasks. Many irrigation systems affected by migration may be seen to gradually redefine collective rights (for the group) and individual rights (for families), modifying their quantitative and qualitative contents (see chapter 11).

Another cause for gradual change is reorientation of production, which assumes a new distribution of the amounts and frequencies of water according to the new requirements. At present, this process is underway in several systems that inherited rules of distribution geared toward maize growing but now, for reasons of the market and regional economy, are converting to diversified production. By contrast, other systems change from diversified production for self-supply to monoculture for the market. Both types of change require other frequencies and volumes of irrigation water and therefore a redefinition of, at least, the scheduling contents of water rights.⁴⁹

Causes for abrupt change include, for example, direct violence against Andean communities and its peoples.⁵⁰ Also the new distribution of land during agrarian reform processes has resulted in rapid changes in water rights distribution. In many of these processes, ex-hacienda dependants are forced to find ways to distribute the water among each other, usually on the basis of the distribution pattern applied under the hacienda system, adopting its perception of justice. In others, the water redistribution process includes groups who were not under the hacienda regime, who demand the return of water used by their ancestors and set up their own normative system again.⁵¹

Changes in water legislation or policy – such as privatization and the transfer of irrigation system management from the State to users – are other factors of transformation in many Andean irrigation systems. Gaps in organizational and enforcement capacity, and the lack of clear, well-publicized rights in the new situation, have often led to major difficulties in managing these systems. Similarly, in some regions the nationalization of water ownership a few decades ago, and then its privatization at present have a serious impact on water rights.⁵²

Further, in the harsh Andean region, sudden changes in (opportunities to materialize) water rights may also have climatic or geo-physical causes, as in the case of the Batán-Puela system in Ecuador: “As a result of the eruption of the Tungurahua volcano and extreme rainfall, the Batán-Puela canal,

48 Some communities solve the pressure collectively, by redistributing water rights among the expanded group of persons. In others, growth of the number of users is individually resolved by subdividing individual rights, which leads to an increased scattering of rights. See, e.g., Apollin et al. 1998; Gerbrandy & Hoogendam 1998, 2002; Mitchell & Guillet 1994; Ruf 2006; Zoomers 2006.

49 E.g. Apollin 2002; Boelens & Doornbos 1996, 2001; Doornbos 1996; Hoogendam 1997; Mayer 2002; Trawick 2003; Vincent 1998.

50 Typical examples are the the 16th century ‘Reduction’-policies (see chapter 6) and the Peruvian dirty war among Sendero and the military, re-arranging entire demographic landscapes and thus, irrigation systems.

51 E.g. Bustamante 2006a; Gelles 2000; Gerbrandy 1998b; Guillet 1992; Hendriks 1988; Mayer 2002; Oré 1998, 2005; Mitchell & Guillet 1994; Zoomers & Van der Haar 2000.

52 E.g. Boelens & Zwarteveen 2005a; Bustamante 2002; Castro 2002; Gentes 2002, 2006; Guevara et al. 2002, 2003; Hendriks 2006; Pacari 1998; Palacios 2002, 2003; Ruf & Matthieu 2001; WALIR 2002.

in Penipe, has been severely damaged and its non-functioning has immersed 400 families in entire misery...” (Registro Oficial 2002).⁵³

Whatever the cause, all these change processes generate discussions and negotiations among users about how to adapt their norms to the new circumstances – if surmountable (cf. Bruns and Meinzen-Dick 2000; Roth et al. 2005). The fact that many irrigation systems in the Andes have a long-standing operating history shows that, amidst all these changes, most are able to maintain a ‘dynamic sustainability’. A key ingredient for this is the organizational capacity to adapt towards adequate arrangements (see chapter 4). This sustainability, however, does not mean that there are no internal disputes about rights distribution. The main issue for sustainability is to have a basic consensus among users on the legitimacy of water rights and the capacity to adjust them. Another major ingredient is the fact that both the decision-making process about rights and the distribution of rights itself should largely correspond with what is defined locally as ‘equitable’ (Beccar et al. 2002; Boelens & Dávila 1998).

The fluid nature and versatile appearances of water rights⁵⁴

The dynamics of water rights become manifest when looking at the historical processes of change concerning entire production contexts, socio-legal frameworks or property regimes; however, they also come to the fore in the day-to-day functioning of irrigation systems. Here, the issue of ‘water rights in action’ is essential. Understanding the sets of multi-layered rights as worked out in the foregoing sections is useful both for analytical purposes and practical reasons (because it serves as a reference framework for claimants), but it is not sufficient. What happens in actual practice cannot be easily ‘read’ from these rights. Official water allocation is often different from the water schedules as devised by those who are in charge of system operation and management while, in the same way, actual water distribution often differs from those operational schedules. Formal titleholders may in actual fact not be the ones to decide about water distribution. Likewise, having a formal right to water does not always automatically mean that one also has access to water, and vice versa: even without a formal right, people may still be able to access water and have some decision-making control.

So, water distribution to fields often differs significantly from planned schedules and allocation patterns. The difficulty to deliver water according to defined, agreed-upon rules and schedules is partly a direct consequence of the particularities of water as a resource. Unlike land, almost all water exists in a transitory state: it has a high predisposition to flow, to seep vertically and horizontally through soils, to evaporate and to be transpired (Moore 1989). Most surface streams of water are also typically variable in time and space. There is great variation in stream flow and water quality from year to year, from season to season and even from day to day. This means that (i) the resource availability changes over time, and (ii) the rules and rights attached to the resource necessarily fluctuate. Even the basic tenets of a given property regime will dynamically adapt to the hydrological-ecological context. In periods of water scarcity, for example the dry season, irrigation requirements are high, and in most user-managed systems the rules and rights are very strict: common property rules and the associated individual property rights and duties are strictly enforced, and precise ad-

⁵³ Registro Oficial no. 548, Gob. Ecuador, Quito, 4 April 2002. The Tungurahua eruptions of 2001 and 2006 caused a tremendous human, agro-productive and economic drama in the province. Note that the current (gradual) climate changes in the Andes are of another order, sometimes leaving mountains without snowcaps and entire villages without water.

⁵⁴ This section is based on Boelens & Zwartveen (2003).

ministration and social control is in place. In the rainy season, however, it is common for the same users to interact on the basis of much weaker rules, and even outsiders may be allowed to take the water. Thus, the same water source may be considered as common property in the dry season and become a kind of open access in the wet season.⁵⁵ Also, in the course from source to field the property regime often changes. For example, in most State-managed systems, water rights at the source and the main and secondary canals are State owned, while at the tertiary level they are considered to be common property, and at the field level even private concessions may be given out (although not in the strict sense of ‘ownership’).⁵⁶ Water rules and rights are prescribed by versatile restrictions and opportunities of Nature as much as they interact with the contingencies and complexities of human society with its diverse institutional and technological constructions.

The use of water adds to the difficulty in effectively controlling it; the quantity of water available to one user is thus not only a function of physical parameters, but largely depends on water use practices by other users. The common-pool-resource nature of irrigation systems implies that one person’s consumption of water does reduce the availability of water for others, but it is difficult to exclude beneficiaries from using the resource (see Bromley 1992, Lam et al. 1993, Ostrom 1992). Even when users are not formally entitled to water, or when they have not complied with all the obligations that allow them to actually take water, they may still be physically able to divert water from canals to their fields. This ‘free-rider’ problem is symptomatic of most surface canal irrigation systems in the world.

Because of the variable, fluid characteristics of water, there is broad scope for users to act in a way that diverges from legally or locally established water rights. The distribution of water, perhaps more than any other resource, is typically subject to continuous bargaining, negotiation and contestation. Such bargaining and negotiation may occur around the technical characteristics of irrigation infrastructure, as for instance when people enlarge field outlets to get more water to their fields. Negotiation and advocacy may also occur around operation of infrastructure, or about contents of water rights. To understand water control, therefore, beyond formalized (official or local) terminology that defines the status of right-holders, it is vital to look at actual water use and distribution practices.

In Urcuquí (Imbabura, Ecuador), for many decades, a rivalry existed between the two main sectors constituting the ancient irrigation system: Urcuquí and San Blas. They quarreled particularly about the issues of water allocation and distribution. Despite the fact that they, side by side, requested support from an NGO and although they, collectively, arranged the very urgent rehabilitation of their system – a project in which they fully joined in all details of decision-making – the fight over water rights lingered on. During rehabilitation of the main division box that divided the flow to the two sectors, disagreements became most manifest and resulted in fierce outbursts. After intensive negotiations, they reached an agreement about the norms for dividing the water, and the precise position of the metal plate for flow division was defined, embedding both sectors’ water rights in this central technical artifact. Nevertheless, conflicts were not over yet and both

55 Similarly, it is common for those systems that, on the whole, experience more water shortage to create a more tight normative system than the systems that have sufficient irrigation water. Also, when a new irrigation system is put into practice, in the first years of use it is common for water demand to gradually increase, since the infrastructure is often not yet complete when irrigation starts and more families are joining the system. At the beginning the actual rules are usually flexible (and people form ‘bad habits’), the hard part comes when, later, they have to get used to stricter rules and less water per family.

56 In community-managed systems the water in the source and the main canal is commonly owned, while the water that arrives at field level is often considered to be an individual right (although not a ‘private right’).

sectors monitored the realization of the irrigation facility with great detail, checking the position of the steel and concrete structure up to millimeters. It was only after implementation of the rehabilitated main box, clearly dividing the shares that were agreed, that families were confident and laid down their disputes. Still, the box not only literally ‘materialized’ (‘concretized’) the new division of access rights, it also constituted the focus of attention whenever new quarrels showed up, and it continued to be the place and structure for solving water rights disagreements among the sectors, reflecting their historical rivalry (Apollin et al. 1998, Apollin & Boelens 1996).

Activating water rights: reference rights, rights in action, and materialized rights⁵⁷

Because of the strong dynamics of ‘living’ water rights, as was made clear, both official and locally formulated water rights do not provide sufficient grounds to understand the substance and outcomes of water rights in actual water control practice. It is useful to distinguish among different degrees of their operationalization or materialization in processes of negotiation, acquisition and adaptation. A person or group of persons may hold a right – whether operational or decision-related – but this does not automatically mean that he or she, in practice, can take advantage of it as foreseen. Above all, groups with less clout often have difficulty not only in obtaining water rights, but also in materializing them. Therefore, in the analysis of water management dynamics, we have distinguished the following categories of rights: *reference rights*, *activated rights* and *materialized rights* (Boelens and Zwarteveen 2003). This conceptual distinction is necessary to capture the difference between institutionalized rights, on the one hand, and on the other, actual rights that govern concrete water distribution and social relations. As such, it is more appropriate than much vaguer notions that aim to capture awareness of plural legal conditions, such as distinctions between formal and informal or between *de facto* and *de jure* rights (Schlager and Ostrom 1992).

Reference rights are formulated according to the prevailing norms and principles in a particular normative framework. They may be general (for example, the norms prescribed in the national water regulations) or location-specific (for example, formalized norms pertaining to a certain local socio-legal framework). Reference rights specify the kind of faculties and privileges a right holder is entitled to – in terms of operational/access and control elements – and it also specifies the characteristics of right holders, for instance by specifying that water right holders should be landowners, men or heads of households. The principles such as mentioned in section 2.6. are usually important building blocks for defining reference rights.⁵⁸ In the Andes, the reference rights that are laid down in national water regulations – here defined as ‘legal (or official) reference rights’ - are usually derived from broader principles, rules and ideologies that embody notions of positive justice, and not uncommonly imitate or show strong similarity with other nations’ regulations. However, in part, such legal reference rights also result from interaction with forces and particular socio-legal systems prevailing in national society. Rights formalized in *local* socio-legal frameworks, for example in the (locally-specific) *Reglamentos Internos de Riego* (In-house Irrigators Regulations) are here defined as ‘local reference rights’. Local reference rights may adopt (elements of) legal reference rights.

Activated rights (or ‘rights in action’) refer to the process of transforming *reference rights* into

57 This section is based on Boelens & Zwarteveen (2003).

58 They come close to what F. and K. von Benda-Beckmann see as *categorical rights*, which “define in general terms the legal status of categories of persons and property objects as well as the type of rights and obligations among persons with respect to property objects”. They distinguish it from concretized rights, which “are inscribed and become embodied in a social relationship among actual persons with respect to actual property objects” (2000:18/19).

operational rules and procedures for water distribution. Water distribution schedules are one outcome of this process. Other outcomes are decisions about who in practice should be granted possibilities to participate and vote in water users' organizations. Activated rights are often highly dynamic, and are subject to continuing processes of bargaining, social struggle and contest. The process of activating rights shows the contents of rights and obligations, but also manifests the various ways in which they are *interpreted*. For example, generous, flexible interpretation of penalties tends to be characteristic of most local Andean systems, and 'debate till consensus' rather than strict enforcement of reference rights is an overarching rule when it comes to internal rights disputes. Activation of water rights refers to users' actions to overcome constraints that they may encounter. For example, women may demand a schedule with only daytime shifts or the construction of night storage reservoirs, to be able to actually make use of their reference rights. For them, irrigating at night often puts great constraints on rights activation (see chapters 11 and 13).

Materialized rights refer to actual water use and distribution practices, and to actual decision-making processes about these practices. They refer to operational rules and arrangements among users that emerge when an irrigation system is used. Materialized rights are often not written down, nor even made very explicit. These rights are normally 'authorized by routine', 'unspoken informal agreements', or 'privileges conquered by everyday negotiation and struggle'. They may be, but most often are not, supported by formalized (legal or customary) regulations.

Both the definition of the contents of each of these rights and the links of transformation from one right to the other are subject to power structures and power games. The processes through which rights are materialized, the arenas in which it occurs and the actors involved, may be different for the three categories of rights. The process from *reference rights* to *materialized rights* is also a process of inclusion and exclusion, not just in terms of who can access water but also in terms of who controls or participates in decision making.⁵⁹ It can easily be observed that this 'scheduling exercise' is not a neutral, technical process, but simultaneously a technical, organizational, socio-legal, and political one, which is often strongly influenced by cultural or even metaphysical control arguments.

In the region of Chingazo and Pungales, Ecuador, seven communities joined forces to construct their irrigation system on the steep slopes of the Andean highlands. They installed their own inter-community water board, the *Directorio de Aguas*, the central authority of the future Chingazo-Pungales Irrigation System. With the technical support of a local NGO, 635 families contributed labor, financial dues, and organizational and intellectual support to build the system. In the 1979–1987 period they finished the intake structure, the 26 km long main canal, 33 secondary canals, several hundred tertiary canals, 11 tunnels and a large number of roads, division boxes, and support structures, in order to bring some 900 hectares gross (1300 plots) under irrigation with a flow of some 700 l/s. Most of the main, secondary and tertiary canals had to be lined because of the sandy soil texture and the corresponding high infiltration losses. After a learning-by-doing and socio-technical adaptation process, users had their system regularly functioning by 1992.

Up to that moment, each family had provided 700 '*rayas*' (*minga* labor days). Aside from communal assemblies in each participating community, users regularly gathered in the inter-

59 In fact, the process of activating water reference rights is a process of 'scheduling' water rights, not just when it comes to scheduling flows, shares, places and timing of water, but also when it comes to, for example, 'scheduling participation in decision-making', or 'scheduling the list of right-holders and non-right-holders'. Again, actual outcomes may differ from such 'schedules'.

community assembly, headed by the board, to make decisions on construction and management strategies and to define the collective normative framework. Although all families had to work equally during the construction effort, they did not receive the same amount of water, since it was decided that water access rights should be allocated according to land size. Nevertheless, the people in Pungales proposed this equal contribution to construction – not for fee payment –, so everyone could have equal decision-making rights. Further it was decided that each family would have the right to irrigate with a flow of 10 l/s per *cuadra* (0.7 ha), during 7,5 hours, once a week.⁶⁰ Since the State influence in establishing the contents of water rights in Chingazo-Pungales was minimal – the State agency only allocated the total flow as a collective concession to the seven communities – ‘formal rights’ of the user families refer not to national law but to the locally institutionalized (formalized) set of rights and principles. Although these rights, over the years and in a bottom-up process, have been widely discussed, popularized and agreed upon among and within the constituting communities – even within most households – this cannot lead to the conclusion that these rights are the local, *actual* rights. Instead, they are the *reference* rights in the communities’ socio-legal repertoire. Within this same repertoire actual rights often look quite different. When ‘put into action’ the reference rights of the Chingazo-Pungales Irrigation System are mediated by, for example:

- climatic and technical hazards – in water scarcity periods or system failure communities or families get less water;
- topography and hydraulic system conditions – tail-enders get less water than head-enders because of conveyance losses;
- water scheduling practices – female and elderly users have difficulty to materialize their access rights during night irrigation;
- local power structures – poor and female headed households have more problems to protect themselves against water theft by more powerful users;
- prevailing norms on representation – women have less possibility to speak up, and materialize their water control rights and their representation in community and inter-community boards;
- organizational, cultural and political contingencies – such as communal fiestas, elections, religious beliefs and cultural practices, which change planned schedules contingently.⁶¹

Typically, these last factors, among various others, create empirical distortion between reference rights and rights in action, and lead to materialized rights different from the ones intended or foreseen. And thereby, they mean that the much-used concept of ‘working rules’ (Ostrom 1992) and the dichotomous notion of *de facto* rights in distinction to formal, *de jure*, State rights (Bromley 1992; Schlager and Ostrom 1992), popular in new-institutional economics or legal pluralism theories, are still far too general notions to understand actual irrigation practice and ‘living’ water rights.

60 With respect to *actual* distribution, users apply these 10 liters per second differently, according to their plot’s conditions (soil, slope) and the crop (growing phase, type of crop). Sometimes they subdivide the flow among a number of furrows. Generally, irrigation is applied more accurately to more profitable crops, such as alfalfa, peas, and fruits, for which they make furrows and *canteros* (zig-zag furrows). For maize, according to users, ‘we just irrigate any way one prefers, without making furrows’ (Martínez 1998; Boelens & Dávila 1998).

61 Source: regular field visits throughout the period 1992-1997 and in 2002. See also Arroyo & Boelens 1997; Boelens & Dávila 1998; Jácome and Krol 1994; Krol 1994; Martínez 1998.

2.9. Creating and re-creating water rights

“As a result of the many, many meetings we had in our communities, the organizational work we did in the inter-community water users organization, and thanks to our enormous labor efforts in the irrigation mingas, as well as our traveling to the INERHI offices in Riobamba and Quito, and the tough negotiations there with the government irrigation engineers, we are now building something that is *ours*: the irrigation system in Licto!”
(Martha Caranqui, a leader in the Licto communities / March 1997).

Before and during system construction, and during system use, water user collectives develop their local rights framework - a set of norms that guide system creation, administration and maintenance, allocation and utilization of water, and relations among users. Thereby, as was illustrated in several examples, the mechanism of user investment for acquiring rights is often extremely important for Andean communities managing their own irrigation systems.⁶²

The development of irrigation infrastructure simultaneously establishes property relationships among the system creators, as Coward (1983, 1986) argued. By investing in the facilities, users create their ‘hydraulic property’, a common ownership of the system, which is the factor bonding irrigators together and driving their collective action. This forms the foundation that guarantees realization of the different operation and management activities required by a user-managed system. The mechanism also guarantees peasant and indigenous communities, as collective bodies, that they will have effective control over the development and application of their own norms for managing their system (Boelens 1995; Gerbrandy and Hoogendam 1998).⁶³ In the words of Coward (1983: 12, 4): “Investments to create irrigation facilities always create, or rearrange property relationships with regard to those new facilities. In other words, one cannot build facilities without establishing property [...] The creation of irrigation works establishes among the creators property relations, which become the social basis for their collective action in performing various irrigation tasks.”⁶⁴

So, the appropriation of families’ individual rights directly coheres with the appropriation of the group’s collective rights, and these water access and control rights are directly connected to the collective infrastructure and underlie collective system management. In many traditional systems, families obtain irrigation rights not only through their own contemporary investment in building the collective facilities, but also as an inheritance of the investment made by their ancestors and as a loan borrowed from the deities. This is confirmed through rituals rooted in irrigation practice.

62 Apart from being an important mechanism for *obtaining* rights (allocation), it is simultaneously an important *principle for scheduling* water access once rights have been allocated, as was elaborated in section 2.4.

63 As chapter 10 illustrates, also State investment in irrigation facility development can be seen as a property creation or reinforcement process, since after agency-led investment the State normally strengthens its dominion over water resources claiming the materialization of its full ownership rights, whereby it may decide to delegate (parts of) system control. Chapter 12 and 13 show the users’ contestation process.

64 See also Benda-Beckmann 2007; Boelens & Doornbos 1996, 2001; Boelens & Hoogendam 2002; Gerbrandy & Hoogendam 1998; Gutiérrez 2006; Hoogendam 1995; Mayer 2002. Chapters 4, 12 and 13 show how water rights creation and re-creation in the Andean communities is strongly related to identity formation. This is different from modernist notions of ‘recreation’ where people (as do commercial enterprises), in their collective effort to show that they are (individually) unique and original, follow each other routinely as a common herd. Patricia De Martelaere: “Creativity is an illusion which we impose upon ourselves” (*De Volkskrant* 6-1-2001). The (re)creation of Andean water rights, on the contrary, is not born out of an individually felt drive to distinguish and progress, but stems from the need – obligatory – to collectively adapt and survive.

After generating rights, users must consolidate them. They do so by fulfilling their obligations within the irrigation system, which generally also takes the form of user investment. Participation in collective work, payment of dues, attendance at meetings, etc., are important obligations, both to conserve one's rights and to keep the irrigation system itself working.⁶⁵ Thus, the conservation of water rights plays a key role in effective irrigation system management: maintenance of the system means maintenance of water rights. In other words, users' investment in construction (or rehabilitation) of the system is grounded in the logic that it *creates* individual and collective water rights, while their investment in maintenance reaffirms and *re-creates* them. Since rights are granted to the ones to whom the labor input is ascribed, class- and gender-related control over labor is a fundamental issue (see chapter 11).⁶⁶ Next, as was illustrated in section 2.6., the precise quantitative and qualitative relationship between 'investment contributions' and 'rights creation and re-creation', and the perception of whether this is equitable, usually differs per system. This is a pivotal issue for local decision-making, and not uncommonly a matter of intensive struggle and negotiation, internally and with third parties.

The indispensable grounds for franker negotiations and deliberate co-definition of interaction and partnership between local user communities and support agencies are the definition of clear terms of cooperation and criteria for system development. Basic rules and concepts for equitable distribution of water rights (privileges, operational rules and obligations), although difficult to define at the start of such often large, contingent, multi-layered endeavors, are necessarily an integral part of these terms and criteria – but in practice often neglected for the sake of 'avoiding conflict' and 'maintaining good relationships', or simply because of technocratic and paternalistic arguments related to 'expert knowledge'. Prior water rights negotiation and formulation, however, constitute the axis of interactive strategies and mutual collaboration.

For example, at the beginning of the project to rehabilitate the ancient La Estrella canal in Mollepata (Cusco, Peru), the communities and the Peruvian support institution decided that one of the central rights criteria would be equal distribution of water rights to all families belonging to the four communities involved. "Each member is entitled to the equivalent of 1 liter per second" (Flores & Olazával 1993). During system operation, the concrete expression of this allocation (in terms of flow and shift duration per plot) was sometimes adapted, according to communities' characteristics and the irrigators' growing skill, but they firmly kept to the basic agreement on each family's share. This proved to be very important to overcome demands by wealthier farmers, conflicts between communities, and the need to hold the organization together through the difficult stages of shared project management.

In order to acquire rights, reference was made to various, mutually interacting, normative frameworks, which resulted in a hybrid socio-legal repertoire basically containing elements of State law, existing local law and 'project law': To obtain collective water rights the Mollepata people applied for a legal State concession. First, in order to juridically defend their claims vis-à-vis

65 Although labor input is a vital element to create and conserve rights, other factors are also important, e.g.: money; goods (agricultural produce, materials, instruments, etc.); intellectual inputs and organizational efforts, such as at meetings; operational contributions to water distribution; and 'communal cultural investment', which is present in the communities' collective memory (e.g., joining ritual irrigation activities, and remembrance of the blood, sweat and tears – and casualties – 'invested' in the system. Boelens & Doornbos 1996).

66 The 'user investment' rationality that is needed for sustainable, autonomous systems does not call for romantic approaches. In Arroyo & Boelens (1997) we have analyzed the consequences for female irrigators, already overburdened with work, in communities with much male migration. See also chapter 11.

third parties; second, since official rights registration was conditional to obtaining credits and other State benefits; and third, because no external finance or support institution would invest in such a large endeavor without communities having the security of water entitlements. But the universe of rights-claiming families and communities was determined according to local rights perspectives, essentially based on historical and socio-territorial claim-making. First, in the hacienda era their relatives had constructed the system and so vested their property rights; and second, contrary to official law, they consider the high-altitude zones where the water sources originate as part of their property and territory.⁶⁷ Finally and most importantly, as a basically local rights approach but supported by criteria of ‘project law’, *property creation* was agreed to be the central mechanism for obtaining rights. The minimal levels of contributions by each member, in *faena* working days, were adapted each year and both within and among the communities the agreement was enforced and socially controlled. For example, in the community of Marcahuallu, each month the accumulated numbers of faenas per family were publicly announced, and opportunities were given to ‘level the number of working days’.

The contents of the locally particular bundle of water rights were discussed at length within the users organization, and many of them are intrinsically related to the notion of investment and property rights creation. An anecdote shows its importance in practice: The local landlord, who possessed large fields next to one of the communities, had not participated in the rehabilitation project since initially he was reluctant to join with the peasant communities – who mostly, in the days before Land Reform, were under his command. Also, he did not believe that the rehabilitation project was going to succeed. But once the communities showed significant progress he changed his mind. One day, he approached the users board and made them an offer: in order to earn his water right he would pay a substantial amount of money. Next, he would send a large number of *peones* (contracted laborers) in order to support the construction and rehabilitation activities. Finally, he would also support the arduous activities by lending his tractor, which would be at the disposition of project activities for free. Although this offer would constitute an enormous support to the extremely heavy workload, done under severe climate conditions at an altitude of 3000 to 4000 meters above sea level, the board did not accept his offer. Yes, he could join the organization, but the condition was that he himself, not his peones, would fulfill the *faena* obligations in the ice-cold Pampa Soray, face the landslide dangers and dig the canals, just like any other member. Sending more peones or even lending his tractor, although very challenging, was not accepted. This boards’ attitude was not because of fear that he would claim more water access rights, since access would be equal for everyone. Their firm decision related to the fact that the bundle of water rights also includes the various decision-making rights (Table 2.1.) and more contribution by one member could result in the claim to have more decision-making power over future water management.⁶⁸ And in order to guarantee collective control, this was to be avoided at all costs.⁶⁹

67 On a third level, less visible and day-to-day, some users refer to the water rights under deities. To obtain the right to control and access water, one must ask for permission, especially from the Apus, who grant this right, as if it were a ‘concession’ (see chapter 3).

68 We found this same rationality in the Licto and Ceceles systems in Ecuador (chapters 12 and 13). Here, everybody had to contribute equally, *even though* water access benefits were not equal for all right-holders but depended on their landholding (see also the Pungales case above). Unlike Mollepata, contracting peons to do the collective workdays was allowed locally, among others, because of the lack of labor power caused by out-migration, especially by male household members (see chapter 11).

69 Field notes 1988, 1996, 2004. Also see Hendriks 1988; Boelens & Temmink 1990.

Despite the obvious influence of infrastructure modification on existing water rights, many development projects do not explicitly address it – let alone understand the relationship between prior and new user investments and collective hydraulic property creation. This denial of local systems' foundations often give rise to the following situation: local contributions are called for, but without stating that these inputs are individual investments in a co-owned system (which *by definition* requires prior clarification about the relationship between contributions and benefits for each user, as well as a common understanding about the ownership of the system and the collective water rights). When this disorganized investment is over, no solid foundations are left for the users to organize water distribution, much less maintain their channels as collective property (Beccar et al. 2002).

During implementation of the irrigation system in Patococha (Cañar, Ecuador), the peasant organization and governmental agency had never established clear criteria or agreements about the rights and obligations of future users. Only the rigid national criteria for distribution were binding (water supply according to fees paid, which goes largely un-enforced in practice). When the main system was finally built, the peasant organization asked for the water *not* to be delivered to the irrigation area until all families had completed the minimum of 40 workdays that, according to the organization, would entitle them to water rights. Because of the need to obtain short-term results, the governmental institution did not back this criterion, nor were alternative criteria discussed. For many years, water was distributed in a disorderly, inequitable manner, and users' contributions and work to sustain the system were minimal, and hardly recorded.⁷⁰

The muddling and confusing of existing property relations lies at the heart of many 'intervention failures'. That is why, when one visits a 'post-project' irrigation system, it is not unusual to find the users' group still bitterly arguing about conditions for access to water and the corresponding maintenance obligations. Particularly problematic are the many cases in which external agencies intervene and invest in existing irrigation facilities, founded on local rights agreements and based on prior user investment. These new, agency-led investments often destroy existing collective and individual property rights and, thereby, the necessary collective action to sustain the system.⁷¹ The most 'pathetic' cases are those in which a sequence of interventions implemented by different institutions, and handled with different concepts of investment (community work; food for work; individual labor, financial or material contributions for water rights, etc.) have created institutional chaos among the old, new and would-be users. The fact that many contributions are poorly recorded, along with certain interests in manipulating that information, further complicates the possibility of clarifying the situation (Beccar et al. 2002).

Unlike the common notions in most irrigation development programs – paternalistic or participatory – that present local participation and contributions as a mechanism to 'create a feeling of ownership' in future beneficiaries, users in community-managed system do not claim a 'sense of ownership' but *factual relations of ownership or co-ownership*, establishing precise access and control rights.⁷² This also accentuates the political nature of water rights. Water rights are the object

70 Field notes 1994, 1996, and Boelens & Dávila 1998.

71 See Coward 1986; Boelens & Doornbos 1996; Yoder & Martin 1998; Gerbrandy & Hoogendam 2002; and the cases in chapter 10.

72 Then, the issue is not to organize contributions themselves, but to define specific contributions by each party, their relationships with rights, privileges and with other right-claimants. Nor is it a question of 'getting them involved in the project' but for the users themselves to generate, modify and maintain their own collective ownership arrangement, at the same time generating and conserving their individual rights.

of struggle and the product of power relations. Both their contents and their distribution in society, and the way they dynamically adapt to new situations, reflect the prevailing power structures and the way they are contested.

Creating, consolidating and transforming water rights – these are all part of the above dynamic power interplay. Basically, water rights are social relations of production and, thus, they constitute a relationship of power among subjects as well as a relationship between the subject ‘user’ and the object ‘water’. Some actors obtain or have the right to act in such a way that it influences the rights of others. Obviously, in this social relationship the access to water, under certain conditions and according to established volumes, flow rates and/or time scheduling, is a central issue. But the great interest of various social sectors in controlling the way in which water rights are defined and allocated cannot be explained just by their perceived need to have access to *water* and to the infrastructure that conveys it. No, more is at stake: chapter 1 mentioned four echelons in the struggle over water rights. Holding water rights in common property systems often also grants the right to take part in decision-making about system *management rules* and about the local definition of the precise *contents* of water rights – a second level of interest and fierce contestation. And at a third level, we see a dispute about the very legitimacy of normative systems and their authorities: who has the *legitimate faculty* to set norms and authorize claims in local irrigation systems? At a fourth level, more abstract but no less important, are the *discourses* that defend particular water rights regimes. As a conjunction of power and knowledge, they shape claims about truth and aim to create alignment among the human and the nonhuman; among the technical, organizational, socio-legal, economic-political and cultural-metaphysical water control domains – detailed in the next chapter – in order to legitimize, affirm and foster particular water policies, water control institutions and water distribution practices.

chapter 3

DIVERSE WATERS AND DIVERGING TRUTHS. THE DOMAINS OF WATER RIGHTS

IN WHICH I will take the reader along with me on a journey through Andean water culture and cultural politics, as an entry point to discuss the multiple, interlinked domains of water rights. The chapter starts with my own first steps in peasant communities and water control practice, two decades ago, in the Mollepata region in the Peruvian highlands. Here, I lived in Marcahuaylla, with a peasant family who introduced me into their way of farming, living and thinking, while they worked together with their fellow comuneros on the creation of an inter-community irrigation system. At that time, the main focus of my action-research was the joint elaboration of a technical and organizational proposal for community water rights and rules and the organization of water distribution. In this chapter, I focus on only one out of the continuum of events that illustrate the multi-domain properties of water rights and water control in Andean highland communities as Mollepata. Because of the fact that cultural and metaphysical factors are generally omitted from water engineering truths or policy frameworks, I try to unravel the 'meta' behind the 'physical'. Therefore, I will go by a roundabout way through the maze of historical and contemporary Andean world views and political constructions of water culture and water control. This closer insight into one of the water rights domains serves not just a better understanding of the event in particular, but also of the interaction with other domains of Andean water thinking and acting, and it provides a background to critically discuss the conceptualization of interdisciplinarity in water control and water rights.

Question: What are the conceptual domains of water control and water rights, and how do they mutually interact with and constitute each other?

3.1. Balcompata: diverging truths about the heart of irrigation water control

“From the netherworld, Ukhu-Pacha, the great nation, like a household god with a hemorrhaging heart, I have returned ... The town of Mollepata has its history somewhere stashed away in its inhabitants’ memory, where it is gradually fading away. History has dried up and shrunken away, just as the water is dwindling in the ditches that used to water our lands. In the old days, up until the haciendas were running things, I saw – and our forefathers would tell us, too – that they used to sacrifice people to gratify Apu Salkantay¹, as the Hatun Pago, the ultimate sacrifice. The person chosen was an ‘opa’, a fool – someone who had no evil intentions, hated no one, forgot and forgave ... They would get him drunk with cane liquor, until he was soundly unconscious. Dead drunk, he would be turned over to the old Altomisayoc, the Head Priest, who knew all about the night, and knew what was to come. All the prayers were intoned, and he was piled high with offerings for the Earth Mother. Then She would tenderly receive the sleeping man, embracing him forever with all Her strength, making them into a single body – Human and Earth.

Nowadays, things have changed. When the winds bring a drought, people start working on the sleeping body of the Wamani Salkantay, our sacred summit. They crisscross His face, trample His lips, and wander around His chest. They scrape away with their pickaxes at the heart of the Apu. This brings together the community members from Huamanpata, Santiago de Pupuja, Auquiorcco and Marcahuaylla at these lofty heights. They probe for water in the Earth’s veins. Surely they will awaken the Apu. A gentle tremor is already making His slumbering skin quiver. But will Apu Salkantay really refuse them His crystalline blood? People from these lands, who used to be mountain climbers in earlier times, would gather at the peaks of Tilla to render tribute and sacrifices to Apu Salkantay, every time water got scarce. However, our memory is tricky and evasive, and we natives often forget...

Look how the canals lie there at the foot of the Mighty Snowcap, useless and shamefaced. The natives have been disrespectful of the Apu, mocking Him by neglecting Him. They are not the same as they used to be. They heedlessly walk along the dry river bed. So many Indian and Christian prayers, but they can’t reach the heights of Apu Salkantay. Only the sacrifice of a man enclosed within the Mountain, sharing his heartbeats and his warmth, can regain the favor of this Wamani....” (Words of the *Tayta*, the wise old great-grandfather, whose soul returned to the Mollepata comuneros in the film entitled “Las Venas de la Tierra”).²

My first contact with water control and peasant communities in the Andes was in the remote Peruvian district of Mollepata, Cusco, in 1988. At that time, the area was very dry, with irregular rainfall, making life for the peasant families extremely difficult since fundamentally they all lived from agriculture while herding some animals in the high *puna* zone. The latter provided animal traction power – the *yunta* – to plow, and served as a social security reservoir to survive in years of extreme water scarcity.

1 ‘Apu’ or ‘Wamani’: mountain god, most important protector of the local territory. They engender and control the water sources and as such, life itself.

2 Earth’s Veins, CADEP (1988).

In the first decades of the 20th century, the local landlord ordered the four communities in the area – Huamanpata, Auquiorcco, Santiago de Pupuja and Marcahuaylla – to build two canals: “La Estrella” and “Marcahuasi”. Most of the communities in the region fell directly under his command and were home to his serfs – *yanaconas* and *pongos*.³ The community of Marcahuaylla was ‘free’ but suffered just as much from the landlord’s oppression and violence, and the *mayordomo* foremen of the hacienda made the community members work in compulsory *faena* workdays together with the hacienda-bound communities. Canal construction led to many casualties, since the work in the limestone mines was dangerous, even inhumane, as was the forced labor of cutting canal sections through the mountain rock and the building of intake structures on the ice and snow-covered highland pampas – at an altitude of 4000 meters, and at the foot of 6271-meter Mt. Salkantay. Communities had to deliver free labor by shifts, first to construct the canals, and later to irrigate the sugarcane fields of the hacienda. The canals brought some 500 hectares of the landlords’ fields under irrigation. In exchange for their labor and the expropriation of a share of their agricultural output, communities were allowed to take a limited amount of water, at night only, to irrigate the small parcels they got from the hacienda.

After the Land Reform period (starting in 1968) the hacienda was subdivided mostly among new owners, and communities were given formal or informal title to the lands they already occupied. Because of the sudden organizational vacuum and lack of authority – the hacienda had maintained an intensive, large organization to operate, clean and repair the extensive canal systems – the system fell into disuse and broke down. Attempts by the Peruvian government to build a new, large-scale canal system (1974 - 1978) cost millions of dollars but failed dramatically (‘Canal Nuevo’, see chapter 10). In 1984, some 200 families from the four communities took the initiative to rehabilitate the old, more than 20-kilometer-long La Estrella canal and its many secondary canals. They approached the Peruvian NGO CADEP (*Centro Andino de Educación y Promoción*) to support their difficult project and to overcome both the technical and organizational obstacles. The challenge was not just to build an inter-community organization capable of managing the canal system, but also to generate democratic community structures that were different from the patron-servant structures existing until then, strong enough to withstand the abusive powers of new elites. The agro-productive aim was to bring 200 hectares under irrigation in a first 5-year phase, and another 200 hectares in a second phase.

The process of rehabilitating the ancient canal faced many drawbacks. Apart from multiple problems (such as initial organizational weakness and political conflicts within and among communities; financial and legal troubles related to this large, underestimated endeavor; interference by other actors such as Shining Path and State agencies; and the enormous workload required from already overburdened peasant families), several very serious difficulties came to the fore, related to the rehabilitation work itself. One of the major obstacles was the “Balcompata” stretch of canal, at two kilometers from the main intake, near the mountain peaks of Umantay and Salkantay. Since the beginning of the rehabilitation effort, this part of the canal, which crossed a steep slope made up of gravel and stones, repeatedly fell down over a length of some 200 meters. The place is located some six to eight hours’ walk from the communities and, just like the whole upper-reach of the canal and

3 In Ecuador they were also called *huasipungueros*: indigenous (semi) serfs, bound to the hacienda that exacted their individual and collective labor by extra-economic force. They were allowed to produce and live on a small field of their own of which the produce was also largely expropriated by the landlord. *Yanaperos* was the name in Ecuador for those indigenous peasants in so-called ‘free’ communities neighboring the hacienda - they had to deliver part of their labor force and agricultural production to the landlord, who allowed them to exercise their land and water rights and have permission to move around the area (see also the case of Licto, chapter 7).

its intake zone, it could not be reached but by foot. For years, many of the faena days were spent to overcome this huge problem, loading building materials on donkeys or simply on the faenantes' shoulders. Each time, right after reconstruction of collapsed canal sections at Balcompata, new landslides would destroy the canal again.

When inquiring about the nature of this 'water problem', at a later point in time when villagers and technicians could overlook the issue, I heard several explanations. The technicians explained that the Balcompata problem was of a *technical and biophysical* nature. The slope on which the canal section was built was not only steep but also very unstable. The subsoil was made up of loose material, mainly gravel, stones and sand without rock and vegetation to give it a stabilized structure. The slightest filtration and seepage of water leaking from the canal or coming down from the slope would undermine the mountainside. On top of that, the canal's hydraulic and structural design – of reinforced concrete – was not adequate for that trajectory: too heavy, not flexible, and susceptible to dangers of filtration and undermining. The *comuneros* of the future water organization agreed with this explanation, and mentioned similar bottlenecks that were root causes of the problem.

However, some of the social promoters, appointed by the NGO to support community organization-building, emphasized another aspect of the water problem. It was not just a technical problem, but also an organizational problem. The formulation of an internal *socio-legal* framework had made good progress since the start of the project and a collective set of rules, rights and obligations was established as a clear point of reference, but the actual concretization of the *organizational-managerial* framework lagged behind. The communities still lacked a strong organization, a well-thought-out management structure, with transparent leadership, socialized roles, and responsibilities backed by sufficient human capacity. Organizational capacity-building had just started in that period, and the vacuum that was left after the breakdown of the hacienda water-use organization had not been filled yet. For example, if the faena work had been more effectively coordinated, with more massive compliance, it would have been easier to tackle problems. Also here, future water users agreed with this problem diagnosis, since they had analyzed similar problems.

When talking to some social scientists related to the NGO, they did not deny the technical and managerial problems that informed the water problem, but stressed that the importance of the socio-legal issue and the question of rights could not be reduced to just internal management affairs of organizing construction, operation and maintenance. They reasoned that the Balcompata case, just like the whole canal rehabilitation effort, should be placed in its *political and economic* perspective. Since time immemorial, power structures in the region have had a dominant influence on farmers' behavior. Haciendas and other elites have abused local communities, expropriated 'surplus' peasant labor and agricultural production, and enforced relationships built around unequal exchange. Historically, both the construction and operation of the irrigation system itself were based on these unequal power structures. Although the haciendas were largely expropriated during the Land Reform period, parts of the hacienda properties were still unaffected and it was particularly the well-to-do classes from outside the area who obtained land entitlements to the fields formerly irrigated by the La Estrella canal. The layout of La Estrella – just like the other canals (see figure 3.1.) – shows how the canals, once rehabilitated, would not just irrigate the communities' territory but were especially designed to provide water to these ancient hacienda fields. The still prevailing practices of power abuse, the lack of economic, political and claim-making power to materialize community water rights, patterns of clientelism, the mental structure of the enslaved with the perceived need to have an authoritarian boss ('caciquismo'), and the fear that they would see their newly created water rights finally expropriated by force and legal manipulations after delivering thousands of faena labor

days, were explained as the fundamental reasons for not overcoming the ‘water problem’. Again, several peasant leaders were asked about this perspective, and recognized the validity of such an explanation.

Although the comuneros would basically agree with the above problem explanations, some mentioned that these importantly but only partially reflected the nature of water control in the region. Already since the start of the rehabilitation effort, faenantes working in the high altitudes of the Pampa Soray and staying overnight in the workers’ camp at the foot of the Salkantay mountain, had discussed the need to bring a human sacrifice to the mountain god, the Apu, to appease Him, ask permission to work on His body and release His blood as irrigation water – just as their ancestors were said to have done. In subsequent years, at night and on several occasions, not only the comuneros but also CADEP personnel had arrived at the camp site in panic and scared to death because they had seen ghosts when passing the Balcompata stretch (see also Hendriks 1988). According to them, a basic component of the ‘water problem’ was the fact that the relationship among the comuneros and the deities, in particular Mother Earth (Pachamama) and the Apus of Mt. Salkantay and Umantay, had been distorted. Therefore, they were punished not just with water scarcity but simultaneously with water abundance manifested by the heavy cloudburst and rain- and hailstorms that harassed the work, caused landslides and broke down the canal system. As in former days, when during the building of the La Estrella canal (1914 – 1931) the landlord didn’t pay any respect to the mountain gods, things went wrong. That job took almost 20 years and because of this disrespect it was only after many people had died during construction that the Apu sent His water. Since that time, the Apu has rejected all human construction efforts to rehabilitate or build new canals and He complains every time people hurt Him without asking permission. He becomes angry and violent when they scratch His skin and try to open His body. For the same reason and in a similar way, the above engineers’ project of Canal Nuevo had collapsed because of not having paid any attention to honoring the Apu. The ‘ultimate sacrifice’ might content Him and calm His anger.

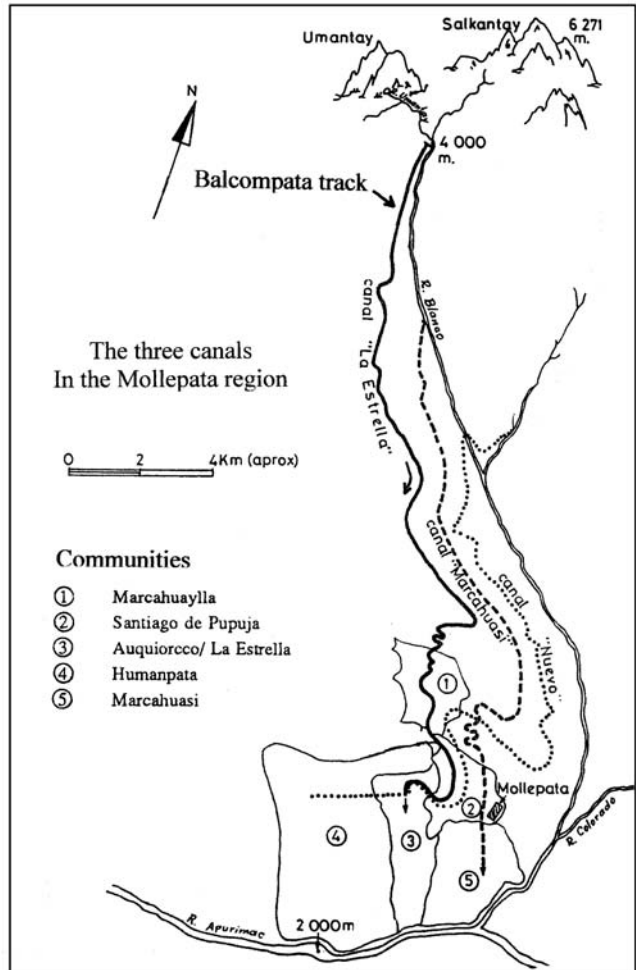


Figure 3.1: Map of the canal systems in Mollepatá
(Source: Hendriks 1988)

Nevertheless, finally, in 1987, the Balcompata water problem was solved. Instead of the open canal, the stretch was covered with heavy slabs, made of reinforced concrete. A large army of faenantes brought the materials to the problem zone. They also carefully lined the canal. For the first time since the hacienda regime, water could now pass smoothly through the stubborn zone of Balcompata. In 1988, water reached the four communities' irrigation zones and, although the system needed, as is common, a social and technical consolidation process throughout the nineties, the irrigation of their fields fulfilled the long-cherished dreams of hundreds of families who had struggled fiercely to reconstruct the canal.

Basically, technicians attributed this success to the use of adapted technology. The slabs were very strong and, since the canal was now 'buried', it could easily withstand rock avalanches. The lined canal did not allow any leakage that might weaken the subsoil. Canal protection included tree planting and natural vegetation strips along the contour lines, and the construction of interception ditches, drainage canals, and biophysical canal support walls.

In turn, the social promoters accepted this technical truth, but added another: the fact that an efficient, collaborative work structure was finally in place, with clear objectives and operational rules, roles and responsibilities within the community and intercommunity organizations. After initial disorganization and management trial and error, an action-reflection capacity-building process (Paulo Freirean '*educación popular*') and collective discussions on organization-strengthening had improved strategic working and management capacity enormously. Some also observed that the intercommunity organization's overall rights framework, established at the start, increasingly functioned as the reference system for decision-making, and each community started to elaborate its corresponding internal regulations for current construction and future water management purposes.

The above explanation was acknowledged by those persons with social and political scientist schooling, but they emphasized the fact that the power of the State, the local landlord and the elites had further diminished in the area – some even mentioned that this was because of the growing presence of Shining Path in the area, making powerful notables leave the zone or making them afraid to abuse and brutalize local communities⁴. Communities were conscious of the fact that their labor was no longer just to be expropriated, they had a growing countervailing force and were even replacing the local municipal authorities. Now, they worked for themselves and could harvest their rights investments themselves.

In short, the various 'groups' not only analyzed the water *problem* according to their own background truths and paradigms, they also placed the water *solution* in their own truth perspective. And the farmers? They tended to agree with all of them, recognizing that the issue of water and water management fundamentally is a multi-layered one, whereby such 'disciplines' or 'domains' cannot be separated in actual practice. But according to them there was more under the mighty Sun, and they offered a 'supernatural' or metaphysical' explanation too, to be added to the foregoing clarifications:

Shortly before the problem of Balcompata was solved, the Apu again showed his power and anger to the Mollepata community faenantes. An enormous landslide and stone avalanche occurred when the workers tried to reconstruct the canal at Balcompata. This time, not only did the canal come down again, but also one of the peasant leaders was buried under the debris. Together, the

4 One day, for example, the local newspaper presented an announcement, signed by the Shining Path, proclaiming that all authorities and '*visible persons*' (referring to police and notables) in the Mollepata area were placed on their black list. And it was common local knowledge that the Shining Path used the upper region of the district – crossing the Pampa Soray where the working camp and the canal intake were located – as its route of transport between Cusco and Abancay.

laborers managed to dig him out and, although more dead than alive, he was released from the embrace of the Apu and survived. Apparently, the Apu did not demand a permanent embrace but settled for the temporary human sacrifice since, from that day onwards, the Balcompata track did not pose any problems anymore and the Apu released His blood to the irrigators' communities.⁵

As was mentioned in chapter 1, it is not my objective to verify or falsify the 'truth' of these divergent truths.⁶ Following Foucault, I am interested in knowing how they work, how such claims to truth are being used in practice, how they shape perceptions of reality and also define reality itself: the way they form part of truth-knowledge-power triangles (Foucault 1979, 1980). In the case of Balcompata, actors' definitions of knowledge and truth diverged according to their discursive representations of problems and solutions (in chapters 6 to 10, I will analyze such water rights truth regimes and relate them to prevailing power relations). Nevertheless, this case and in particular the farmers' explanations also illustrate that such discursive perspectives or domains of knowledge and truth are not always necessarily mutually exclusive. On the contrary, discourses or regimes of representation interact at diverse levels and at differing depths. And several 'truths' (complementary, diverging or even contradictory) may come together and relate as different dimensions of the same phenomenon. Farmers, for example, tended to see part of the water problem explanation in all five domains: technical-biophysical, organizational, socio-legal, political-economic and metaphysical. Depending on the window from which water control is analyzed, different thematic areas are being highlighted and different perspectives tend to be used to understand the same, complex object, i.e. Andean water control. The domains present *diverse and distinct but interlinked thematic fields that generate and apply particular focuses toward imagining the real*.⁷

Therefore, while often providing foundations or niches for a variety of truth constellations and discourses, these five basic domains of water control in the Andes (of which the importance for actors involved was reconfirmed to me in many other cases⁸), are also basic to conceptualize the interacting dimensions that make up water control and water rights repertoires.

Particularly the last domain – often erroneously associated with only 'culture' and 'religion' and not with, for example, technology – is strongly contested or ignored in natural sciences, since it is not considered as an objective truth that can be verified or discounted but as a 'belief' and implicitly as 'superstition'. The issue, however, is not about whether water listens to only natural and social science laws or also to supernatural guidance. As long as, in particular settings, it is an

5 On the basis of this happening CADEP made the film 'Las Venas de la Tierra' (Portugal & Hendriks 1988. Cf. Hendriks 1988). Before I analyzed the above mentioned case, we worked on a collective water rights and scheduling plan, with Gert-Jan Temmink and the Marcahuaylla comuneros (see also Boelens & Temmink 1990); my later fields visits took place in 1996 and 2004.

6 The fact that I am not focusing on verifying these truth claims does not mean that I would accept (or refute) them as being true, or that I would deny (in a post-modern sense) the existence of an objective truth: the latter is not my research issue. Neither do I consider, in a cultural relativist mode of reasoning, that they cannot be critically analyzed, or even that they should be judged as 'equally valid'.

7 Compare Geertz (1983:173), who stated that the 'law' side of things is part of a 'distinctive manner of imagining the real' (see also Roth 2003: 20). I use the concept of *domain* not in the sense of a time- and place-bound particular setting (as done by, e.g., Villareal 1994: 'domains of interaction'), but as a *thematic field of knowledge, conceptualization and interpretation, with particular codes, meanings, techniques and focuses that enable us to imagine the real*. The domains, therefore, represent different abstractions from and explanations of water control reality. Nevertheless, as I will argue, when using an interdisciplinary approach to view irrigation and water control as a sociotechnical phenomenon, it is crucial to understand the domains as interacting and mutually constituting each other. This cannot be achieved by just 'linking' these fields of conceptualization: it also requires re-conceptualization of the domains and their disciplinary frameworks themselves.

8 Although more domains could be added: section 3.3. will elaborate on this.

important frame of reference for peoples' behavior in water management, metaphysical institutions and processes will crucially influence actual water control. Next, just as in the other domains, its contents are time- and place-related constructs based on social conventions. In this respect, Lévi-Strauss observed that the purpose of myth is "to provide a logical model capable of overcoming a contradiction" (Lévi-Strauss 1955: 65). He stated that the kind of logic used in mythical thought is "as rigorous as that of modern science, and [...] the difference lies not in the quality of the intellectual process, but in the nature of the things to which it is applied" (Ibid: 66). And just as the other domains (as I will show in a next section and chapter 6), the discourses enveloping and sustaining this domain are, in a Foucauldian sense, not just simple 'stories' or 'narratives' since they comprise power-knowledge regimes made up of more than a combination of words, thoughts and opinions or beliefs: they constitute a set of precise rules, procedures, techniques and practices.⁹ For example, in Andean society, as Castro (2002, 2007), Gelles (1998, 2000) and Valderrama & Escalante (1988, 2000) have shown, irrigation rituals in particular constitute a powerful medium for transmitting and reproducing beliefs about fertility, disease, authority, and ethnic identity. In many communities, irrigation rituals and beliefs "actively produce practices and policies that constitute social reality" (Tambiah 1990: 2).

Therefore, precisely because of the neglect or trivialization of this 'metaphysical domain' (Greek: meta + physika = "the works after the physical works")¹⁰ in most water management studies, or its essentialization in romantic representations, I will highlight some of its background in section 3.2., before turning to multi-domain interaction in water control. A preparatory note for the reader: this section is a side-path, a travel through the complexities of a scattered cosmology, after which we arrive back at the base camp of interdisciplinarity. First, I will try to place the Balcompata anecdote in a local cosmological perspective and then critically analyze the role of power that links the 'metaphysical' and the 'political' domain.

3.2. A true love story: Viracocha and the waters of creation

Amaru. Construction and destruction

In many Andean communities, especially in the highest, remotest regions, water rites and myths play a fundamental role in the agricultural cycle. In several myths, water appears as a deity (*huaca*).¹¹ These rites involve not only praying for rain during harsh drought periods.¹² Many rites, myths and

9 Unlike the influential water truths of Christian religion or occidental, scientific knowledge of water control, Andean cosmological water knowledge did not have the same power background and consequently could not universally impose its truths, but remained a local power-knowledge regime, nowadays heavily scattered.

10 Webster's (1994:630). Also: "supernatural", or: concerned with "the ultimate causes and the underlying nature of things". In their analysis of farmer-managed irrigation systems, Coward and Levine make a similar point: "Cultural ideas are often central to the everyday behavior we observe in system operation (water sharing, mobilizing labor for needed repairs, etc.) and give meaning to these particular activities *beyond the material consequences*" (my emphasis). Focusing on rituals in those systems can be "a means to understanding the structural principles and underlying values that energize these systems" (Coward and Levine 1987:20)

11 *Huacas* refer both to divinities and to sacred places (e.g. where ancestors, *mallqui*, were buried). Often huacas relate to water sources.

12 In various regions of the Andes, rites before the rainy season or when water is scarce aim to 'get the water angry' – disturb and annoy the water, so it will respond by raining. In certain communities, they 'make the water fight' for this purpose. During rituals, water is brought in containers from different sources, and mixed in one river or lake. The reaction – the fury of water from the land and the sky – can be violent and even dangerous. In other rites to pray for plentiful water, they 'exchange' water from mountain springs (the male water from the Apus) with water from lakes on the plains (the

festivals are directly related to irrigation and water management. For example, water festivals (*unu raymi*) organize canal cleaning, summon irrigators to assemblies to elect their water authorities, and also distribute and evaluate tasks. For irrigation systems to operate properly, it is very common, at the beginning of the irrigation season, for the community to ‘pay’ the local Apu and Pachamama. The payment generally involves an offering to the Earth or the Mountain, often in a locality near the water source or intake. This offering usually includes coca leaves, wild fruits, liquor, and various local items, sometimes with a small animal, such as a guinea pig or bird.¹³ In their myths and rites involving water, different animals play a major role. For example, frogs (and previously black llamas) have an important symbolic meaning in rites to invoke rain.¹⁴ However, the animal most associated with water in day-to-day stories may be the snake (in Quechua, *amaru*).

In Mollepata, mythical tradition is very fragmented and not explicit, since most communities there are not long-standing, as in other Andean regions. Some arrived early in the 20th century as migrants seeking work and land, fleeing from extreme poverty in other regions of Cusco. Others were working for local haciendas, and formed independent settlements after Agrarian Reform in the 1970s. Because of this piecemeal history, without the continuity based on ancestral territory, and their lack of self-identification as indigenous (although their mother tongue is Quechua), there would seem to be no rites or world-visions in their daily work: compared to other high-altitude communities, rites and festivals seem not to have the same regulatory influence over their farming system.

However, even so, although not many rites are practiced, myths and legends are quite common, lively and full of energy. Especially those beliefs involving water are very much present and vigorous. In Mollepata, such beliefs are not dealt with as ‘complete’ mythical systems, but as small incidental events, as pieces and fragments that seem not to fit into a broader world-view or metaphysical reality. For families in Mollepata, the behavioral norms in this metaphysical domain of water rights are not clearly prescriptive or regularly scheduled. As in Andean communities that are largely incorporated into the market economy and urbanity, metaphysical control often emerges suddenly, only in times of crisis, despair and major changes – such as droughts, landslides and violent rainstorms. Wole Soyinka (2002:8) expressed this manifestation in a similar way, which points at its cross-regional character: “In moments of intense social desperation, there is only one direction to which a community turns and that is inwards, to resources that are lodged within the innermost being of peoples and are unique to them – their language, their rituals, their closed communication systems that include their ancestors, their deities and the unborn”.

Mollepata residents themselves often refer to these events as ‘just superstition’ (as opposed to the Catholic and Protestant religions, representing ‘formal’ beliefs in this zone). However, these splinters of local mythology do form part of irrigators’ actions. And in such cases, certain actions, elements or things seem to surface more frequently, such as, for example, the role of snakes.

One day, system users told us, during work to rehabilitate the canal, they had found a snake in the Pampa Soray meadow, where the intake is located in the plains of Mt. Umantay and Mt. Salkantay. Instead of killing the snake, they caught it and pulled it through the whole canal, from the intake where the thawed snowcap water flows in, all the way to the end of the canal,

female water from Pachamama). See chapter 2 and Arguedas 1956, 1968, 1975; Cáceres 2002; Gandarillas et al. 1992; Gerbrandy 1998a; Gutiérrez & Gerbrandy 1998a; Rösing 1996.

13 See also Arguedas 1956; Isbell 1978; Pacari 1998; Rostworowski 1998; Valderrama & Escalante 1990, 2000.

14 Hocquenghem 1998; Valderrama & Escalante 1988; Zuidema 1967. Castro (2007) points at the role of llamas in current irrigation rituals.

over 20 kilometers. They explained this by saying that, for the canal rehabilitation process to go properly, and for water to be plentiful once the repair work was finished, it was important to drag the snake through the canal first, so that the water will follow the same route.

On another occasion, when the entire system was working, the La Estrella irrigation canal dried up. An inspection, walking along the canal, revealed a snake in the canal. Usually, when they find snakes on their farms, they kill them or throw rocks so they will go away, because they feel snakes are dangerous. However, they carefully removed this snake that they found in the canal, and let it take off into the brush, “so the watercourse would not be harmed”.

Similar stories are told in other communities of the Andes. The snake, *amaru* in Andean mythology, represents water.¹⁵ *Amaru*'s waters can benefit or punish people, bringing prosperity or catastrophes:

Snakes appear beneficially and constructively, for instance, when water runs in an orderly manner in irrigation canals from the heights to the lower flatlands – meandering like a serpent. This brings water down from the mountains, where the Apus live, to give it to Pachamama, thus reinforcing bonds among humans, deities and nature.¹⁶

On other occasions, snakes show their dangerous side, and punish people and nature. Punishment involves disasters: floods, landslides erosion and lost crops from soggy fields. Or, on the contrary, snakes deny the water that is so sorely needed to farm and survive. For example, Cáceres presents a story told by the comuneros of Musuq Llaqta in Peru.¹⁷ Their irrigation system still has amazing archeological structures, to conduct water for irrigation and domestic water supply. However, this aqueduct is out of order and neglected. Local residents explain this: “Water is always conducted by a snake or a frog. One day, the snake was guiding the water along the aqueduct. Just before it reached the other bank, someone spotted it and threw a big stone at the snake, killing it. Since then, the water has never wanted to come back; it ran totally dry” (2002: 92). Other authors present similar stories, particularly when related to abandoned Inca canals.¹⁸ Gelles, for example, provides the myth about efforts by the Cabanaconde community, in Peru, to rebuild the ancient canal of Huataq. It originates in a large spring, and a two-headed snake moved in front of the water when the flow was released. When the comuneros killed the snake, the water stopped and turned back (2000:184).

Now, how to interpret the Mollepata comuneros' reaction? How are these multiple, widespread local narratives about 'amaru', as a benevolent or destructive water force, related to the Balcompata story where the Apu refused to release His water? Let us have a closer look at the metaphysical explanation of water flows in Andean cosmology.

15 Guamán Poma (1992 (1615): 243) says about *amaru* that the Incas worshipped him as ‘the powerful lord Snake’ – “al amaro le llaman *capac apo amaro*”. To this day, the traditional staffs of water mayors (‘yacu alcaldes’) often have a snake-head symbol (cf. Arguedas 1980: 34; Gelles 1998, 2000:88). According to narratives in the Ucayali valley, Peru, snakes represent Yaku Mama, the Water Mother (Valcárcel, in Hocquenghem 1987: 207). Zuidema (1967:50) relates the snake in Andean cosmology to the waters that spring from Pachamama, but in many communities it is also connected to mountain waters.

16 For instance, Valderrama & Escalante recorded the myth of Maska, Paruro (Peru): “wherever the [Inca’s] golden snake moved, instantaneously, a canal opened up, with abundant water” (2000: 279).

17 Their legend says that their local lakes are left over from the great flood, the Water Judgment (‘Unu Huishu’), in which most of the people drowned: Amaru punishes with an over-abundance of water. This is one of the multiple Andean versions of the great Flood of the Bible. Communities have “Andeanized” this myth to re-appropriate it, with some *local* explanation of their origin and existence (see the analysis in chapter 12). As Illich (1986) showed, this dual nature of water, life-giving and murderous, is fundamental to many of world’s cultures.

18 E.g. Seligmann 1987; Zuidema 1967. The comuneros of Usi, Qispicanchi, Cusco relate the story of a snake (‘the spirit of the water’) that was heading the water flow in their irrigation canal. When the villagers beat the snake to death, the water returned to its origin (recorded by Itier 1999: 8-9).

Cosmovisión and life cycle: the hydrological bond between Pachamama, Apus and human and natural communities

Water in Andean communities' traditional visions is commonly controlled by Apus. Historically, ethnic identity has been strongly related to worship of a local mountain deity governing natural and supernatural resources in the group's territory. Although local expressions are many and varied, most traditional worldviews share the strong bond among Pachamama, the local Apu, the territory, its local kinship groups and the important role of water uniting them all. As such, they seem to form part of a pan-Andean representation or religious tradition of worship that gives power, authority, and agency to mountains, the Earth, and other elements of sacred geography (Gelles & Boelens 2003: 126; Gelles 2000:28). As we have seen in the Mollepata case, rags and remnants become manifest even today, although not as a complete, imperative 'order of things'. Many are the scholars and versions that have tried to conceptualize this 'pan-Andean worldview', but, as is common, even greater is the number of variations or exceptions to a general rule or 'cosmological representation'.¹⁹ In what follows, then, I have sought to present an outline, it is a compilation made up of potsherds and their (diverging) interpretations concerning the role of water:

“Water is the most important element of the Andean cosmos. It is the dynamic principle that explains movement, circulation and the forces of change. Water is considered the essence of life itself” (Sherbondy 1998:212). Andean civilizations have based their myths, rituals and cosmological visions on empirically existing hydrological phenomena in the region, and indigenous peoples have often traced their origins to this constellation of sacred mountains, lakes, springs, and rivers (Gelles 2000, Sherbondy 1998, Zuidema 1967). *Mamacocha*, the Mother Lake (i.e. Ocean), as the womb of the universe, envelops the world and is the basis of all waters, links them all together and all waters flow back to the Mother's lap. Directly related to *Mamacocha* and world's waters is *Ticsi Viracocha*, Andean creator deity (the vital force and animating principle)²⁰, who emerged out of Lake Titicaca. Viracocha engendered the cosmos as it is, and created three interrelated worlds and its driving forces:

The spatial structure of the cosmos is divided into Kay Pacha (this world), Hanaq Pacha (the world above) and Ukhu Pacha (the world below). Human beings, animals and plants live in Kay Pacha.²¹ In general, Kay Pacha comprises three 'communities' of living beings that are intercommunicated: the community of nature (*sallqa*), the community of humans (*runas*) and the community of deities (*huacas*). These communities wish to achieve a complementary, reciprocal relationship ('*ayni*'), in order to maintain a balance among them and sustain productive life (Gutiérrez & Gerbrandy 1998a; Greslou 1989). In Kay Pacha, the main deities who share this space with humans and nature include Apus, Pachamama and Amaru – the serpent representing water (Cáceres 2002:42).

19 Such representations have been constructed on the basis of a large number of (coinciding, overlapping and contradicting) myths, cultural symbols, colonial records, archeological findings, etc. Empires such as the Incas' have actively tried to unify the enormous variety of locally existing Andean cosmological representations, and the Spanish have given their Judeo-Christian, monotheistic interpretations (see Arguedas 1956, 1968, 1975; Earls and Silverblatt 1978; Garcilaso de la Vega 2000 (1609); Gelles 1995, 2000; Guamán Poma 1992 (1615); Mayer 2002; Murra 1975; Patterson 1991; Rostworowski 2000; Sherbondy 1982, 1998; Valderrama and Escalante 1988; Zuidema 1967, 1986, 1990; Zuidema & Urton 1976).

20 There are many interpretations of Ticsi (Tici) Viracocha (Wiraqucha) (see, e.g., Greslou 1989, Rostworowski 2000, Valderrama & Escalante 1988, 2000), whom some chroniclers also identify with Pacha Camac – creator of the universe (e.g. Garcilaso de la Vega 2000 (1609), and Guamán Poma 1992(1615): 42). As Dean argues, Ticsi was considered androgynous in pre-Conquest origin. In the diagram '*Relación de antigüedades deste Reyno del Pirú*', by Juan de Santa Cruz de Pachacuti Yamqui Salcamaygua, 1613, all beings have gender except for Viracocha (Dean 2001).

21 See Platt 1976; Sánchez-Parga 1987; Gow & Condori 1982.

Thus, water inhabits Kay Pacha as a living being: as a snake and a deity. As the link between Pachamama and Apus, Amaru symbolizes life and fertility.²² These three are considered the protectors of human and nature communities, under the condition that they maintain this relationship of mutual reciprocity – *ayni*. For example, when people treat Pachamama nicely and respect Her when working the land and paying offerings, Mother Earth repays this respect through plentiful harvests. By the same token, if water user communities show their respect to the Apu, He sends his water for people to use.²³ Water, Amaru, in its multiple appearances, must also be respected. This respect for water is expressed, for example, in speaking of *proper husbandry* of water, when referring to water activities and management (Gutiérrez & Gerbrandy 1998a).

Human beings, thus, have a relationship of dependence with water, with the mountains and with the Earth, and among each other. In the relationship between humans and deities, water flowing through underground rivers is the bloodstream of Pachamama and Apus (or Wamanis). When it flows through surface canals and rivers, it is associated with another bodily fluid, semen. Rain represents teardrops from heaven. These metaphors of blood, semen and tears show how water is a vital liquid, ordering and unifying the cosmological body (Sherbondy 1998. Cf. Arguedas 1956, Greslou 1989).

Deities Pachamama, Amaru and Apus are intimately inter-related in the cyclical symbolic process of the cosmos, which involves the cycles of both *time* and human, natural and divine *life*. Here, the hydrological cycle plays an ordering role²⁴. In the Andean worldview, water's route symbolizes the route of life through these three worlds: Kay Pacha, Ukhu Pacha and Hanaq Pacha (see figure 3.2). Through ritual offerings and, most of all, reciprocal action, humans must sustain the balance and cyclic flows in the hydro-cosmological cycle. In this cyclical order of the world, time and space are closely related. As the figure shows, particular places are associated with certain phases of life:

- The water of the ocean, as a cosmic sea, surrounds and underlies the Earth, and after flowing through the veins of the Earth – underground rivers – penetrates the Earth's surface from below. Then water appears on the surface, in highland lakes, as springs (*puquios*) or as outflows from sacred openings such as caves (Sherbondy 1998. Cf. Greslou 1989, Rostworowski 2000). The origin of time and life, *pacarina* (dawn, awakening, birth) is associated with lakes and springs on the mountains, summits and snowcaps of the Andes (*pacarisca*), where the Apus stay. Here is where life is born. This is also the place of regeneration. The Apus – who control the water cycle by freezing the liquid of life in their ice- and snow-caps and releasing it when they decide - send their waters to Pachamama.²⁵
- Through irrigation canals and rivers, in a serpentine shape and guided by this amaru, water reaches the lands of Pachamama and fertilizes them.²⁶ This is the phase when life is planted and

22 Arguedas 1956; Cáceres 2002; Gandarillas et al. 1992; Greslou 1989; Guamán Poma 1992 (1615); Sherbondy 1998; Sánchez-Parga 1987; Van Kessel 1991.

23 Greslou 1989; Mayer 2002; Van Kessel 1992; Lemaire 1986; Gelles 2000; Sherbondy 1998.

24 Ávila 1987(1598); Cáceres 2002; Earls and Silverblatt 1978; Guamán Poma (1992 (1615); Hufen & Van Mourik 1983; Nieto 1998; Sherbondy 1982, 1998; Zuidema 1967; Valderrama & Escalante 1990.

25 Generally the mountains in the Andes are gendered. In most Andean communities, Apus or Ork'os – holy mountains – are male in gender (cf. Isbell 1978; Ossio 1978; Urton 1981). But in some regions, certain mountains are female. About the surroundings near my Ecuadorian Licto research location, an ancient chronicler tells us: "... the Indians say that Mt. Chimborazo is the male and Tungurahua is the female, and they get together, with Chimborazo going to visit his wife and his wife visiting her husband". These "relations" are seen in the lightning (Paz Maldonado, cited by Haro 1977:107). In the case of mother mountains, water does not represent semen but life-engendering mother's milk. See, e.g., the analysis of irrigation rituals in Cabanaconde, Peru, by Gelles (1996, 1998, 2000). Water itself is androgynous, it can have both male and female genders (Valderrama & Escalante 2000:289).

26 In different contemporaneous communities, the irrigation season ('marriage' between the local Apu and Pachamama, and

sprouts.

- Pachamama gets nature and human farm products to grow, flourish and ripen. According to the respect She has been shown, She shares life with abundant, diverse crops. This is the phase in which life ripens in Kay Pacha.
- After ripening and harvest, death comes in the lowest part of Kay Pacha: water dies in the desert, trickles directly underground, or is lost in the sea, Mamacocha. There, water continues its underground pathway, in Ukhu Pacha, the netherworld, where it often is symbolized by a bull (*Puka Turu*) rather than a snake.²⁷ After a long trip through underground rivers – the Earth’s veins (*Yawar Mayu*, River of Blood) – water reappears in this world (Cáceres 2002; Sherbondy 1982, 1998).

Apart from subterranean flows, water may also circulate through the sky, whereby the rainbow (*K’uychi*) and the celestial river *Mayu* (the Milky Way) transport the waters of Mamacocha and smaller surface waters. The heavenly river flows up rainbows to the Milky Way. There, in the world above, in Hanaq Pacha, water is symbolized by *Yacana*, the black llama, one of the most important constellations. *Yacana* strolls along rainbows and the heavenly river. Like snakes in Kay Pacha, this mythical llama drinks, regulates and guides water through the world above.²⁸ Clouds and rainfall, the llama’s teardrops, bring water back to the earth, directly complementing the waters that Pachamama needs for nature and for agricultural production, or feeding the Apus’ snowcapped mountains and highland lakes.²⁹ From here, again, with water, life is reborn and the Apus direct the water down to fertilize Pachamama.

celebration of fertility) also is the start of the season when many weddings are scheduled. The Water Festival, of great symbolic importance in many Andean communities, is also celebrated at this time. As for fertilization by water, there are various local myths in the Andes (e.g. Ávila 1987(1598)) telling of a woman who sorely needed water to irrigate her dry farm and withered corn (irrigation is not necessarily associated with male tasks) and a man or male god who promised to get her that water, in exchange for sexual intercourse. [“Before agreeing, the young lady demanded that the god first widen the canal that brought water from the river”, Rostworowski 1998:47]. Humans and their land (i.e. Pachamama) are both fertilized at once (Cf. Mayer 2002; Cáceres 2002; Valderrama & Escalante 2000).

- 27 Arguedas recorded myths that tell about winged serpents, Amarus, who like huge monsters live in deep lakes and caves and represented the water, but who after Conquest were gradually replaced by black bulls.
- 28 Francisco de Ávila, in his 16th-century compilation of the Huarochiri myths, noted the following explanation of the cosmological role played by the llama constellation: “The constellation we call *Yacana*, the llama *camac**, walks through the heavens. We humans see her when she is totally black. We say that *Yacana* is in mid-river**. She is really very big. She walks through the sky, getting blacker and blacker. She has two eyes and a very long neck. This is the constellation that people call *Yacana*. [...] At midnight, unbeknownst to anyone, this *Yacana* drinks all the water from the sea. If she didn’t, the sea would immediately flood our entire world...” (Francisco de Ávila 1598: 425-429, ed. Taylor 1980) (*source of vital force; quickener) (** the Milky Way).
- 29 Ávila 1987(1598); Castro 2007; Greslou 1989; Sherbondy 1982, 1998; Zuidema & Urton 1976.

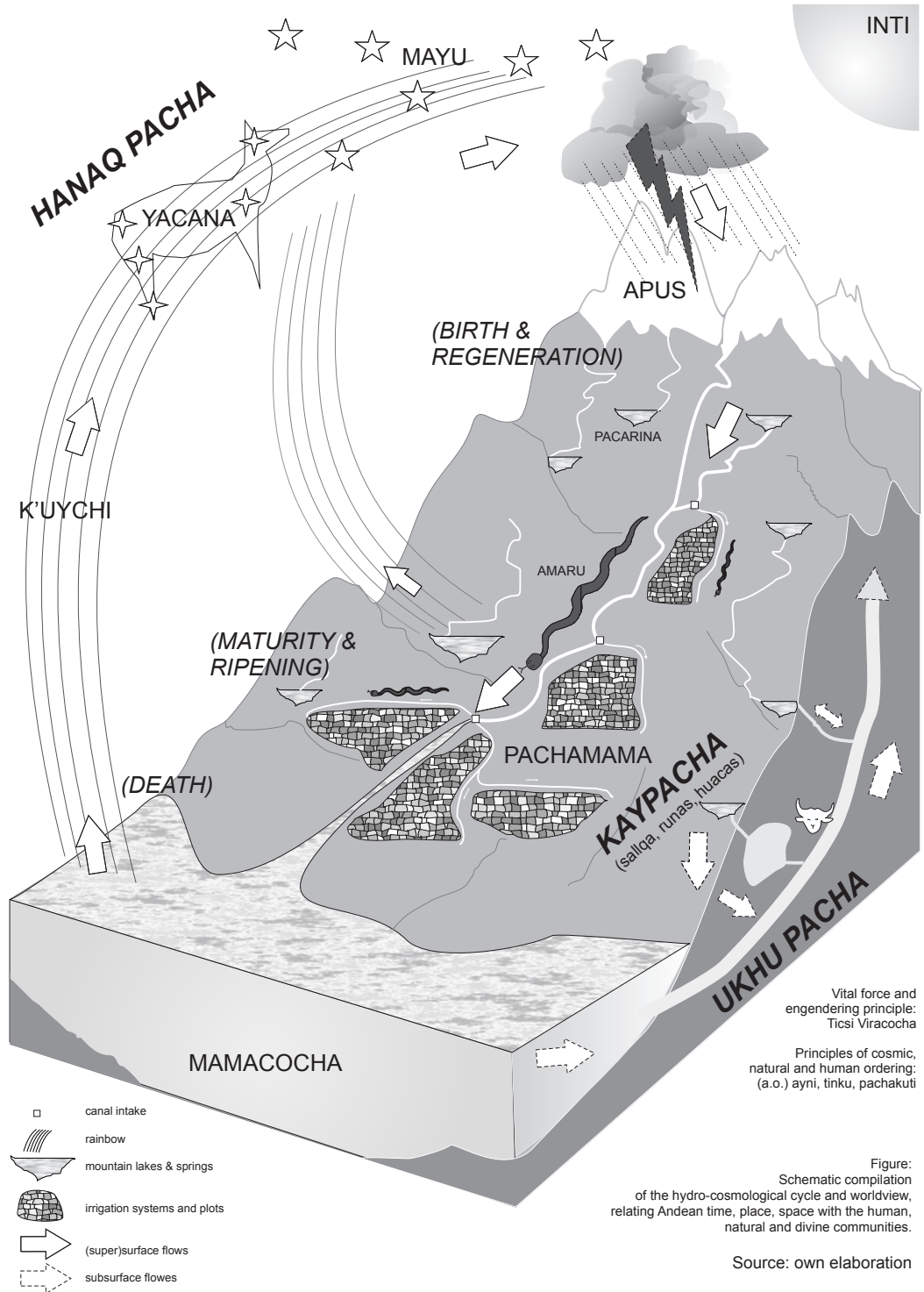


Figure 3.2: The Andean hydro-cosmological cycle and worldview.

Water's different cosmological pathways form a hydraulic network traveled by gods and ancestors, engendering the human world (Sherbondy 1998. Cf. Arguedas 1956, Zuidema & Urton 1976). Andean peoples' ancestors were created in local water sources, especially in mountain lakes. Viracocha (or other local names of the creator) also engendered the other major bodies of the cosmos in water. According to the particular worldview of the Incas, for example, the most sacred cosmic and human elements of the universe were created in Lake Titicaca.

“For the Incas (and probably for the Tiahuanaco peoples before them), all peoples were created in Lake Titicaca where the deity Viracocha endowed them with the symbols of their ethnicity: their own language, their distinct hair style, and the particular textile designs for their clothing. The deity Viracocha submerged these created ancestors in the Lake and sent them along underground rivers to the points where they emerged to the surface of the Earth. These interior rivers were, and are, conceptualized as the blood veins of Mama Pacha, Mother Earth. Throughout the Andes other large, high lakes were the origins of other communities ... The ancestors emerged at points where there were springs, lake, rivers, caves, mountains or large trees. All of these features were considered sources of water and points of communication with the interior waterways of the Earth ... Mountains have snowcaps that form streams and rivers, but there are also many mountains that are considered water sources that show no empirical evidence of being water sources. It is a widespread belief that large subterranean lakes lie under mountains and that these lakes are the sources of waters that flow from the general direction of these mountains. ...” (Sherbondy 1998, in Boelens & Dávila 1998: 212).

Therefore, local Apus, as powerful mountain deities, control both water and life: both the origin of life and its current continuation.³⁰ This local lord, the personification of the most important mountain in a given territory, controls the local ‘central water source’ as well as the (surface and subterranean) hydraulic network originating there. Thus, the mountain deity controls all local springs, secondary lakes and streams in the territory. Historically, wherever water left the underground network and surfaced, local humans and animals saw the Sun for the first time and communities were established.³¹ Ancient beliefs and myths tell not only of birth but also about death: ancestors traveled subterranean water routes both ways, since they sank into bodies of water and returned to their source of origin when they died (Arguedas 1956, Greslou 1989, Sherbondy 1982). For many communities in the Andes, to this day, these combined hydrological and cosmological representations – whether based on empirically existing watercourses or not – express powerful notions of origin and identity, centered around local water sources, mountains, and local territories (Gelles and Boelens 2003).

After creating the universe, Viracocha disappeared into the Ocean, and deities such as the Sun, the Moon, Pachamama and the Apus, as well as the *mallqui* and the many territory-bound divinities, continued to play an active role. Some interpretations, though, say that Viracocha remained in the background, as the caretaker of time and space and the mediator of complements, in order to main-

30 Sometimes water also appears at lower surfaces, in Pachamama's lakes, also life-engendering sacred places.

31 These sacred water source places refer to ‘birth’, ‘dawn’ or ‘morning sun’ in the Quechua language. In some communities the ‘water rights creation mechanism’ (see chapter 2), can be traced back to these mythical-historical roots. Sherbondy observes: “The rights of a community to those waters are based on the knowledge that their ancestors had emerged from them and that they hold them and the land that they irrigate as a kind of sacred trust for their use as long as they fulfill their obligations to them Community after community recounts their mytho-histories of how their ancestors established claims to the lands and waters of that geographical site for the use of their descendants. Rights to canals were based on this original principle and on the claim that they, the community, built the canals, maintain them, and perform the rituals for their care. This fundamental concept continues to define water rights throughout the Andes” (1998: 213).

tain balance in the universe. According to Van Kessel, in the traditional Andean worldview, humans identify with Viracocha as the ‘male midwife’, since they live in an agrarian society, raising plants and animals as they farm (Van Kessel 1991, Pacari 1998). Parallel to the agro-centric perception, the Andean worldview also perceives time as cyclical, or rather spiral, and not linear.³² The rotation of day and night, lunar and planetary cycles, the cyclical repetition of the seasons, in weather, the environment and the year’s farming schedule – all run parallel to the cyclical order of ‘time-cosmos-hydrology-life’.³³ Everything ‘returns’ periodically but not in the same form, as there are major qualitative leaps forward.

These leaps happen, first of all, because interaction among humans, nature and deities accumulate experience continually, so cycles do not repeat identically. However, there can also be violent breaks with cyclical processes. Such leaps, with great discontinuity and violence, are expressed in such cataclysms as earthquakes, landslides and floods. They happen when the cosmic cycle (and therefore the relationship among deities, people and nature) is under great stress. They generally occur when humans forgot their reciprocal (ayni) obligations and harmony among these three communities has become conflict. To re-establish the cyclical/spiral process of Andean hydro-cosmology, these catastrophes emerge to shake up Kay Pacha. The forces of nature and cosmological energies (along with major conflicts among humans), expressed in the concept of ‘*tinku*’³⁴, join to re-establish balance. This process of cosmic re-ordering and regulation is represented by the Andean concept of *Pachakuti*.

Pachakuti releases the built-up tension, often through telluric and hydrological forces.³⁵ This is when Amaru, the water-serpent, shows its other face (like the two-faced Roman god, Janus). The snake sheds its skin, and reveals its more violent, poisonous side: water becomes a powerful means of punishment. Amaru’s destructive waters enable *Pachakuti*, conveying the discontent and rage that the local Apu or Pachamama feel about people when they fail to perform their reciprocal duties.³⁶

Intermezzo. In Andean cosmovision, *Pachakuti* is considered a fundamental concept of re-ordering, performing a very necessary, valid function, and at the same time is feared. *Pachakuti* is not necessarily interpreted as destructive forces, but associated with a construction process, to re-order society and correct its fundamental errors, but always on the basis of what already exists. This is expressed in the literal meaning of ‘returning the Earth’ or ‘transforming the Earth’.³⁷ *Amaru* often makes *Pachakuti* possible.

Along with innumerable local expressions, the symbolic concept of *Pachakuti*’s drive for change – both punishment and a new age, re-ordering the disordered situation, reconstructive destruction – has also been interpreted by many ideologies and political movements in Andean history, each in its own way. For example, this concept has had two profoundly different interpretations

32 Greslou 1989; Hufen & van Mourik 1983; Sherbondy 1998. Cf. Achterhuis 2003.

33 The cycle of time is concentric with the cycle of *life* (birth, growth, blossoming, death and rebirth into another life), the cycle of *agricultural work* (plowing the soil, planting, sprouting, ripening and harvesting), the *hydrological* cycle and, in general, the cyclical order of the *cosmos*.

34 This refers to the (conflict-ridden) encounter between two complementary components comprising the dual structure of Andean society and cosmology, to re-establish the balance (Cf. Platt 1986, 1987; Gelles 1995; 1998).

35 Also cf. Flores Galindo 1988; Greslou 1989; Guamán Poma de Ayala 1992 (1615); Sánchez-Parga 1987.

36 The breakdown of reciprocity among humans may also cause *Pachakuti* to arise, as in the Ecuadorian Cañaris’ myth of origin. Only two men, brothers, survived the Great Flood. One of them raped one of the two women sent by the Creator. He was punished – again by water – and drowned in a lake. The other brother married one woman and took the other as his lover: This was the origin of the Cañari people (Dean 2001).

37 See Flores Galindo (1988:40-41). Several Inca emperors also adopted the name of *Pachakuti*, ‘He who transforms the earth’ (see Guamán Poma 1992 (1615):74, 1091).

by two processes influencing political and social change in Peru and Ecuador:

In Peru, Shining Path placed all the emphasis on violently overturning the existing world: burning everything and building a totally new society on the ashes. They combined the Andean notion of Pachakuti, the Biblical concept of the Apocalypse, and the Maoist-Leninist notions of the ultimate class and ideological clash. In their revolution no social costs, suffering or deaths mattered, being a basic prerequisite for destroying the old so the new can appear.³⁸

By contrast, in Ecuador, the national indigenous movement, CONAIE, with ups and downs, has achieved a strong impact over the past decade in their struggle for a multi-ethnic, pluri-cultural society. Among other ways, through their political branch, Pachakutik, this social movement proclaims a fundamental re-ordering of those power structures that are grounded in deep-rooted racism – but constructively, by integrating and respecting the different ethnic groups, cultures and nations that comprise the country. Their mobilizations and struggles for tangible recognition of cultural and political diversity are not oriented toward total destruction in order to construct the opposite, but are based on principles of cultures' dynamism, incorporating elements and symbols of contemporary national and international society

In order to console the deities, reestablish the hydro-cosmological cycle and ask for Amaru's destructive forces to revert back into benevolent water flows, humans make various types of sacrifice. Commonly, these refer to the above mentioned offering of local goods, liquor and dishes in rituals – a practice that continues to this day in many communities, particularly in irrigation rituals. But in exceptional cases and places, human sacrifices were needed to console the deities.³⁹ Currently, in situations of extreme crisis, remnants of the latter traditions come to the surface, as in the case of Mollepata.

We see, then, that the above Andean principles, symbols and metaphors such as Pachamama, the Apus, Amaru, tinku, ayni, the Earth's veins, Pachakuti and others, and their place within the hydro-cosmological worldview of the ancient Andean peoples – although made up of diverse, scattered pieces – seem to give a satisfactory explanation of the coherence of local views at times of the Balcompata incident. All 'metaphysical domain elements' that were important in the Balcompata water problem can easily be situated in the hydro-cosmological framework I have just outlined. As if based on a collective Andean memory, the framework presents an explanation of how local community members trace their origin to the territorial deities and the way they all are connected to local water sources. Therefore, it seems to offer a view on how they construct, consciously or not, their locally particular 'hydraulic identity'.

However, although this explanation is certainly attractive to the many advocates, scholars and activists who would like to see an original, pan-Andean worldview radically different from the 'western predatory relationship with Nature'⁴⁰ – one that is based on the quest for harmony between Nature and humans, and potentially with a strong spiritual basis – this romanticized picture has many internal inconsistencies. Moreover, apart from activist and scholarly 'movements', few water user communities and families in the Andes would tend to consider themselves represented by

38 This was a total class struggle, and a battle against racism, but according to Flores Galindo (1988: 381): "this rage, more than an impression of the *campesinos* themselves, seems to summarize the postponed, often silenced wrath of the non-indigenous *mestizos*".

39 This practice was widespread in the Inca empire. See e.g. Ávila 1987(1598); Guamán de Poma 1992(1615); Gelles 1998, 2000; Haro Alvear 1977; Hocquenhem 1998; Patterson 1991.

40 See e.g. Apffel-Marglin & PRATEC 1998; Grillo 1993, 1994; Rengifo 1991.

such a discourse alone – except for those cases in which they, strategically, can make use of such a pan-Andean truth regime, as a counter-discursive arm in their contemporary struggles (for example, against water privatization policies).⁴¹

As I have mentioned above, I certainly do not deny the importance of local rituals and myths in shaping Andean water control – quite to the contrary. Nevertheless, current myths and rituals cannot be solely explained by pre-colonial frameworks, which would deny historical processes of change. Also, to build an analysis of contemporary water control on a romanticizing and essentializing picture of a pan-Andean vision might prove not just to be false but also very dangerous, especially for those interest groups which lack power in this presumed ‘complementarian’, ‘igualitarian’ and ‘harmony-oriented’ society (see chapters 11 and 13). Furthermore, even though certain Andean principles and values, such as *ayni*, *tinku* and duality, may form part of a local frame of reference with origins in a cosmological worldview, this assertion does not give an insight into whether and how these principles or concepts have been built into actual social relationships and day-to-day behavior in water control and community life.

But in the next section I want to highlight another aspect that I consider important and erroneous in most ‘cosmovisionist’ explanations: in line with the multiple-faceted arguments of the Mollepatá water users concerning the Balcompata case, water control cannot be explained satisfactorily and fully *from just one* of its constituting domains or disciplines. Not even this ‘meta-physical event’ can be explained by using arguments from just the cultural-metaphysical domain. Let me therefore link the same hydro-cosmological ‘metaphysical domain’ interpretation with a view from the political domain. Again, beyond the question of whether myths are ‘true’ or not, I look at how they legitimize particular actions by interest groups, and the way actors – taking the example of the Incas – try to make use of such local truths, in this case in order to create a metaphysical reality that strengthens their political control over water and humans. We will see then that local truths are often not that local, and indigenous views based on the concepts of harmony are not necessarily that harmonious.

The creation of truth about Creation

“I know, boss. I know my Indians. I will concoct a story that the mine has a ghastly spell on it: a big, Indian-eating *amaru*”.

“*Amaru*?”

“Yeah, boss, a snake as big around as the body of a stud bull, and so long it can eat ten men without being full. I will say that it is the son of the mountain, of *Apark’ora* who doesn’t want his ore removed. You’ll see – they’ll scatter like chickens”.

(José María Arguedas, *Todas las Sangres* 1980 (1964):91)

Local ‘metaphysical orientation and action’ certainly has social efficacy and contributes to the active production of natural resources control, but this cannot be interpreted as a phenomenon that necessarily *strengthens* local force, identity, autonomy and collective action. As, for example, José María Arguedas brilliantly shows in his anthropological field work and in novels such as “*Todas las Sangres*” that penetrate the roots of racism and normalization in Andean society, the white-mestizo elites, the landlords and the church also knew, and still know, how to use Andean worldviews for

⁴¹ Or, in quite a different sense, when they need to construct a folkloristic image in attempts to benefit from, for example, the tourist business.

their own purposes – just like the Spanish colonizers before them. Existing Andean myths, beliefs and symbols were expropriated, re-interpreted and used to dominate local communities, exact their labor and take over their natural resources, for example in the case of the mythical motif of the ‘Amaru’:

“The Amaru serpent is what the Indians most fear, whether they are settlers from elsewhere or local community members”, Gregorio had said. “They see the Amaru in the lake when the waves are whipped into a fury by the stiff wind; the Amaru sends the drought or the heavy rains that ruin their land. And they say it lives at the bottom of the lakes or in deep caves, where water drips; the water from the whole body of the mountains – which they, the Indians, worship. If I screech, in a falsetto, like a whistle, from the darkness of the mine, and come out a bit so they can hear the serpent’s fearful cry, they will run like mad, all of them” (Arguedas 1980: 121-122).

Often this ‘abuse’ and ‘encroachment’ of the metaphysical domain is portrayed, particularly by Andean cosmology advocates, as a Western colonial phenomenon. But ‘local’ and ‘indigenous’ rulers, in the same way, were great masters in metaphysical strategies. Particularly the Inca empire was aware of the fact that the ones who appropriate local beliefs, myths and rites, also appropriate the power that these beliefs attribute to the deities. And since metaphysical water control – whether deities exist or not – actively produces societal practice (e.g., socio-organizational structures, production relations, and the distribution of resources), the conquest of local water truths was central to the Incas for establishing not just religious supremacy but also their political and military power.

Consequently, “... even seemingly autochthonous, local world-views are often not entirely indigenous to the places in which they are practiced, but were forged in a colonial context, albeit that of an indigenous empire” (Gelles & Boelens 2003:126, see also Gelles 1995, 2000). Local practices and beliefs of water control, in a technical, operational, and cultural sense, were connected to wider ‘identification policies’ and embody historical processes of political incorporation and normalization. For example, the diverse local mountain cults which, before the Inca regime, related to *local* sources of irrigation water, and to the *local* origins and roots of territorial kinship identity, were symbolically appropriated by the Inca Empire, unified, and incorporated into the broader framework of Inca state religion. As Gelles (2000:80) observed, the Empire used the most local and primordial of religious beliefs for its own purposes, establishing its legitimacy and extending its hegemony throughout the Andes.⁴² At the same time, as Nieto (1998) remarks, local Inca territory Apus (as Viracocha and Pachacámac) were elevated to the status of primary gods and became world powers, legitimating the mastering of the universe and its waters.

So, too, with water itself. In their cultural-political representation of reality, it was the Inca con-

42 When tracing the origins of the Licto communities in Ecuador I found that their ancestors, the Puruháes, believed that they originated from the snow-capped Chimborazo volcano (see e.g. Haro 1977: 105), which just like the nearby Mt. Tungurahua volcano was an important Apu, worshipped by the local communities. Incorporating and gaining control over the mountains gave the Incas control over the communities governed by these Apus. The Inca Empire installed a widespread system of State violence, sacrificing humans at many peaks all over the Andean region, not just in the central highlands of Peru (see Gelles 2000). As such, in the neighborhood of Licto, the ancient *cacique* chieftain of Guanando was known to sacrifice maidens to the Tungurahua volcano, and the nobility of San Andrés sacrificed maidens to Mt. Chimborazo. The Puruháes knew the concept of the Creator (‘Pacha-Yachachic’ – the Earth *Teacher*) but practiced a great variety of cults and adored many *huacas* (who were also related to ‘*amaru*’: lakes, springs and mountain streams were associated with giant snakes, Haro 1977:102). When the Incas conquered the region the cult of the Peruvian Creator Ticsi-Viracocha was *standardized* and Inca beliefs and sacrifices became the imposed State religion.

querors who established hydrological linkages – empirically existing or not – between *all* Andean water sources and Lake Titicaca, which, as the largest body of water, it claimed as the source for its imperial origin. This was an extension of the above widespread belief that the ancestors of local communities and polities originated from *local* mountain springs, lakes, and other sources of water (Arguedas 1956, Sherbondy, 1998. Cf. Boelens & Gelles 2005). Lake Titicaca, militarily and politically controlled by the Incas, came to replace Mamacocha, the ocean and primordial source of origin. According to the Inca discourse of creation, from this enormous highland lake, Viracocha not only created and animated all major bodies and huacas of the cosmos, such as the Sun, Moon, Stars and Ancestors of Humanity (read: the Inca nobility⁴³), it was also hydro-politically constructed as the center of the universe, feeding through subterranean rivers all other local mountain lakes, springs and rivers: these were made *secondary* places of creation in the world's hierarchy.

By appropriating Lake Titicaca as its place of origin, the Inca Empire made itself the center-point of this hydro-cosmological and political order. While their elaborate road system connected the most remote areas to a centralized power apparatus for military and tribute-paying purposes, the symbolic incorporation of all water sources and streams into one centralized religious and hydrological presentation became a powerful ideological tool. The military conquest of neighboring tribes' water sources served direct political and economic purposes, their ideological conquest served to legitimize occupation, subordination, centralized hegemonic power and surplus extraction in the long term. Water use rituals and practices have been linked to the cultural construction of power and identity in this region for many centuries. A diverse complex of pre-Inca hydro-cultural frameworks was incorporated and unified in the centralized Inca Empire. It was used as an ideological tool to naturalize State control over local resources and labor and produce subject communities (Gelles & Boelens 2003; Sherbondy 1998).⁴⁴ As chapter 6 highlights, apart from 'metaphysical politics', the Incas, just like dominant groups after the Conquest, also appropriated other water management practices, such as the local forms of water organization and administration, and the mechanisms for water rights creation (discussed in section 2.9) - not to abolish or destroy them, but to turn them into political tools for domination.

The Incas created a powerfully 'usable past' that could account for and strengthen their own position, legitimating their domination. They produced and ordered usable facts and generated a usable truth, a myth explaining both origin and current hydro-political order.⁴⁵ Indeed, the conquest and colonization of Ultimate Truth – the creation of the universe and its human, natural and divine communities – appeared to be a truly powerful strategy for Andean dominant classes.⁴⁶ The fact that religion and myths are used by the dominant to disempower the dominated is not distinctively Ande-

43 See, for example, the well-known story of Inca ancestors Manco Capac and his brothers and sisters, who after emerging from Lake Titicaca, established the *world's capital*, Cusco: 'navel of the universe' (Guamán Poma 1992 (1615)). As detailed by Sherbondy (1982), in order to symbolically reinforce the unity of the world under Inca rule, the Incas, among other symbolic practices, brought large quantities of sea sand to the central plaza of Cusco, thereby situating the ocean, the Mother of Creation, in the Empire's capital. In a similar way, new Inca emperors were anointed with Titicaca water.

44 As Patterson (1997) observed, Inca cosmology encapsulated other origin myths, it resolved discrepancies among local cults and sent them to the margins. "It reduced the richness and diversity of alternative accounts by limiting or diminishing the ways they could be interpreted.... It invoked divine or supernatural intervention to explain the emerging relationships between peoples and the new state-imposed relationships between peoples and the means of production" (1997:85).

45 See Patterson 1997; Sherbondy 1998; Gelles 2000.

46 Obviously, taking into consideration also the influences of colonial, republican and contemporary cultural politics of domination would provide far deeper background for current local water beliefs (see also chapter 6 to 10). But even though I have limited this analysis to mainly pre-Conquest times, it clearly shows the need to demystify primordialistic thinking on pan-Andean water identity and culture.

an, but the importance of *water control* in these processes is remarkable. Water myths and beliefs are instruments par excellence to reinforce inclusive, Foucauldian power strategies. As Levi-Strauss (1963:204) rightly observed, *there is a strong resemblance between ancient mythical thinking and current ideologies and political discourses* (“politics in modern societies”). Apparently, mythical thought and metaphysical tools played, and through modern expressions often continue to play, an important role in rulers getting control over the technical, organizational, legal and political aspects of water management, and vice versa. Inca nobles, Spanish colonizers, Catholic priests, landlords, and even the latest policy-makers have all known the game of rules-setting.

In a similar, parallel manner, from pre-Conquest times up to now, the production and reproduction of water-truth constructs has proven to be useful not just to dominate but also to resist. Resistance movements and counter-ideologies in the Andes, up to the present day, also use a great variety of metaphysical arguments, as arms to counteract hegemonic water policies and discourses. Here, the question of whether water-truths (be they social, physical or meta-physical) are *true* may be interesting for scientists, but is not always that relevant for ‘official’ water policy-makers and dominant power-knowledge regimes, nor is it for counter-movements of local water user organizations.

3.3. The interdisciplinary nature of irrigation and its taxonomy: the analytical domains of water rights

We arrive back at our base camp Interdisciplinarity. I have illustrated that, to analyze water control practice as manifested in the Balcompata event, an understanding of at least some contents of and relationships in the metaphysical domain is a prerequisite. But it is also clear that, although meta-physical water control in most Andean communities has played and often still plays an important role in local water control, a view from just one (e.g. cosmovisionist or technical) angle or domain tends to give a biased or even false image. To ‘imagine the real’, other domains of water rights and water control require analysis as well. And, as the case shows, it is not just the contents of and explanations given from within particular domains, but also the interlinkages among domains that need to be scrutinized. For example, in the Inca imperialist water-truth construction, political-economic power relations decisively ‘invaded’ and interacted with locally existing metaphysical water rights domains, as well as with the subject communities’ technical-biophysical, organizational, and socio-legal domains.⁴⁷ And vice versa, technical properties of irrigation water control around the canal La Estrella in Mollepata strongly influenced political relationships and social organization (just as the latter, in their turn, shaped the contents of water technology). Therefore, in order to more deeply penetrate the heart of irrigation water control and water rights, even a multi-disciplinary focus is not sufficient but rather an interdisciplinary approach is needed. Before looking at the selection of particular concepts and their interlinkages, let us first have a look at the issue of interdisciplinarity in irrigation and water control approaches.

Interdisciplinarity and sociotechnical approaches

We have defined an irrigation system, in its essence, as a complex set-up to control water, combining and inter-relating *physical elements* (water sources and flows, the places where it is applied and

⁴⁷ With a wink at Latour’s “We have never been modern” (1994): they managed, already in pre-modern times, to connect and interweave relatively long chains of humans and nonhumans (see also chapter 6).

the hydraulic infrastructure to catch, conduct and distribute it), *normative elements* (rules, rights and obligations related with access to water and other necessary resources), *organizational elements* (human organization to govern, operate and sustain the system) and *agro-productive elements* (soil, crops, technology, capital, labor force and the capacities and knowledge of the art of irrigation). It is the combination of these elements, properly embedded in the institutional, political and cultural environment, that makes the irrigation system work (Boelens and Hoogendam 2002:2).

Despite the necessarily complex set-up of water control systems, all interwoven with contextual structures and forces, and the multi-domain balancing acts that user organizations face in practice, thinking about and development of irrigation systems and water policy-making was (and still is) largely dominated by technical engineers with the support of planners and economists. Until two decades ago, irrigation development in the Andean countries, as elsewhere, was primarily conceived of and discussed in engineering, agronomic and economic terms. Low performance was consequently diagnosed as a ‘technical’ problem, which could and should be solved through ‘modern’, ‘better’ designs, just as optimal performance levels were derived from what could hypothetically be realized if an irrigation design would function as planned at the drawing board (Boelens et al. 2002; Zwarteveen 2006). In this technocratic period, large-scale systems based on the latest hydraulic and design insights were designed. Water management was seen as the operation and maintenance of technical infrastructure, a task which necessarily had to be performed by highly skilled technical engineers. The role of users was to adapt their practices to the blueprinted schemes’ technology and then follow the rules decreed from above. In the Andean region, this technocratic approach has never disappeared but the outright failure of most large-scale irrigation interventions has challenged the way projects were presented. Various attempts were made to conceptualize irrigation and water control from interdisciplinary angles.

Most of these approaches are multi-disciplinary ‘add-on’ approaches, in which several social and natural science disciplines are brought together to analyze or develop irrigation systems, but without looking at the intrinsic, permanent interactions among domains or disciplines (Roth et al. 2005).⁴⁸ First, an organizational approach was added (‘irrigation management’), although many of these efforts still showed little concern for how irrigation systems are embedded in the existing institutional environment. Instead, they derived recipes for efficient management from general management theories combined with engineering ideas about the optimal performance of irrigation systems. When NGOs began to support Andean irrigation development in the 1970s it was common to see that they either added to the ‘engineers project’ a Paulo Freirean organization-strengthening approach – disconnected from technology design and implementation – or became involved in developing small-scale irrigation systems with rather naïve or standardized ‘appropriate technology’ designs. Participatory irrigation design approaches emerged, but often turned out not to combine easily with the prevailing technical blueprint approaches (Boelens 1999; Hendriks 2002).

While this gradual shift from technocratic to more people-centered approaches entailed more attention to local organizations, livelihoods and water rights, the engineering biases remained clearly visible in the instrumental way laws, organizations and water rights were conceptualized. For irrigation systems to become functional, water rights, legal regulations and institutions had to be engineered by knowledgeable specialists, just as hydraulic infrastructure had to be engineered by

⁴⁸ Despite discourses on interdisciplinarity, few researchers, policy-makers or water professionals take into consideration the interdisciplinary properties of water control. Where natural scientists concentrate upon the physical and technical domains and are willing to ‘add’ some management or organizational issues, most social scientists tend to focus on organizational, political and cultural aspects of water management, neglecting or overlooking issues such as how social norms are embedded in technology, the way technical irrigation schedules structure organizational forms, etc.

engineers. If institutional ‘design principles’ were simply added to the technical design principles, these together were assumed to guarantee ‘good practice’ (Roth et al. 2005; Zwartveen 2006). These approaches might be labeled ‘socio-physical’ rather than sociotechnical (Vincent 1997).⁴⁹

Aside from the last decade’s rather mono-disciplinary (economics-biased) approaches to water control that, combined with the former technocratic approaches, have tended to feed neo-liberal policy-making in the Andean countries, a new influential interdisciplinary approach adopts the analytical instruments of new institutional economics⁵⁰ to study irrigation as a common-property resource system.⁵¹ Irrigation is basically analyzed as the conjuncture of a technology with a set of institutions and governance mechanisms, making it possible to transform the natural resource (water) into a form of natural capital. In this process, individual and collective organizational practices, working rules and interactions follow from rational choices made by individual agents, each reasoning in line with their (mostly material) self-interest. Fundamentally, the form and quality of collective action in water control is the outcome of multiple economic cost-benefit analyses and is triggered by positive or perverse incentives. Although multiple disciplines combine in this approach, analysis of the organizational domain is strongly biased towards a view of rationally interacting individuals and homogenous social groups with singular functional roles (Rap 2004). In the political domain, little attention is paid to social differentiation, and political processes are seen as the conflict and sum of individual rational decisions (Roth et al. 2005. Cf. Van der Ploeg 2003). Next, cultural, religious, metaphysical and psychological factors influencing water control tend to be denied or explained in economic terms. As Vincent (1997) argues, an important feature of most of this school’s studies is that irrigation technology is seen as a given tool, a black box. The day-to-day design, operation and modification of irrigation techniques by multiple interest groups in a context-specific process of negotiation, conflict and collaboration is not highlighted. This makes it possible to come up with some universal guidelines for crafting sustainable irrigation systems (Ostrom 1992).

Despite their inherent biases⁵² it is important to also consider that important progress has been made in interdisciplinary irrigation approaches. Coward (1980) presents an interdisciplinary, ‘functional’ approach relating major irrigation system activities (such as water allocation, system maintenance and conflict management) to the key institutional elements (rules, roles, and significant social groups). Earlier, Hunt and Hunt (1976) showed the importance of incorporating construction and ritual activities into such a frame of irrigation analysis. Chambers (1980), similarly, worked out a framework for water control analysis based on the need to execute basic social and technical ‘functions’. Uphoff (1986) refined these descriptive ‘models’, distinguishing three main groups of activities (water use, control structure and organizational activities), each divided into four sub-category

49 Almost parallel to the approaches that intervention professionals have developed on Andean irrigation since the 1970s, there is a more academic, social science research tradition on irrigation in the Andes – either perceiving irrigation as a ‘cultural system’ (Gelles 2000) or, as a ‘societal resource’. It consists of socio-geographical, anthropological and political-economic studies on irrigation, aiming to understand historical and ongoing processes rather than directly desiring to intervene in them (see, e.g. Bolin 1990, 1994; Castro 2002; Hocquenghem 1998; Gelles 1994, 1998, 2000; Guillet 1992; Lynch 1988a, 1991, 1993; Mayer 2002; Mitchell 1976; Mitchell and Guillet 1994; Sherbondy 1982, 1986, 1987, 1998; Valderrama & Escalante 1988; Zuidema 1986, 1990). Another parallel body of literature on Andean water control posits a radical critique to occidental and bureaucratic irrigation intervention perspectives combining it with the promotion of an (essentialized) ‘authentic Andean vision’: the PRATEC school (Proyecto Andino de Tecnología Campesina; see e.g. Grillo 1993, 1994; Rengifo 1991; Apffel-Marglin 1998).

50 See, for example, Bromley 1992; Bromley and Cernea 1989; Ostrom 1990, 1992, 1997.

51 For an analysis of some crucial ‘schools of irrigation thinking’ in the last decades (technocratic schools, new institutionalism, common-property resources theory and the empowerment approaches) I refer to Boelens et al. 2002; Roth et al. 2005; Zwartveen 2006; and Mollinga and Bolding 2004.

52 Biases that are related to region, discipline or theme and object (e.g. State-governed or large-scale systems).

activities, all internally related and represented through his renowned cubic matrix. Other authors put more emphasis on the dynamic, process character of irrigation water control, and its embeddedness in larger societal structures. Eggink and Ubels (1984) analyzed how irrigation (the system, its management and the production system) results from dynamic forces in society, and in turn, how irrigation itself, as a ‘social force’, shapes societal relations. Vincent (1997) and Horst (1998) emphasized the need to look at irrigation systems in local societies as ‘sociotechnical phenomena’, focusing on interaction among technical and social properties. Mollinga also proposed to analyze local irrigation activities in their context: made up by the agro-ecological system and the technical infrastructure, the agrarian structure, and the State and institutions of civil society. He distinguished three dimensions of water control (technical, managerial and socio-economic and political control) that each describe different features of the same object, whereby the concept of power binds the three together since water resource control is fundamentally analyzed as a politically contested process (Mollinga 1998). For irrigation in the Andean region, we have come to similar conclusions and classifications that dynamically inter-relate the organizational, the technical and the normative as interdependent ‘subsystems’ of water control, which interact with the forces and structures of their societal context (see e.g. Appolin and Boelens 1996; Boelens and Dávila 1998; Gerbrandy and Hoogendam 1998).

The above irrigation system definition points up the need to clearly define, among water users, some fundamental building blocks of the system to enable day-to-day water management. Without their clear (although contested) definition, the water use system cannot work. The multiple domains provide the contents and context in which these elements and their interaction are embedded. In action-research in Ecuador and Peru⁵³ we concluded that the key conditions for generation and regeneration of local, sustainable irrigation systems, include coherent interaction among particularly the technological, the normative, and the organizational elements of the irrigation system. Sustainable user-managed systems have a firm interrelationship among three parallel processes:

- construction and rehabilitation of the infrastructure,
- creation and reconfirmation of water rights, and
- creation and strengthening of the organization.

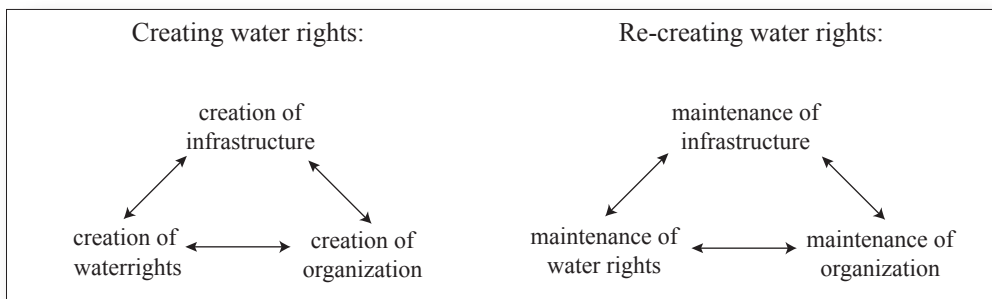


Figure 3.3: Diagram: “Driving force” behind collective action in user-controlled systems
 Source: own elaboration

53 See our analysis of irrigation development in the systems of Licto, Ceceles, Penipe, Urcuquí and Mollepata: Boelens 1995, 1999, 2003; Apollin and Boelens 1996; Boelens and Doornbos 1996, 2001; Boelens and Hoogendam 2002. See also Apollin 2002; Gerbrandy and Hoogendam 1998; Gutiérrez 2006.

In other words, there is fundamental interdependence among the infrastructural system, the normative system and the organizational system. Changes in one of them correspond – or ought to correspond – to changes in the others.

Rules, rights and obligations shape and are shaped by collective action and social organization, around collective ownership of the irrigation infrastructure. Users attempt, consciously or unconsciously, to synchronize and harmonize these main aspects.

For example, when local users have identified the possibility of obtaining irrigation water from a given source, they begin defining the initial norms (especially preliminary rights and obligations of each participant) for water distribution. They also know that they need to (re)create a suitable organization for the physical and social work to be done, and will make this organization functional, first for the process of lobbying and negotiation, later for the construction activity. When construction of infrastructure begins, water users know that they not only generate their canals and structures, but are also generating their rights. And conversely, irrigation infrastructure is adapted during the construction process to the agreed rights: the canal network, its layout and conduction capacity, the division facilities, and so on, directly reflect the norms agreed upon for water distribution. In other words, infrastructure must enable the users to concretize their rights. Simultaneously, the channel network must coincide with spatial units where users' groups are located who can distribute the water among themselves in an organized manner. In the next phase, the organization is adapted again, now to the need to operate and maintain the infrastructure (suited to the technology-specific usage requirements) and to oversee compliance with established rights. Maintenance activities serve to reconfirm rights, conserve the infrastructure and strengthen the organization itself. Thus, interaction is also continuous in later phases of the system. At each point in time when rehabilitating, maintaining or changing the irrigation infrastructure, local users tend to reason on the basis of this framework of a dynamic unity: rights-organization-infrastructure. If one changes, then the other elements must also change and 'harmonize' for the system to work properly. Seen in this light, the system is dynamic and 'living'.

By contrast, in many of the systems (co-)constructed by intervening agencies where serious problems arose in operation and management, a lack of correspondence and synchronization among the normative, organizational and infrastructural systems has been at the root of the problem, with consequences that are often disastrous for operation and maintenance. Irrigation interventions often, and most times unconsciously, break up this unity by establishing rigid, separate planning of infrastructure, organization and operational and distributive norms, based only on institutional timetables.

Increasingly, academic water control approaches also incorporate the ideas of social constructivism (particularly, social construction of technology⁵⁴), actor-oriented approaches⁵⁵ and actor-network theories⁵⁶ in their analytical framework.⁵⁷ Water control is gradually more conceptualized as a network of people, artifacts, financial means and texts (resources or 'intermediaries', Callon 1991, 1992) in which human actors in direct relation with nonhuman actants (Latour 1991, 1994) employ their strategies to materialize their interests by constructing or influencing particular physical and social relationships. As I detail in chapters 7 and 13, irrigation technology and irrigation artifact development and use, are not 'neutral' but mediated by human agency, social norms, practices and power relationships.

As follows from our irrigation system definition and the above interdisciplinary approaches, water control systems are complex sociotechnical systems that cannot be reduced to their respective (sets

54 E.g., Bijker et al. 1987; MacKenzie & Wajcman 1985; Mollinga & Mooij 1989; Mollinga 1998; Winner 1993.

55 E.g., Long 1989; Long & van der Ploeg 1989, 1995, Arce 1998; van der Zaag 1992.

56 E.g., Callon 1987, 1991, 1992; Latour 1987, 1991, 1994. See also Van der Ploeg 2003.

57 See also Ennugi 2003; Gutiérrez 2006; Kloezen and Mollinga 1992; Mollinga 1998; Rap 2004; Shah 2003; Van den Dries 2002; Zwarteveen 2006, Wester 2008. See also chapters 7 and 13.

of) elements. A comprehensive understanding of irrigation and water management realities requires addressing these elements simultaneously, and not in isolation or consecutively as is usually done.⁵⁸ Water flows in irrigation systems follow physical, agro-productive, normative, organizational, political and cultural canals and division structures. Therefore, their separation into domains is an analytical exercise, whereas in actual water control and rights practice they are strongly interrelated. Social relations among irrigators are partly shaped by, but also reflected in infrastructure, norms and institutions. Technical designs have ‘built-in’ social norms that structure, among others, the ways in which systems can be operated and maintained, the need for central control, and the ways in which water can be accessed and distributed. As such, water use technology both reflects and structures organizational forms, management norms, water rights and property relations. And inversely, management norms, water rights and property relations structure the design and use of water technology (Boelens et al. 2002; Zwartveen et al. 2005).

The La Estrella canal referred to in the first section provides a common example of how social relations and technical designs interact and mutually constitute each other in irrigation development and management practice. The building process itself exemplified two related societal constructions of that époque, the early 20th century.

First, the canal bears witness to the great location-specific knowledge and skills that were needed and applied to build the system: *art de la localité* in its most expressive form (Mendras 1970; van der Ploeg 1991).⁵⁹ Over the years and under constant improvement, different, interdependent, context-specific techniques were developed to face the severe challenges of the local Andean environment. Intimate knowledge of peculiarities of the local physical, climatological and ecological environment formed the basis of the endeavor to construct La Estrella. With just local materials, tools, labor power and skills, a canal was built with properties (slope, hydraulic sections, trajectory, structural design, biophysical protection works) that perfectly fitted the adverse local landscape.

Second, the canal and irrigation artifacts fit not just the local landscape, but also the prevailing social relations – power structures in particular. The canal construction process was a clear expression of feudal relationships in the Mollepata region. Imposed labor parties in the dangerous limestone mines, the treacherous job of cutting canal sections through huge rocks and steep slopes, and violently imposed faenas to build the intake in the ice-cold highlands, laid the foundation for the hacienda-controlled canal building. Not just the construction process, but also its results, reflected the unequal power relations. The new network of technological artifacts (canal sections, primary and secondary canals, outlet structures, trajectory of the main canal, etc.) clearly expressed the hacienda’s norms and interests regarding water rights allocation, almost entirely directing the flows to the hacienda domains. The 150 l/s flow was enough to water just the landlord’s sugarcane pampas, so the technology foresaw only some minor outlet points for the communities, who could make use of them for some scarce night irrigation shifts only. Feudal relations and unequal water rights allocation were basic, in Latourian terms, to the ‘moralization’ of the irrigation artifacts (see chapters 7 and 13). Clearly, although irrigation technology was not a ‘neutral object’, the hacienda built-in

58 “Interdisciplinarity cannot be achieved by just ‘adding on’ the different bodies of thought. These all bear clear traces of their disciplinary origins and use incompatible languages, resulting in non-matching types of information and in projects that are sub-divided into separate disciplinary chapters or sections. Interdisciplinarity refers to a simultaneous analysis of the technical-ecological and social aspects of water realities, as different but internally related dimensions” (Zwartveen et al. 2005:261-262. Cf. Artifacts 1990; Bolding et al. 2000; Mollinga 1998; Roth 2003; Shah 2003; Ubels and Horst 1993; Vincent 1997; van der Zaag 1992).

59 Henri Mendras (1970:52) speaks of the complex, contextualized and gradually developed system with “structured, reciprocal ties that link the agronomical knowledge of a society with the implements and techniques at its disposal, its natural environment and the structures of society itself”. See also Van der Ploeg (1991), Berger (1992), Van den Dries (2002).

norms and ‘requirements for use’ (which make up the ‘manual for usage’) depend on human action to emerge. Thus, a top-down organization was set up and hacienda water guards were appointed to protect the canal not just ‘against nature’ but also ‘against the people’. Communities were designed and forced to be ‘canal vigilance labor organizations’, apart from their overburdened hacienda labor tasks. The technical and social network formed an intertwined complex, and its internal coherence gave it the properties of a system. In this way, for decades, the emergent properties of the technology supported and coincided with the water control interests of the hacienda, strengthening its power and control over production and over local communities. But, as I have elaborated in the first section, after Agrarian Reform, communities collectively challenged the prescriptions of hacienda artifacts. This rehabilitation process took over 6 years, after which they had succeeded in changing the technology’s code and altering the sociotechnical irrigation network – thereby showing that the requirements for use and distributive norms embedded in the technology do not deterministically prescribe the emergent properties of irrigation artifacts.⁶⁰ Aside from changing the water rules and rights (now including all the families, see chapter 2) and embedding them in an entirely new, inter-community organizational structure for operation and maintenance (see section 3.1. and 4.2.), also many artifacts were adapted; e.g., the intake was enlarged and made less labor-intensive, the canal section was augmented to conduct a larger flow, the slabs and biophysical works replaced the most burdensome faena-inputs, etc., but most importantly, the concept of a (basically) single canal / single hacienda-outlet was replaced by a canal system in which a large number of structures (*rapidas*, regulators, boxes, gates, etc.) made it possible to provide water to multiple outlets feeding a large number of secondary and tertiary canals that water the fields of all joining communities and families (see also chapter 4 and 10). So, the network could be changed according to new power structures and social forces, and the technology and its organization were now oriented towards the new water allocation principles agreed upon among the four communities.⁶¹

In sum, techniques and water flows are shaped and structured by the societal context, its power structures and human interactions. And in turn, the norms embedded in and emergent properties of irrigation techniques co-structure organizational, legal, cultural and political relations in water control society.

The Order of Things

When considering the construction and use of conceptual, interdisciplinary frameworks to analyze (or develop and promote) forms and processes of water rights and control, three additional observations deserve attention:

First, whatever the components of such an interdisciplinary framework, very often such models become truths in themselves, as if they could *truly* represent water control. Instead of seeing them as ways to explain water control from a particular theoretical angle, as an abstraction from reality, or as a conceptualization of complexity by using (collectively accepted or paradigm-bound) conventions, often the social and political construction of the approach or model itself is veiled. When models for

⁶⁰ Clearly, this technological change process goes further than what Pinch and Bijker (in Bijker et al. 1987:40) called “interpretive flexibility” whereby the same technology is interpreted differently by different human agents. In chapter 13, I will characterize the process as ‘remoralization’ in line with Latour’s concept of the ‘moralization of technology’.

⁶¹ Basic new principles were proportional sharing among the communities, and equal rights for all participating families. Adaptations were made in later stages, in a second system development phase (field notes 2004).

explaining water control come to be seen as ‘real’ instead of entrances to ‘imagine the real’, the assumptions and conventions built into the model or framework generally remain hidden and unquestioned. Since water management analysis and its transformation into water policies are inherently political and contested, this masking of the fact that models for water control explanation are built on particular conventions gives (intentionally or not) great power to the model-makers. And since the ‘naturalized’ (and de-politicized) models and approaches are closely equated with reality and truth itself, they become ‘truth-makers’. In the field of water management, this does not apply to just the fiercely growing and very powerful ‘inter-discipline’ of hydro-geographical model makers. Other interdisciplinary approaches and models also tend to lead to objectification and naturalization, often through uncritical, universalistic application by water researchers and policy-makers (for example, the ‘8-design-principles’ approach of Ostrom, 1992). Similarly, chapter 9 elaborates on how neoliberal water policy models in the Andes are built on naturalized conventions and (neo-institutional) truths. Indeed, current political discourses that interpret reality with veiled ideological and scientific conventions and thereupon promote particular sociotechnical change closely resemble and largely replace ancient mythological constructions of truth and reality.

Second, there is the question of which elements, concepts, and inter-relations are to form part of the conceptual framework, how to arrive at these components, how to order them, and who should do the ordering. It follows from the above that conceptualization and categorization are not based on ‘truth’ or ‘objectivity’ but on conventions – cultural, ideological, scientific and/or others. Many of the ideologically inspired approaches to the current fashion of IWRM (Integrated Water Resource Management) tend to omit this consideration. Generally, despite a powerful discourse that claims ‘world consensus’ on IWRM, many and divergent are the answers to the questions of ‘*what* should be integrated?’ or ‘*how* should ‘it’ be integrated?’, and the question remains hidden of ‘*who* should do the integration?’ (see chapter 10). In other words, formulation of the relevant concepts, domains, disciplines, actors, objects, their relations, and the way they dynamically link to water control is, in itself, a process of constructing particular truths and conventions that aims to serve the particular analytical (and some times strategic-political) purposes of ‘the framer’.

Some stunning, clarifying examples were provided by Jorge Luis Borges (1942) in his essay “El idioma analítico de John Wilkins”. Borges playfully analyzes three taxonomies: one that, as a ‘universal analytical language’, was developed by Wilkins in the 17th century, which would organize and cover all human ideas. It divided the world into 40 categories; these were subdivided into differences and these were further subdivided into species.⁶² Another one was set up by the Bibliographic Institute of Brussels and is seemingly chaotic to any person outside the group that developed it.⁶³ A third one is taken from the “unknown (or apocryphal) Chinese encyclopedia” entitled *Celestial Emporium of Benevolent Knowledge*. It got world fame when Foucault referred to it when opening his book *The Order of Things* (“This book first arose out of a passage in Borges, out of the laughter that shattered, as I read the passage, all the familiar landmarks of my thought – *our* thought, the thought

62 In: “An Essay towards a Real Character and a Philosophical Language” by John Wilkins (1668), quoted in Borges’ essay “El idioma analítico de John Wilkins” (published in “La Nación”, February 1942, also in the volume *Otras Inquisiciones*, 1949).

63 “The Bibliographic Institute of Brussels [...] has divided the universe into 1000 subdivisions, from which number 262 is the Pope; number 282, the Roman Catholic Church; 263, the Day of the Lord; 268 Sunday schools; 298, Mormonism; and number 294, Brahmanism, Buddhism, Shintoism and Taoism. It doesn’t reject heterogeneous subdivisions as, for example, 179: “Cruelty towards animals. Protection of Animals. Moral implications of dueling and suicide. ...” (Borges 1942:3)

that bears the stamp of our age and our geography – breaking up all the ordered surfaces and all the planes with which we are accustomed to tame the wild profusion of existing things...” (Foucault 1994 (1966): xvii). Borges quotes the Chinese encyclopedia:

“In its remote pages it is written that animals are divided into: (a) belonging to the Emperor, (b) embalmed, (c) tame, (d) sucking pigs, (e) sirens, (f) fabled, (g) stray dogs, (h) included in the present classification, (i) frenzied, (j) innumerable, (k) drawn with a very fine camelhair brush, (l) et cetera, (m) having just broken the water pitcher, (n) that from a long way off look like flies.” (Ibid: 3)

Borges takes a pragmatic approach to the arbitrariness and impossibility of finding universal schemes and frames for analyzing and describing reality. “...it is clear that there is no classification of the universe that is not arbitrary and full of conjectures. The reason for this is very simple: we do not know what the universe is.[...] The impossibility of penetrating the divine scheme of the universe cannot stop us from planning human schemes, even though we are aware that they are provisional” (Borges 1942:3). Foucault uses the Borgesian joke to analyze, first, how not the strangeness of the individual categories, but the impossibility of the classification system itself is at the heart of the matter – the mode of categorizing is unimaginable.⁶⁴ Second, he shows how our mindset is determined by existing epistemes and systems of rationality, and how entirely other regimes of ordering knowledge and truth *could* exist.⁶⁵ “In the wonderment of this taxonomy, the thing we apprehend in one great leap, the thing that this fable demonstrates as the exotic charm of another system of thought, is the limitation of our own, the stark impossibility of thinking that.” (Foucault 1994: xvii). As he emphasizes, particularly in later writings (e.g. ‘Discipline and Punish’), dominant power/knowledge regimes aim at preventing or obliterating alternative ways of thinking and acting. As such, the analysis of existing irrigation and water rights ontologies and taxonomies reveals much of what particular institutions and interest groups value, and Borges and Foucault intend to show that therefore, necessarily, we have to call into question our own modes of categorizing, organizing and conceptualizing - and the powers that support their definition.

Thus, the struggle to establish, demystify and transform water ontologies and frames of ‘water order’ is at the heart of the struggle for water control. And this does not just relate to water control taxonomies (which are simple forms of ontologies) and ontologies themselves (which are explicit expressions and specifications of shared conceptualization), but also to the water control *discourses* which, in line with Foucault, go further than signs, words, language, meaning and conceptualizations but include material, sociotechnical *practice*: the strategic positioning of actors, material tools, artifacts, etc. that sustain and strengthen particular combinations of power, knowledge and truth (see chapter 1).⁶⁶

64 For example, Foucault turned the peculiarity of the Borgesian taxonomy upside down: “Each of these strange categories can be assigned a precise meaning and a demonstrable content [...] It is not the ‘fabled’ animals that are impossible, since they are designated as such, but the narrowness of the distance separating them from (and juxtaposing them to) the stray dogs, or the animals that from a long way off look like flies. What transgresses the boundaries of all imagination, of all possible thought, is simply that alphabetical series (a, b, c, d) which links each of those categories to all the others” (Foucault 1994(1966):xviii).

65 Interestingly, Foucault did not mention that Borges’ quote was fictitious (or at least ‘apocryphal’) which led cultural relativists (even Marshall Sahlins) to erroneously claim that the Chinese encyclopedia was *actual proof* of other cultures’ distinct rationality.

66 As the ‘later’ Foucault and authors as Latour show, the great weakness of many postmodern (and ‘discourse’) thinkers is the autonomy these give to language systems as discursive creators of reality without relating it to actual practice, techniques, and things (Cf. Achterhuis 1998). Paraphrasing Latour (1994: 94), the water world, irrigation systems, artifacts,

A third observation on interdisciplinary water management conceptual frameworks directly relates to the above two: since it follows that not just actual water management or water policy-making but also the act of conceptualizing water rights and establishing ‘irrigation taxonomies and ontologies’ – the way water control is thought of and talked about – can be considered as a social and political activity, choices need to be made explicit where possible. Such activity is embedded in a social context, and often is a collective endeavor. As we have stated elsewhere (Boelens et al. 2002; Zwartveen et al. 2005), the selection and combination of the concepts chosen partly reflects a shared wish and effort to recognize and work toward practices of social justice, democracy and equity in water control. “This is why we have opted for an approach that allows explicit analysis of social power relations, and positions human actors (water users, water managers, etc.) and their practices at the core of the analysis, in contrast to approaches that treat human actors as merely functional or instrumental for achieving objectives formulated by engineers, economists or environmentalists” (Boelens, Roth and Zwartveen 2002:142).⁶⁷

Next, the choice and classification of concepts and their interrelations is necessarily provisional; they do not represent the *nature* of water control or water users’ perceptions, but my own intentions ‘to tame the wild profusion of existing things’ (thereby focusing particularly on water rights). They aim to serve my particular analytical purposes and reflect part of my background, interests, knowledge, analytical skills and field experiences.

These issues lead me to question the universalistic conceptualization and mono-dimensional categorization of water rights, even in interdisciplinary water control frameworks, that commonly tend to place water rights in ‘the legal domain’, approach them as just the ‘socio-legal dimension’, or restrict their conceptualization to ‘the normative elements’. Moreover, as I have analyzed in chapter 2, despite the enormous variety of space- and time-specific properties and definitions of ‘water rights’, most approaches (and policies) typically analyze the concept as a ‘black box’ with universal definitions, rather than as contextually composed, complex bundles. Often, it is not the categories or concepts as such that make alternative analysis difficult or impossible, but the boundaries that divide categories and obscure trans-boundary linkages and a more ‘realistic’ or adequate perception.⁶⁸ Water rights conceptualization (see chapter 2) is to be ‘traced in’ and encompasses multiple domains – interlinked thematic fields of knowledge, conceptualization and interpretation, mutually constituting each other⁶⁹:

The *socio-legal domain* focuses particularly on the contextualized constructs of water rights and property relations: definitions of water rights contents, associated privileges, obligations and sanctions, operational norms and rules, the accepted mechanisms to acquire, materializing and upholding rights, agreements on procedures to come to new rules and rights and establish authorities, etc. Important here is the fact that water rights are an expression of agreement about the legitimacy of the right holders’ claim to water and water-related decision-making. This agreement is intimately linked

water users and organizations cannot be reduced to just narratives, texts or words.

67 See also Mollinga 1998; Roth 2003; Vincent 1997; Zwartveen 2006, and more in general, the above-mentioned writings of my colleagues at the IWE chair group at Wageningen University.

68 In modern science, commonly, these water ‘domains’ have been ‘dominated’ (demarcated and encroached) by scientific disciplines that separated them, in order to produce water truth claims, backed by the disciplines’ own system of valuing, codes of esteem and norms of correctness, and sustained by each discipline’s methods of categorization, comparison and judgment. Vernacular combinations of these water control domains, on the contrary, can be analyzed as ‘non-dominant’ ways of water knowledge and truth production. Although obviously bound by power mechanisms and societal interaction, judging their soundness does not rely on the approval by dominant knowledge systems.

69 And, accordingly, which have proven useful for my own analytical efforts.

to social relations of authority and power, and can be based on a variety of grounds. As elaborated on in chapter 2, since water rights in Andean irrigation systems exist in conditions of legal pluralism where rules and principles of different origin and legitimization co-exist in the same locality, constructions of water rights are often hybrid.

The *technical and biophysical domain* of water rights relates to the need to have or acquire adequate means to actually take water from a source and convey it to its destiny, considering the location-specific physical, climatic and ecological opportunities and constraints. Infrastructure (such as intakes, canals, outlets, division boxes, and biophysical protection structures), when adapted to the ecological and hydrological setting, enables the actual use of water rights, or otherwise may make them impossible to exercise. Having the legal possibility (and social power) to take water in itself is meaningless without the necessary irrigation facilities, artifacts and technical and agro-productive skills.

The *organizational domain* centers around the need to manage the planning, organization and monitoring of water turns and the operation of infrastructure, as well as mobilizing resources and organizing decision-making. To materialize water rights requires adequate organization of labor and resources to operate and maintain the technology, distribute the water, direct and organize water users' behavior, implement collectively required rules and rights, keep records of contribution, and penalize non-compliance. Therefore, the collective capacity to access and mobilize inter-human and inter-institutional relationships is central. In Andean community systems, having a right to water often goes accompanied with the right-holders' possibility to participate in system operation and management and with a number of duties and obligations established by users collectively.

The *political-economic domain* of water rights provides insight into how the allocation and distribution of this powerful resource takes place, and sheds light on the distribution of decision-making power in water control: water rights bundles relate to both water access rights and decision-making rights. The distribution of water rights (allocation) reflects economic, political and discursive power structures, and simultaneously, it is an important foundation for reproducing this power since power structures significantly contribute to shaping water rights' contents and defining how they can be acquired. To what degree are actors able to structure water control and define, allocate and enforce water rights according to their needs and objectives?

The *cultural-metaphysical domain*, then, focuses on how rules, rights and duties attached to water are closely linked to cultural systems of meanings, symbols, and values. As I have shown, particularly in many user-controlled systems, water allocation and distribution are deeply embedded in local, historical institutions and networks of both human and supernatural actors and powers that (are seen to) influence and define water control. Supernatural authority often reinforces the legitimacy of particular human authority and action, and symbolic and metaphysical power to control water and regulate water users' behavior may be mobilized both unconsciously and with clear practical (e.g. agro-productive or political) purposes. Often, metaphysical water rights concepts include all kinds of non-water related rights and duties, and inform locally particular forms of organization.

The cultural and political domains of water rights significantly address the question of legitimacy regarding actors' inclusion in and exclusion from irrigation water use and decision-making processes – in the eyes of 'insiders' and 'outsiders'. It is in this sense that water rights embody sociotechnical power relations: water rights are intimately linked to the existing social and cultural organization and relations of authority and power, while the process of defining, imposing, defending, disputing or internalizing 'water norms' involves technical tools and managerial capacities – a process in which both technology and human labor organization is shaped or 'moralized'.

In a 'functional' schematic representation of irrigation water control, the above triangle of interacting infrastructural, normative, and organizational core elements takes shape and also shapes the agro-productive water use strategies of user families and groups. These elements may be analyzed as functionally interrelated cornerstones of irrigation systems in which humans orient their labor process. Often, they are the most tangible, 'practical' elements in efforts to construct or rehabilitate irrigation systems and improve water practices. The 'embedding' domains provide context and contents to the social arena⁷⁰ of local water control society; they give shape to and are being influenced by technological, organizational and socio-legal elements and their interaction. Obviously, these 'functional' properties are relative and not restricted to just the latter three.⁷¹

Although analysis of water control and water rights in irrigation systems is the central focus of my research, not just distinct systems but also various hydrological and administrative-political levels of water control importantly relate to each other: there is strong mutual influence and interdependency among water rights, management and distribution at irrigated field and household level, the various intra-system levels (tertiary, secondary, main), and broader watershed and (inter)national basin levels. The actual manifestation of such relationships and interactions differs not only by place but also in time.

3.4. Practice, power and process

A major weakness and fundamental characteristic of most influential approaches to 'water project development' and water law and policy-making is the assumption that they can be built by prescribed recipes and that their implementation in practice would follow a linear process, with pre-established contents and project stages. They are based on the myth of engineering water societies, whereby the rational formulation and proclamation of 'best rules, rights and organizational forms' sustaining 'technically optimal infrastructure', designed and implemented in phases that can be neatly planned, will lead automatically to predictable 'best outcomes' (Clay and Schaffer 1984; Long and van der Ploeg 1989, 1995). According to this approach, the State, market and/or intervening development institution would be the over-arching regulator of this rationally optimal 'should-be-and-thus-will-be' process. Mediation of this process by diverse water control interest groups is disregarded and human agents' maneuvering room in the actual practice of designing and managing water control systems is denied or underestimated (Cf. Giddens 1984, 1995; Van der Ploeg 2003). Despite the important impacts that these planning processes do provoke in Andean water control practice (see chapters 7,

70 Different from the concept of 'domain' I reserve the term '*social arena*' for a particular time- and place-bound water control setting where the interaction among domains gets its concrete social and material form: here, sociotechnical constructs are created and recreated, strengthened and/or transformed, involving human actors, their interests, resources, artifacts, strategies, power relations, and their rules, rights and institutional relationships. At the heart of each particular irrigation arena is the context-specific interaction among the three irrigation system core elements within which actors develop their agro-productive water use strategies. These social arenas interact with the structures and forces of broader society.

71 For example, political power of local water users or managers often has direct, immediate consequences for water flow direction, size and timing, and decisive influence on the constitution of irrigation technology, organizational decision-making and rights strategies. In the same way, cultural and metaphysical beliefs and rites tend to have direct 'practical functionality' in water control. Conversely, other socio-legal, organizational and technological domain properties do not necessarily have direct practical influence in water control. For example, the national water law, the organizational structure of the national irrigation sector, and technological recipes and designs for irrigation infrastructure development may pertain to the societal context but their impact may be indirect or relatively limited.

8, 9 and 10), they generally do not proceed according to these conscious, linear rationalities (Cf. Long and van der Ploeg 1989). Water control is given its actual shape ('restructured') by diverse, divergent 'knowledgeable, capable actors' (Giddens 1984; Long 1989) who challenge social, legal and technological engineering assumptions.

The need to unmask and deconstruct the myth of social and legal engineering and linear planning policies was powerfully illustrated by the nation-wide uprisings of indigenous and popular movements who protested against the last decades' new 'efficient and rational' water policies based on neo-liberal planning in Ecuador, Peru and Bolivia. The unforeseen 'Water Wars' between peasant and indigenous communities and the State in Bolivia in 2000 and 2002 not just prevented the enacting of new neo-liberal legislation, they also forced the State to accept a new Irrigation Law that included many popular demands (see Bustamante 2005, Boelens et al. 2005). The peasant and indigenous movement in Ecuador likewise organized several massive strikes and marches that paralyzed the entire country for weeks, in order to alter new agrarian legislation, and they effectively halted the imposition of water rights privatization according to the Chilean model (see chapter 9 and 12). Sudden protests by Peruvian peasant organizations, to block neo-liberal legislative change in the water sector, took the country by surprise. The process of mediating, transforming or breaking water policies takes place not only at the national level, but also at the local levels of watersheds, irrigation systems and households.

The fact that water is a politically contested resource and water rights constitute a power relationship means that day-to-day water use, concrete management practices, and policy formulation and implementation result from ongoing processes of struggle and negotiation among diverse players, often with different faculties and rights. Water rights definition and distribution are not the exclusive realm of 'conscious, rational' planners and authorities, but part and parcel of wider socio-economic processes and political battles. Existing social relations of power will shape (and are, in turn, shaped by) the form and outcomes of negotiation processes.

Obviously, this capacity for mediating policies is not a property of just the marginalized water use sectors who confront supposedly rational water planning processes. Powerful interest groups, also know, even better, how to influence 'neutral' irrigation planning and water rights allocation. They are even able to use the very arguments of efficiency and rationality to defend their often extremely inefficient water use performances and rights monopolization practices. For example, formal water policies and legislation in Ecuador are based on the principles that State irrigation intervention should promote 'rational water use' and that users should benefit from public investment according to 'justice and equality'. Most irrigation projects implemented in the last decades were justified on the premise that they were to contribute particularly to the resource-poorest farmers (Whitaker 1996: 268). In reality, powerful enterprises and landlords have been able to dramatically divert water policies and irrigation investment, and water rights allocation is enormously skewed towards benefiting a small minority, enabled to squander water and public resources. According to Galárraga-Sánchez (2000), today, 88 % of small farmers (*minifundistas*) have access rights to only 6 to 20 % of available water, while *hacienda* owners (1 to 4 % of the irrigator population) hold rights to 50-60 % of the water. This unequal distribution is not just for historical reasons of colonial occupation and encroachment upon peasant and indigenous communities' water rights by *encomiendas* and *haciendas*. Contemporary State intervention

programs have largely contributed to this. Popular belief that public systems have principally benefited small farmers is a myth, as Whitaker observed. According to his study (1994), peasant and indigenous farmers with less than 1 hectare – who grow most of Ecuador’s food supply – account for 60% of all farmers, but received only 13 % of the benefits of State spending on irrigation. At the same time, large landowners represent only 6 % of all farmers, and received 41% of the benefits of State spending on irrigation (see also WALIR 2003). As we have seen in chapter 2, the public has financed all this since State irrigation investment in Ecuador is a large percentage of total foreign debt (Whitaker 1994, 1996; Cremers et al. 2005; WALIR 2003).

Thus, rather than analyzing water policies as transparent, rationally formulated sets of prescriptive recipes, water policy-making and its implementation constitute complex political processes involving formal and informal arguments, democratic and veiled decision-making procedures, and fierce contestation and negotiation among actors with different power positions. Contestation and contingencies commonly lead to adaptation or entire transformation of the legal, policy and intervention projects and to unexpected outcomes in which different water user and non-user groups ‘make their own projects’ (see also Benda-Beckmann et al. 1989; Long & Van der Ploeg 1989).

Again, in order to imagine the *real*, it is necessary to understand what water control practices, water development and water rights actually *are*, rather than simply and solely prescribing what they *should be*. In the same way, water rights also need be analyzed as both process and practice. To understand water control, it is not enough to just look at the legal status of right-holders and make a simple categorization between haves and have-nots. Nor is it sufficient to consider just official water (re)allocation policies. In line with Giddens (1976:102), a water control society is a skilled accomplishment of its members, which emerges through human practices (“regularized types of acts”, Giddens 1976:75. Cf. Mollinga 1998; Roth et al. 2005; Zwarteveen 2006). An understanding of actual water use and distribution practices, including the different norms and discourses that groups of users refer to when claiming water is required.

A sociotechnical approach to the complexity of water rights including their multi-faceted, dynamic (or transformative) properties, as well as their multi-domain nature and the way technical, organizational and normative elements of user-controlled irrigation systems interact, provides important fundamentals to analyze Andean water property relations in their particular context. Moreover, conceptualizing water rights’ contested character (power, control), and taking practice and process as points of departure, offers important insights in the struggle for water rights definition, distribution and acquisition, and how these rights reflect, structure, and are structured by processes of socio-political control, policy- and law-making. Together, they provide the tools and framework to analyze relationships between water rights and the fundamental issues of social justice, equity and democracy.

PART 2

ANDEAN COMMUNITIES AND WATER POLICIES: A CONTEXTUALIZATION



As in other times, the varayok' mayors divide up the irrigation turns, each in his own ayllu... How many times the mistis would go to the distribution place and whip the varayok's into jail! But while the varayok' mayors would be behind bars, the four ayllus would stir into action: Indians from K'ayau, from K'ollana, from Pichk'achurri, from Chaupi, went around notifying each house. From Makulirumi Rock they would trumpet with their wakawak'ras. Puquio was quiet, silent, like on a dark night.

The mistis would fire into the air in every street; in all the streets they would get drunk and threaten the community members. They would push into one house, into another; they would kick the children, leaving the Indians with bloodied mouths, noses, foreheads.

"It doesn't matter!"

"Do mistis know how to irrigate? ... Who would build the water intakes, who would dig the ditches, who would mend the division structures, who would fix the gates, when the flow rises in January and February, when the flooding rushes down from all the mountainsides and wipes out the canals, filling them with stones, clogging the intakes with sand and champas of sod?

... The Puquios knew that.

Then the mistis would get humble. They would cry with rage inwardly, but they would get cane liquor from all the shops and try to tempt the varayok's, the elders. They would go to the ayllus, each according to their properties, and they would come into the houses speaking sweetly, offering their friendship

chapter 4

EMBEDDING IRRIGATION MANAGEMENT IN THE ANDEAN PEASANT ECONOMY

IN WHICH I will highlight how water rights and water control in the Andean highlands can be understood only in relation to local communities' dynamic livelihood strategies and the broader power structures in which they are embedded. For this purpose, it is urgent to de-mystify some obstinate, romantic representations of overall, agro-ecological farmer rationality on which water control systems presumably would be based. To deepen the historical background and contextualize water control and rights development in peasant communities, the voyage through the Andean highlands continues with a focus on the processes of integration and disintegration of water user communities in so-called vertical Andean economies. Next, while recognizing that just the functional structures and formalized arrangements cannot explain actual system performance and water users' behavior, I will illuminate some fundamental aspects of Andean irrigation organizations, their roles and their tasks. This provides a background and passageway to understand, in the next trail, how current practices of community water control are embedded in local livelihoods and subsistence economies, with their particular strategies and rationalities. I will thereby position this Andean peasant economy as well as the irrigators' communities within the ongoing tug-of-war between the spheres of 'community' and 'commodity'. This will also serve as an introduction to later chapters in which I analyze how community water control often plays a major role as the backbone of 'community resistance' to externally normed management, privatization and commoditization of the resource. Next, we move to the fierce and fascinating debate on 'community', the efforts that have been made to conceptualize this fundamental form of organization, production and reproduction in the Andean region, and the way the concept has been critiqued and deconstructed. Practice shows to be more stubborn than most of the teachings of these academic schools. The last part of this chapter's travel makes use of an Ecuadorian case illustration to show how Andean water-use communities build locally specific water cultures and hydraulic identities linked to the collective demand for water and the control of their common property resource. The central, ambiguous notion of reciprocity will therefore be explored, as a concept that enables both mutual subsistence support strategies and relationships of masked exploitation.

Question: How are Andean water rights embedded in (inter-)community control structures, local livelihood strategies and water society context?

4.1. Introduction: the rationality underlying irrationally inverted agro-ecology

Traveling through Chimborazo Province in Ecuador, along its major rivers that flow down to the Amazon, or going upstream to the highland villages where small creeks receive water from the impressive snow-capped Mt. Chimborazo,¹ many small-scale irrigation systems dot the landscape. During my Wageningen lectures I use to show the students slides of some typical systems and the way they are a built-in part of the local agro-ecological context. The students' task is then to discover the 'social norms embedded in technology' (chapter 3) or, in line with Geertz' interpretive anthropology and his observation that irrigation systems are "texts to be read" (1980:13)², read these 'texts' between the lines. And the 'lines' are marked sharply: the main canal cuts through the landscape, often leaving a multitude of dry, small parcels on the steep slopes above and a wide-ranging, green pasture just below the water line. The canal irrigates the relatively flat *pampa* where extensive cattle-grazing is practiced. What kind of land-use pattern and rationality can be distilled from the images?

First, rather mechanically, students tend to point at the 'great local skills', 'indigenous knowledge', and 'culturally embedded production practices' (*art de la localit e*) that were to be found in the pictures – surely because these ideas are omnipresent in literature about the Andean peasant and indigenous communities. But soon some students refer to the apparent *irrationality* of land-use in the system: clearly, the steep slopes are used to cultivate very intensively, resulting in over-cropping of the land and degeneration of the soil. Instead of the so oft-mentioned 'harmonious relationship of indigenous peasants with Mother Earth' these same peasants were actively producing erosion hazards, clearly visible to any observer. At the same time, the large fertile valley bottom is used for extensive grazing while it could perfectly serve to practice intensive cropping without causing any erosion or soil degeneration. The deep, black soil of the valley bottom and its numerous micro climates would be suited to grow a great variety of crops and increase productivity, boosting overall food security and local livelihoods. But the pictures showed the contrary: an astonishing underutilization of the agricultural potential of valley lands.

In order to move toward an explanation, or the reason behind this apparent 'irrationally inverted agro-ecology', students were asked to look behind the picturesque images. Here, in the same way as they had learned to 'decipher' irrigation infrastructure that expresses the social norms regarding the operational tasks and distribution of benefits, students realized that they could 'read' human-made landscapes that express the social and political order. Generally, power structures are manifested in Andean land- and waterscapes, and land and water use patterns do not necessarily heed criteria of 'optimal productive efficiency' or reflect 'peasant backwardness', nor are they commonly based on equitable 'indigenous knowledge and world views'. Instead, they show how naive such analyses can be, and highlight the simplicity of many powerful contemporary land use approaches and 'Andean' counter-approaches. Some of the students now quickly observed the power-based reason for this agro-ecological irrationality: the historical process of expropriation. In this regard, Jos e Mar a Arguedas' description of this process, as laid down in his novel *Todas las Sangres*, is exemplary for most local communities and their irrigation systems.

1 Mt. Chimborazo is Ecuador's highest peak, surrounded by smaller volcanoes. When measured from the ('objective') center of our planet, it is also the world's highest mountain peak.

2 See also the way Gelles (2000:7) applied Geertz' notion, analyzing Peruvian irrigation systems "as vehicles for both water and meaning, existing through the cultural ideas and social organization invested in them".

“The peasants were driven further and further up, and not only the servants but also the free communities. Good irrigated land; beautiful, fertile valleys and gentle mountain slopes along the ancient valleys; there, where the Incas built terrace gardens; the good land was occupied by the masters. Communities got the dry, barren land and, as the Indians tamed this wild land, irrigated it or cultivated it, timing their crops to the variable rainfall; the hacienda owners would push them even higher, and spread their own plantation boundaries, just the way they liked it.” (Arguedas, 1980(1964): 32-33)

Water conduct and distribution canals have carved the relations among dominators and dominated in the Andean landscape. In the next chapters I will highlight some central aspects of bonds between the indigenous peasantry and landlords (*gamonales*) that have characterized production relations in most highlands regions in past decades. Here, land and water rights encroachment are fundamental to understand the *inversion of logic* and the *production of agricultural irrationality*.³

Both Peru and Ecuador have gone through an Agrarian Reform period in which large land holdings and water rights have been re-distributed. Particularly in Peru this has changed land and water property relations, to some extent to the benefit of various groups of small-holders and peasant communities, but simultaneously re-concentrating land in the hands of a minority of well-to-do owners.⁴ In the Ecuadorian Andes the Agrarian Reform period had only slight impact: highly unequal land and water tenure is still the agrarian structure’s fundamental feature. In both countries the contradictions are huge.⁵

Illustrations such as above show that the logic of water control in peasant and indigenous societies, though embedded in the local agro-ecological and (re)productive system, cannot be understood without a broader analysis, since it is tightly interwoven in the local, national and even international agrarian structure. Wolf’s classic definition of ‘peasants’ is still useful, despite its rural, essentialist bias and the rightful critiques for not being adapted to the current era of rapid globalization, social complexity and peasants’ ‘fluid, multiple identities’⁶: “Peasants [...] are rural cultivators whose surpluses are transferred to a dominant group of rulers who use the surpluses both to underwrite their own standard of living and to distribute the remainder to groups in society who do not farm but must be fed for their specific goods and services in turn” (Wolf 1966: 3-4).

Power structures and institutional arrangements from the local to the global level usually provide

3 Van der Ploeg, in his book on the struggle for land and water in Catacaos, Peru, comes to a similar conclusion: “Not only do *peasants without land* unceasingly reflect this *gamonalismo* exploitation, but also *land without peasants* – systematic under-utilization of agrarian potential, arising as a phenomenon that highlights at all times, in practice, the absurdity and cruelty of ‘ongoing thievery’.” (Van der Ploeg 2006:133).

4 See chapter 5 and Oré 1998, 2005; Mayer 2002; Guevara 1993, 2006; Van der Ploeg 2006.

5 For example, in Ecuador, 3 % of the farmers (those who own more than 100 has) possess 42 % of the land (Sexton 2002: 48); in Peru 5 % (those who own more than 30 has) possess 82 % of the land, and 26 % of the cultivated land. Small-holders with less than 3 has (55% of the farmers) own only 3 % of the land (Censo Nac. Agr. III, 1994). There are no precise figures about systems managed by peasant and indigenous communities in the Andean countries. In Bolivia, estimates range from 5750 (Hendriks 2004) to 4725 (Gutiérrez 2006) farmer-managed systems, irrigating approx. 230,000 ha (Gutiérrez 2006). In Ecuador, some 850,000 ha are irrigated, of which approx. 200,000 ha by State-managed systems (Zapatta & Gasselin 2005); some 320,000 ha are under community control (Ruf & Mathieu 2001) through some 2000 common property systems (CAMAREN, in Hendriks et al. 2003); the rest (and most productive land) is under private control. In Peru, out of a total irrigated area of 1.73 million ha, some 811,000 ha are located in the highlands (Vos 2006). A (large but not detailed) part of this latter area is under control of Andean communities.

6 For a good overview and also critiques of Wolf’s “peasant essentialism”, see Kearney 1996 and Ouweneel 1993. In his later work ‘*Europe and the People without History*’ (1982), Wolf corrects this binary opposition (traditional/modern, subsistence/market, use value producers/exchange value producers, etc.) and corresponding dualist functionalism. See also Wolf 1986.

obstacles and opportunities for users, shaping their irrigation and production system. Figure 4.1 schematically presents a water user family's interactions with various water control levels, agro-productive conditions and societal structures, which condition their decision-making regarding irrigation and the (re)production process. Each water user, family and community makes use of and extends these spaces in a different way; the logic of production and resulting achievements depend on the socio-economic starting point, practical opportunities, vision and capacities.

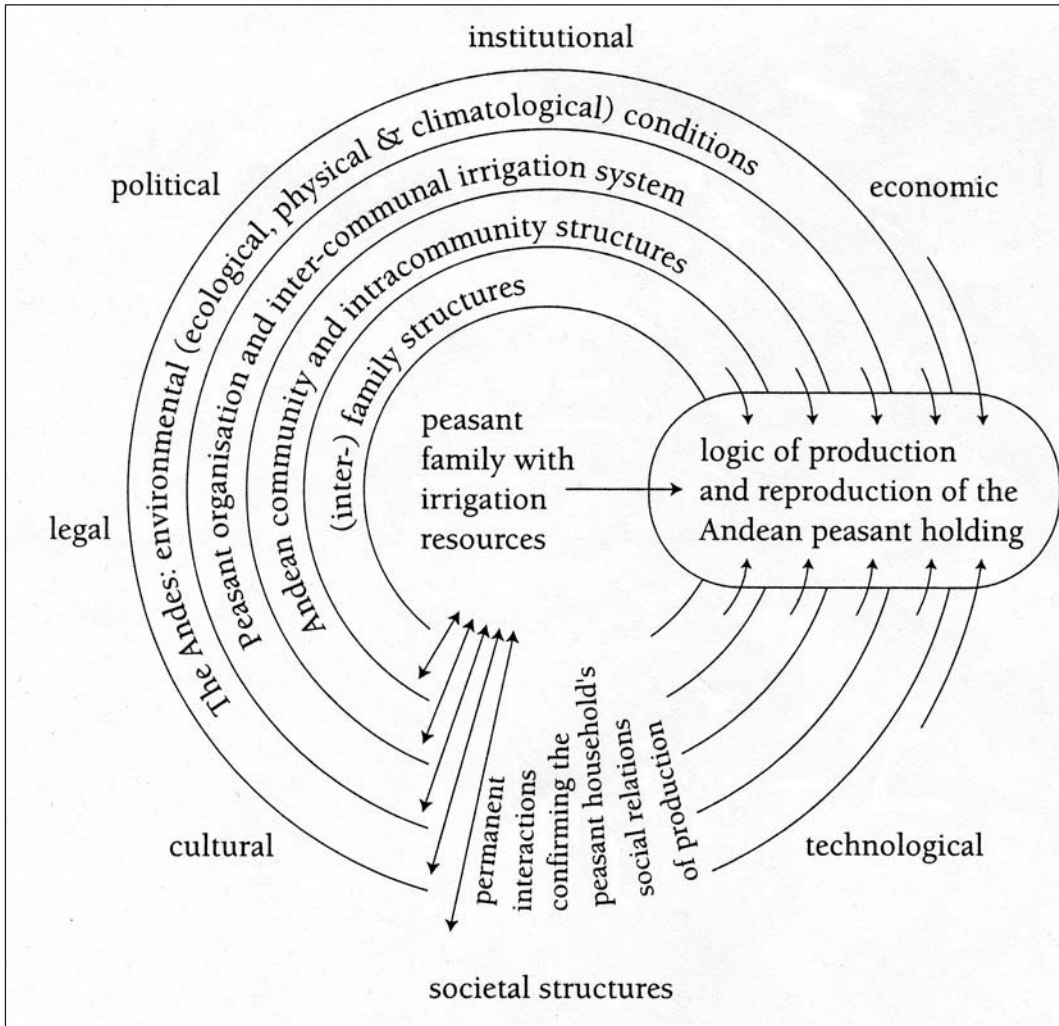


Figure 4.1: Diagram: Irrigator family and multiple levels of organizational control / societal interaction
 Source: own elaboration

In order to contextualize water rights and control in Andean communities and watersheds, it is useful to have a look at the historical background of their integration into so-called vertical economies.

4.2. Agro-ecology and social relationships: Andean irrigation and vertical economies

A walk along the main canal

Every visitor walking down a common Andean irrigation canal, such as the Guarguallá canal in Licto, Ecuador, or the Canal La Estrella in the Mollepata district in Peru, cannot help but be amazed by the enormous diversity of landscapes, micro-climates, flora and fauna he or she passes through. Micro-climates in Licto's mountainous area can more than double mean annual rainfall figures (from around 450 to 1000 mm/year) over a distance of less than five kilometers. One single hectare of agricultural land may host more than five or six entirely different soil types as well as a great number of crops, each one subdivided into numerous subspecies and varieties. Or in the case of Mollepata: mean monthly temperatures in the system area range from 18°C in the tail-end fields to 12°C in the higher communities, while close to the canal intake permanent ice and snow-caps cover the landscape.

Let us take this latter, Peruvian canal as an illustration. When entering the region at the lower part of the Mollepata district, a large diversity of subtropical crop species and vegetation can be found along both sides of the Colorado River. Leaving the road that connects Cusco and Abancay, a small 11 kilometer road climbs up to the village of Mollepata, crossing through the respective areas of the former haciendas of La Estrella and Marcahuasi. Before the Agrarian Reform period of 1968, these semi-arid zone haciendas cultivated sugarcane by using their irrigation canals. When starting the walk from the tail-end of the La Estrella canal, crossing the communities of Huamanpata and Auquiorcco, we first pass the lower part of the canal's service area located in the subtropical 'Inter-Andean Valley' zone (2000 – 2300 meters altitude). Gradually the temperature lowers as we climb higher, and the climate gets moderate, typical of the altitudinal zone called 'Yunga' (2300 – 3000 m). Rainfed agriculture in this area is restricted mainly to growing maize and other cereals, and some broad beans. In the Yunga zone rainfall is very irregular and in many years severe droughts occur. However, whenever families have access to irrigation water in both the Inter-Andean Valley and Yunga zones, an enormous variety of crops is possible. Many species of potatoes, vegetables and fruit trees are commonly grown under irrigation. The moderate Yunga zone climate allows water users to harvest at least two crops a year.

When arriving at the next community that makes use of the La Estrella Canal, Santiago de Puja, families can harvest their major crops only once a year. In this 'Quechua' zone (3000 – 3600 m) it is not so much rainfall but temperature that gradually becomes a limiting factor for agricultural production. Especially in the highest community, Marcahuaylla, constituting the upper system area, vegetables or fruit trees can hardly be grown. Major crops are potatoes, broad beans, and different varieties of Andean tubers and cereals such as wheat, barley and kiwicha. In the lower Marcahuaylla area, maize can also be grown, but with major risks: whereas in Auquiorcco in the Yunga-zone the growing cycle for maize is only 5 months, in Marcahuaylla it is up to 9 months. This implies that frost periods in winter time (which at this altitude regularly occur from June to August) may severely endanger maize production. Access to irrigation water allows families to advance the sowing period before the irregular rains fall (September-October), thus reducing the danger of frosts.

In the upper part of the Marcahuaylla community, located in the Puna zone (3600 – 4000 m) only potatoes and other Andean tubers (e.g. *oca* and *olluca*) can be grown, even when irrigation water is available. Here, not water requirements but the low temperature and especially the frost periods

lead to severe limitations. But, notwithstanding the fact that cropping possibilities in this zone are limited, Marcahuaylla peasants grow an enormous quantity of varieties in order to diversify their production – e.g. the local potato varieties *mariba*, *ccompis*, *espinjilla*, *mahuay*, *yungay* and *chaucha*, in addition to other Andean tuber species and their multiple varieties. Apart from agriculture, many families have some livestock grazing in the collective pastures and forest areas in the Puna zone. Cattle-breeding and animal husbandry constitute an important reserve capital in the local peasant economy. Most of the Puna grazing area is managed under common property rules, where upper and lower communities share territorial control. The Puna also provides most timber and fire-wood for the communities, and hunting is practiced.

Chapter 3 describes how ‘La Estrella’ Canal has its intake in the highest accessible pampa of the Puna zone, the Pampa Soray, located at 4000 m. There, snowmelt from the immense mountain-peaks of Umantay (5820 m) and Salkantay (6271 m) provides water for the four communities downhill. The canal water flowing down from the Pampa Soray to the tail-end service area, 20 kilometers of distance and some 1600 meters of descent, crosses not only through four major ecological zones, but also through the tremendous quantity of micro-climates, soil types, ecological niches and cropping patterns within each of these zones. For a long time, families living in the area have tried to control fields within several zones, to diversify their production system. But the hacienda-dominated history of the region – ‘divide and rule’ – as well as the relatively recent settlement of most of the communities, have fundamentally limited inter-zonal settlement and exchange, and multi-floor organization was restricted to just the hacienda-controlled system.

However, since 1984, along with the inter-communal effort to rehabilitate the ancient La Estrella canal, which fell into disuse after the Agrarian Reform (see chapter 3), the four communities have increasingly made use of their exchange and diversification opportunities, strengthening the organizational and agro-productive ties between ‘below’ and ‘above’. Here, the canal serves as a foundation linking both individual (inter-family) exchanges and collective (inter-community) collaboration. An example is the re-installation of collective *faena* working parties on the irrigation canal for common benefit, but also the collective labor exchange among higher communities (Marcahuaylla and Santiago de Pupuja) and lower ones (Auquiorocco and Huamanpata). The infrastructural and social ties created by the rehabilitated main canal and the different altitudinal production contexts (with different growing seasons, thus, successive land preparation and harvest periods in each of the four communities) enable them to engage in a chronological sequence of mutual support in periods of peak labor requirement. The canal ‘fosters’ individual and collective livelihood strategies that complement each other. Such territorial production and reproduction strategies based on collaboration and exchange along irrigation canals and altitudinal lines of agro-ecological rationality is certainly not limited to this canal. As I will show in the next section, it is rooted and occupies a *re-creative* but coherent place in evolving Andean history.

Water control and vertical economies

Irrigation water has often functioned as a central factor bonding different communities and diverse ecological/altitudinal zones in the Andes, historically and at present. In small basins in the upper Andes, communities and families commonly worked to build canals that would cross both the higher and lower-altitude zones in order to have irrigated plots in different agro-climatic areas. This vertical ecological zoning enabled them to incorporate several agricultural sub-sectors, to diversify their crops, to better control drought and freezing periods, and thus distribute the risks associated with

production. Irrigation in these different agroecological zones (*'pisos ecológicos'*), often by using multiple sources and 'types' of water, further increased the potential for agricultural diversification since more crop species and varieties could be grown. Terracing of irrigation fields added even greater opportunities to diversify production strategies since it augmented the fertility and variety of soils and micro-climates. These *'andenes'* simultaneously contributed to control of surface run-off, stabilization of hill-sides, improvement of drainage capacities, and ease of land cultivation, while feeding aquifers and springs (*'puquios'* or *'manantiales'*). In such a manner, historically, a production system was set in place whereby families as well as communities aimed to control a maximum number of altitudinal and climatic zones combining diverse ecosystems and generating diverse agro-production zones (cf. Murra 1975, 2002; Mayer 2002; Mayer & de la Cadena 1989). Moreover, as Golte (1980, 2001) states, managing several agrarian production cycles in several altitudinal, ecological zones is a basic strategy of peasants to employ their labor during a maximum number of days in the agricultural year. The irrigation canal is often the axis for managing a combination of these altitudinal zones, making up a system for inter-zonal production and exchange. These systems, the so called 'vertical economies', are based on integrated management of water, land and biodiversity with inter- and intra-communal mutual exchange of labor.⁸

Since the irrigation system connects altitudinal zones and the corresponding families and communities along the canal, it can often be considered as the point around which specific socio-productive relationships have developed. Links between 'high and low' through feasts, rites, family bonds, *compadrazgo*⁹ relationships, bartering, communal work, etc., have always constituted the backbone of vertical economies in which not only agricultural products are exchanged but also labor, services, people (e.g. by marriage), materials, knowledge, and ideas. Thus, irrigation has played, and often still plays, a dynamic and bonding role fostering peasant strategies, generating inter- and intra-community organizations. Families commonly have plots and water rights in different sectors located along the canal. Of central importance is the fact that only a broad, mutual recognition of established rights can prevent continual appearance of conflicts among the different groups and communities who would claim use of the same water. Crucial to this recognition is people's closeness to each other, local rule-making legitimacy and authorization, and possibility for societal control over any infractions that might occur.

As for water control throughout larger basins, the concept of 'control' over water and production zones acquires a broader economic and political meaning. Murra (1975, 1978, 2002) elaborates on how, long before the Inca empire of Tawantinsuyo, ethnic peoples throughout the highlands compensated for the geographical and climatologic limitations of their altitude livelihoods by extending their territories through the establishment of 'colonies' in diverse complementary ecological settings.¹⁰ Particularly the Incas extended their system beyond the micro-watershed level and made

7 Literally, 'ecological floors' as in the stories of a building.

8 Murra (1975, 1978, 2002) talks about the simultaneous control of 'vertical archipelagos'; Mayer (1974, 1977, 1979, 2002) elaborates the concept of complementary altitudinal production zones; Condarco Morales (1970) analyzes what he calls 'complementary, transversal zones', or 'symbiotic zones', which are unified in an altitudinal, sociopolitical framework; Brush (1977) refers to the concept of 'compressed verticality' when the altitudinal zones are located very close to each other – as is the case of (inter)community irrigation systems with an enormous variety of ecological niches all at a short distance. Cf. Dourojeanni & Molina 1983; Golte 1980, 2001; Gelles 1998, 2000, 2003; Boelens 1998b, Greslou & Ney 1986; Mayer & de la Cadena 1989.

9 I.e., among 'compadres' – children's parents and god-parents for baptism and other sacraments..

10 Ancient population groups used very extensive territories, from the high altitudes to the Pacific coast, or on the wide-ranging Amazon slopes, and vertical economies operated within their basins. But large-scale hydraulic control shared among lower and higher communities was more complicated and, at that time, less urgent, although there are very large irrigation

it one of the pillars of their political system. Not uncommonly, the ‘Andean vertical ideal’ was imposed. The well-known, large-scale re-shuffling of human populations (*mitmaqkuna* or *mitmaes*) by the Inca state, whereby rebel groups were displaced from their territories to be occupied by Inca-supportive ethnic groups, served not just purposes of military state control but also fostered the agro-ecological strategies of the state production system (Cf. Haro 1977; Patterson 1997; Rostworowski 2000). The concentration of rule-making power and control over *all* altitudinal, agro-ecological production zones (Mayer 2002) in the hands of centralized authorities was fundamental to the politics of domination. In fact, the too-often-romanticized roots of Andean ecological systems, therefore, were often based not just on vertical control of ecological diversity, but also on the control of peoples’ labor and production.

The post-Conquest era caused a radical rupture in the great majority of vertical economies, at both macro and micro levels, and changed water rights structures in large areas of the Andean region. The main causes were high mortality rates – due to genocide, slavery and introduced diseases, expropriation of indigenous lands by large *encomienda* and *hacienda* farms and, in the end, incorporation of productive lowlands into the capitalist production process. The politics of breaking local political control and purposely destroying the so-called ‘irrational organization forms’ of Andean communities by the notorious Toledan Reduction Policies,¹¹ effectively reduced (and concentrated) many of the extended, vertical peasant economies into fragmented, isolated and outside controlled micro-communities (Mayer 2002, Murra 2002). The hydrological and human link between the higher parts, such as the *puna* (Peru) or *páramo* (Ecuador), and the lower mountain ranges was broken. The colonizers ‘forgot’ where water came from, how it was produced and how the flow was maintained. Upper zones were deforested, causing erosion, landslides and a lowering of the basin’s water retention capacity, consequently producing high peak flows and disastrous flooding in the lower areas (see, e.g., Dourojeanni and Molina 1983; Boelens et al. 2005). Territorial rationality, with a historical property concept that was based on a vertical aggregate of diverse, complementary resources, was replaced by a system that could see territory only in terms of quantified, horizontal blocks of land (Warman 1980).¹² The most productive of these blocks were to be occupied by the most ‘rational’ individual producers, the *encomiendas* and later *haciendas*, chasing the existing communities and indigenous groups to the erosion-prone and less productive areas. The accumulation of land and water in a few hands reflected the new power structures. In many places, the introduction of monoculture, agro-exports and market laws have largely replaced the Andean socio-productive relationships of exchange. Throughout the highland zones, local communities gradually lost (part of) their decision-making power over the reproduction of their water management institutions and livelihoods.

canals on the coast, such as in northern Peru, including some to transfer water from one basin to another (Hocquenghem 1998, Oré 2006). According to Kosok, even in times before the Inca empire, water from five valleys from Jequetepeque to Motupe was interconnected and could, according to respective needs and scarcity, be transported to each of the valleys (in Murra 2002:442). More commonly, natural highland waterways were used, and in a few cases even modified, to conduct water to coastal areas.

- 11 See chapter 6. After the decimation of the indigenous population during the first decades of Spanish occupation, the subsequent mass deportation during the ‘Reductions Policy’ of Viceroy Toledo had a devastating impact on many of the vertical economies that were still functioning, destroying many of the remaining ethnic groups’ nuclei of self-sufficiency. Forced Indian labor tributes to the *encomienda* and *hacienda* systems worsened the ability to maintain vertical economies and their respective (inter)community irrigation systems.
- 12 In the same way, the Waru-Waru, pre-Inca agro-ecological watering systems based on small raised beds, nurturing microclimates and soil fertility and drainage, of which more than 82,000 hectares were found in the region of lake Titicaca, were abandoned (Erickson and Candler 1989, Vincent 1998).

Over the last decades, moreover, conflicts for water between communities and new (mining, electricity and agri-business) companies setting up at high altitudes have increased. State agencies have addressed this encroachment very ambivalently and generally intervened directly or indirectly only to increase their own political control. Agro-productive intervention projects (often under the name of ‘integrated’ area development) have commonly neglected the rationality of vertical control, concentrating on particular crops or ecological zones and thereby isolating the system’s constitutive elements. Urbanization processes have also increased pressure on water use, and water is brought from ever-further away. Many new stakeholders have come on the water use scene, without any respect for previous users or uses. This has created a dangerous vacuum of coordination and lack of control over new users’ actions, leaving the field open to un-structured competition, and breaking down territorial norms for water management.¹³

De-zoning most affects peasant families in the highest zones, who have entered into a vicious circle of resource scarcity, over-exploitation of their plots, degeneration of natural resources, decline in production, debt, etc. The above communities of Licto, in Ecuador, and Mollepata, Peru, epitomize this process. Permanent or seasonal migration and external exploitation of labor is now a common phenomenon in most parts of the Andes.

However, the disarticulation process, as outlined here, does not imply that the mindset of vertical production and territorial management has disappeared. Above all at the micro level (sub-basins in the higher, more distant zones, with smaller community or inter-community systems), ecological altitudinal zones and inter-zone exchanges retain their basic importance. Moreover, many communities have managed to keep from surrendering completely to outside norms and structures (see chapters 12 and 13). Since colonial times, powerful groups have tried to standardize water distribution; nonetheless, the combination of multiple water uses and different ‘kinds’ and sources of water in different ecological zones, together with diverse organizational forms and levels, still generates a great diversity of water distribution modes and inter-zonal socio-productive systems in Andean communities (Castro 2002; Dourojeanni & Molina 1983, Mayer 2002, Murra 2002).¹⁴ The presence, or absence, of social cohesion, a respected local authority and consensus-based norms in irrigation communities have proven to be essential for the self-governing of water use systems in these years of crisis. For that reason, in the next section, I seek to provide a closer understanding of some basic features of farmer-controlled systems actually functioning in the region, focusing particularly on the roles and tasks that need to be carried out in order to sustain them.

4.3. The organization of farmer-controlled irrigation systems in the Andes

Although not all (inter)community systems have been able to survive these times of structural changes, many have already persisted for centuries. In general, these systems generate relatively secure production systems compared to rainfall-dependent systems. Social, physical and ecological changes have called on them to adapt dynamically to the very diverse challenges of different

13 Boelens et al. 2005. See also Alfaro et al. 1991; Apollin et al. 1998; Castro 2007; Dourojeanni 2000a; Gelles 2000; Ruf & Núñez 1991; Mayer 2002; Mayer & de la Cadena 1989; Oré 2005; Zoomers 1998, 2006.

14 Up to today, as Murra observes, there is “powerful continuity” concerning the ideal of the ‘archipelago’ in the Andean republics, “despite the counter forces of *encomenderos*, *hacendados*, *corregidores* and their ‘reductions’ [...] and despite the counter pressures of agronomists, international experts and employees of the Agrarian Reform” (Murra 2002: 122).

historical stages. User groups have always had to find the required capacity and organizational force to manage their systems autonomously, allying themselves and coordinating with strategic actors in their local and national territory (Beccar et al. 2002).

In order to manage water provision, it is one thing for the user family to know when and how much water is needed to irrigate their crops, and where and how to apply the water, but quite another thing to know how to obtain and make sure of the continuous, timely arrival of this resource. This does not depend only on the family or community itself, but also on the availability of water, and on agreements reached and enforced about water use among various families and among communities, institutions, and other water use sectors involved in the irrigation system or watershed. When scarcity and uncertainty prevail, conflicts tend to arise and people with differential power bases fight to gain or maintain their production goals. Provision of the theoretically required or desired flow and timing of irrigation water is mediated and shaped by countless factors, often non-plannable. Thus, the art of irrigation is not confined to ‘simply’ planning optimal amounts of water, defining methods of application and building conduction canals. Beyond the analysis of individual practices or techniques in isolation, it is above all water *control* - in its socio-technical sense and situated in institutional landscapes, cultural frameworks and power structures -, that merits central attention.

Water users who take part in planning, operating and maintaining farmer-managed irrigation systems share, beyond the technical and production-related demand for water, a social demand. Water is the liquid that makes their plants grow, but it is also the fuel for the zone’s organizational engine, the blood in the veins of the rural livelihood system, and the heart of survival and coexistence of many peasant communities. Therefore, irrigation water is not ‘just another element’ in community production systems (as so-called ‘integrated’ projects sometimes assume, when referring to the ‘irrigation component’).¹⁵ Being a fundamental pillar of many local communities’ livelihood systems, control over their own water reality, under their own norms, is a major challenge.

Also inside the system, direct control and accountability is a common feature: users can hold local leaders responsible for their actions, and control mechanisms and penalties in cases of abuse are applied in a relatively straightforward manner, compared to accountability relations with bureaucrats, politicians, development agents, etc. Members as co-owners of the system commonly co-decide about its management. Self-mobilization and direct action on the basis of social control, collective monitoring and collectively elected, rotating leadership characterizes the ability for all members to be involved in water control affairs.¹⁶ But leadership turnover (yearly or every other year) and the sharing of positions among most water community members cannot be taken as proof that social and political differentiation are checked. Generally the same group of leaders tends to surface when crucial decisions are to be made. These election processes, rather than tests of time-specific popularity, tend to manifest local structures of prestige, redistributive power, and local legitimacy. Commonly, local institutions do serve the purpose of limiting local bureaucratic power accumulation but in my own experiences, in all communities and systems I have worked with, factors that are far more important to contain local accumulation of decision-making power are social control, a constant sphere of critical opinion and even a strong standing sense of ‘suspicion’ from members, both men and women, towards leaders (see also Mayer 2002). In community water meetings and

15 Depending on conditions, irrigation water may be central to intensify and increase agricultural production, to ensure it, to diversify it and/or to free it from seasonal constraints; and it tends to serve a large variety of non-agricultural purposes (e.g., sanitation, clothes washing, rural construction activities, domestic water supply, ritual celebrations, local hydro-power generation, livestock water supply, forest and nature conservation, etc.).

16 For the respective gender dimensions, see chapter 11.

general assemblies such ‘subsurface accountability processes’ often result in fierce, open critiques as well as apparently ‘dramatic’ debates and quarrels – particularly when dealing with issues of (water) rights and obligations.

The foregoing chapters argued that having an adequate, sufficiently consensus-based definition of water rights is essential to make a user-managed irrigation system work. Apart from rights and duties, a series of operational rules is also necessary, with an organization¹⁷ that will take charge of implementing and enforcing the norms. Unlike government-managed irrigation systems in the Andes, where (formally) State authorities establish and enforce rules and specialized managers (often at various levels) are supposed to carry out most management tasks, in farmer-managed systems the roles of water authority, water manager and water user are much more integrated. Despite heterogeneity, in most of these small-scale systems it is common to see that water users and water authorities share a similar social and cultural background, being members of the same kinship or community organization¹⁸; also both sets of roles and responsibilities circulate among the same group – issues that are entirely different from bureaucratically managed systems in the region. Generally, (rotating) water authorities *are* simultaneously water users. Moreover, although formal lines of command and conduct are often presented to the ‘outside’ world, internally the norms, tasks and penalties tend to clear but also much more flexible – as long as there is conformity to the community (re)production objectives. Informality and local social relationships play a decisive role. Tasks may be divided into the following main categories – these are not ‘given’ as if they would fit into a ‘pan-Andean’ role play for which the script is written, but are colored and shaped according to time, space and context (Boelens & Hoogendam 2002: 14):

- Tasks of regulation and authorization: discussion, formulation, authorization, dissemination and acceptance of constitutional rules, such as water rights, including procedures, obligations and penalties.
- Tasks of operational water management: e.g. implementation of water rights and regulations, through activities such as scheduling, distribution and surveillance of water shifts; operation of hydraulic works; and oversight of infrastructure maintenance.
- Tasks of internal organization: e.g., definition of objectives, collective decision-making, activities coordination and planning, monitoring of implementation, conflict resolution, and ensuring members’ participation.
- Tasks of (re)constructing infrastructure: design, construction, repair and modification of hydraulic works and the irrigation network.
- Tasks of mobilizing and administering resources: both members’ and external resources; e.g. financial means, material resources, agricultural products, labor, and information.
- Tasks of alliance-building and networking: to elicit technical assistance; to represent the collec-

17 Here, organization is defined as ‘a group of persons who, through collective actions, support the operation of their irrigation system; therefore, they use certain capacities, resources and time, within their own socio-economic, agro-productive, cultural and political framework and in interaction with their context’ (Beccar et al. 2002; see also Van der Does 1994).

18 This does not necessarily mean that they have the same class or ethnic background, or gender (see chapter 11). Such differences may be an obstacle to strong user organizations, but it is crucial to also recognize the *organizing potential of heterogeneity*. Heterogeneity can reinforce the forms of cooperation based on interdependence and complementation of capacities and resources. As Meinzen-Dick (1996:14) observed: “Whereas homogeneity in objectives facilitates collective action, heterogeneity in asset structure can actually favor the possibility of organization [...]”. However, relatively large economic power differences commonly work as impediments to sustainable organization, particularly when the distribution of benefits and burdens is considered to be inequitable, or when market integration erodes traditional relations of (symmetrical and asymmetric) exchange (see, e.g., Apollin et al 1998, Bolin 1990, Gelles 1998).

tive system and its individual users; and to defend users' collective interests.

- Ritual tasks, according to the system's embeddedness in the metaphysical domain: activities related to maintaining and reproducing reciprocal relationships with deities.

Organization, rather than being a (political-strategic) end, constitutes fundamentally a process and a means for Andean water users collectives. The contents of these process elements – apart from historical and culture-bound context factors - depend on the complexity of the system, on the range of activities to be implemented, on the degree of specialization they require and the number of users. As Greslou (1989) observed, there are as many ways to allocate and distribute water as there are 'types of water' and organizational levels within Andean society, from the family level to the inter-family group, community, ethnic group, and so on. As a result, there are various entities within a community to allocate, distribute and 'watch' the water, and each community member commonly belongs to several of them. Here informal organizational patterns and agreements play a highly important role, confirming the need to go beyond just formal Users' Associations (Board, Committee, etc.) and their formalized rules and practices.

Informality and flexibility of organizational patterns is further strengthened by the embeddedness of water rights and tasks in general community livelihood arrangements (see chapter 2). In some systems, there are special roles and procedures for irrigation matters, whereas in others they are included in the overall grouping of other community issues. Even in cases where communities make their own separation into water-related and non-water-related institutions, this often may be superficial. For example, in the community of Tomepampa (Cotahuasi, Peru) two types of *faena* are established: community *faenas* (in which everyone must join equally) and *faenas* of the *Comité de Regantes* (in which water users contribute labor according to their irrigated land area). Nevertheless, when it comes to cleaning the bullring, the streets or rehabilitating the school, every water user should be present. If not, they will have to contribute more labor during the next *faenas* of the *Comité de Regantes* (Panzani 2003). In the Gompue system (Chimborazo, Ecuador), a family disobeying the collective decision-making of the *Asamblea General* in whatever field of community interaction may face direct consequences and penalties in the communities' strongest collective activity: irrigation water management (Boelens & Doornbos 2001).

Because of this 'community embeddedness' of water tasks, informality and institutional flexibility, aside from structural elements, an organization requires a series of cognitive elements, which are the ideas and beliefs about the need to cooperate mutually and follow the organization's rules.¹⁹ The fact that users trust their leaders and members, share the commonly established norms, take active part in relations of mutual exchange, and express their identity with respect to their organization and its territory, is part of what I have labeled as locally-particular 'water cultures' and 'hydraulic identities' (see also chapter 2). In the highlands setting, with unpredictable climates, unstable geophysical conditions, and adverse power conditions, more than almost any other economic activity, irrigation is grounded in *mutual dependence and intrinsic obligations for intensive cooperation* among users. Irrigation forces people to operate collectively, every day. It is impossible to manage a system in this context just with a group of individuals: intra- and inter-community collaboration and their respective collective agreements are indispensable. Because of this obligatory reciprocity required to operate and sustain the system, and because of the common ownership of the system in which the rights of each user are 'created', 'recreated' and 'embedded' (chapter 2), users identify with the

19 Cf. Beccar et al. 2002; Castro 2007; Chambers 1980; Coward 1985; Uphoff 2000; Pretty and Ward 2001.

system and relate to each other. This is at the heart of collective action in water control and, jointly with the historical struggle for water, collective defense of community authority and development of the community's own rules and customs, it reinforces these context-specific hydraulic identities. Thus, far from being just an ideological construct based on presumed Andean solidarity, the material creation of this hydraulic property that links individual action and property to the collective water property owners group (infrastructure, rights and organization) is largely based on a logic of defense and reproduction of 'water community' in the harsh Andean geographical and political context .

In sum, the difficult art of peasant irrigation management requires a well-consolidated form of organization that, in interaction with other institutional actors, will regulate, authorize and enforce; coordinate, oversee and monitor; communicate, negotiate, and mobilize. In a process of ongoing negotiation, social struggle and communication, it must adequately manage conflicts among users, communities, institutions or with other systems. For these tasks and responsibilities it needs a strong and shared normative foundation, which is the cornerstone of farmer-managed irrigation systems.

4.4. The Andean peasant economy

Socio-productive logic without romanticism

Even though the need for collaboration in Andean water control is 'forced by context', obviously, this is not a self-evolving process that emerges out of a presumed 'natural context', let alone harmonious. José María Arguedas, among others, illustrates in many of his earlier novels²⁰ and anthropological works how the organization of water control and the distribution of water entitlements fundamentally was (and still is) a power struggle. An illustration is his 1935 story '*Los Escoleros*'.

The local Mountain Apu, Ork'o Ak'chi, was unable to end a drought in the communities of Ak'ola and Lukanas, and even Tayta God, with folded arms, was powerless, as the families despaired in the irrigator communities. Apparently, God is not an owner in that district. Juancha, the young *escolero*, knew this all too well: "But Don Ciprián is! Don Ciprián is the king in Ak'ola, ... He owns the water in all the ditches, in all the lakes, in all the streams; and he owns the jail" (Arguedas 1987d(1935):89). Don Ciprián took over the community land of Lukanas by force, fenced it off and then brought in the judge and assistant prefect of the province; the two authorities gave him the papers, and from that moment on don Ciprián was the rightful owner of Lukanas and Ak'ola, and their waters. Although Arguedas' older stories on water conflicts tend to present social dichotomy, the tale illustrates that conflicts are not limited to contradictions between landowners and indigenous peasant communities. There are also numerous conflicts among groups of small farmers, both open and latent. "The boss likes the Ak'olas to fight with the Lukanas, the Lukanas with the Utek's and with the Andamarkas ... The Ak'olas never got along well with the Lukanas; every year, they took away their water, because both towns irrigate their land with the water from Jatunk'ocha, a big lake belonging to both towns equally" (Ibid:94).

Water control, over the resource and over modes of distributing it, offers a major arena for these struggles: "Out of the seven days in a week, *yakupunchau* [water day] Thursday was for the Ak'olas, Wednesday for the priest and the other days for the landlord, don Ciprián Palomino. The boss would voluntarily give one or two days to the other *mistis* [white-mestizo bosses] in the two towns. But the

20 His most well-known tale on water struggles, as the title suggests, is '*Agua*' (1987a (1935)).

Lukanas, backed by don Ciprián, wanted to block off the lake starting at 3 o'clock in the afternoon on Thursdays, so the fighting started" (Ibid:94).

Continual fighting over water had become part of the local water culture, cropping up in their festivals and games, and manifesting itself in the playing of their children. "During Carnival celebrations and in the ritual '*escaramuza*' [skirmish] the Lukanas and Ak'olas would fight, as if they were just playing, ...but they were really hitting each other angrily, and one or two on each side would end up dead each year. We, the *escoleros* [schoolchildren], would also play, imitating the two towns: we would divide into two groups, the Ak'olas and Lakanas, and fight with stones and whips; many would get their head clobbered and bloodied. With the *wikullo*, we would do the same: I was a Lukano and Bankucha was an Ak'ola" (Ibid: 94). Apparently, in a certain way, oppressive power structures became internalized.

Diverging interests in irrigation, even when it is a collective activity, mean that one cannot assume that 'users always seek the most democratic management and equitable distribution forms'. Long-standing systems often feature injustices based on class, ethnic, gender or other distinctions. In new irrigation systems, where water is introduced in a local setting, a new production factor – a powerful, conflict-ridden one – is inserted into existing social relations. In sectors with greater socio-economic differences or greater variation among the types of members (peasant farmers, agribusinesses, medium-sized growers), the contents and distribution of water rights often reflect the prevailing inequalities.²¹ Moreover, it is also quite common for the privileged ones to defend differences in access to water by pointing at their 'historical uses and customs', in the name of ancestral justice.

Whenever activists or scholars, after having ignored day-to-day realities in actually existing highland communities, could still believe that the Andean way of living was a brightly shining road to a static, closed, communitarian Utopia, the Sendero Luminoso materialized version of Mariategui's thinking should have scattered their hope. This is not the place to elaborate upon this dreadful nightmare, one of the cruelest actually existing dystopias ever made a reality. But the fact remains that certain romantic scholars (apart from those sectors with commercial interest in it, such as the tourism sector) continue to see Andean culture and social relationships as intrinsically equitable, adapted and balanced, with discrete local economy and identity. And whenever any disturbance of this paradise on earth is noticed, the cause is sought only in 'external' factors.

Generalizations, however, cannot be made: often, local Andean labor and exchange relationships defend against social differentiation and in a certain way protect the most vulnerable, and irrigation water often plays an important role precisely in reinforcing social cohesion.²² There are many situations (e.g. chapters 8, 12 and 13) in which less powerful irrigators' groups will win arguments, favoring more equal water distribution for all. In many cases, community water control prevents purchasing rights according to each member's financial capacity and acts as a drag on water rights commoditization.²³ Thus, the question of social differentiation in local peasant economies and

21 The overwhelming attention to 'the community' (in the Andes and internationally) tends to conceal a form of social differentiation in the highlands that may be even stronger than 'internal' inequalities: differentiation and subordination among wealthier and less powerful communities. Most often, as the cases of Licto and Mollepatha show, this differentiation is closely entangled with ethnic differences.

22 As we have elaborated on, in Boelens and Hoogendam (2002), differences come to light especially when we compare irrigation systems in which access to water and land has become more individualized over time with irrigation systems having a strong community base.

23 Commoditization is the process of deepening commodity relations within the cycle of production and reproduction (cf. Friedmann 1980), whereby the means of consumption and of production, as well as other inter-human exchange relationships, are increasingly acquired and renewed through the market.

through water control, rather than being a generalizable, theoretical issue, is essentially empirical.

An integrated, grounded analysis of the Andean peasant economy²⁴ provides insight in the local organizational forms and the variety of irrigation practices, where rationalities, potentials and obstacles are interconnected and situated within a wider framework, from family bonds up to (inter) national policy levels. Such analysis shows, for example, that the outcomes of organizational processes in peasant irrigation are not simply the sum of the economic interests of individual irrigators, who ‘rationally’ calculate costs and benefits of collective actions, as if they were operating in a ‘free market’. Just as with the fore-mentioned tasks and institutions in Andean water control, peasant economy institutions are rational – but not necessarily are all rules, relationships and networks rationally crafted. They result from both conscious and unconscious acts, location-specific trial and error, adaptation, culturally embedded patterns and practices, power constraints and opportunities, and shopping around in neighboring, national and transnational institutions. An understanding of Andean peasant economy, moreover, also forces a deeper scrutiny of local rationality in its concrete practice, which de-mystifies certain romantic approaches. At the same time it demonstrates the inadequacies and dogmatisms of many macro approaches of radical-universal explanation.²⁵ Andean peasant economy is part of, subordinated to, and simultaneously a bastion against commoditized market exploitation. Within webs of complex social relations and multiple identities, and taking into account that each actor moves simultaneously in different realities and directions, often some basic features surface that structure peasant economies of Andean water user communities in overall terms (for an elaboration, see Annex 1):²⁶

- insertion in the global economy, in webs of exchange and exploitation at the local, national and international level
- heterogeneity of the peasantry and its production strategies
- balancing strategies to reproduce and transform the household, the community, and their inter-lacing
- the unit of labor and production intertwines with the unit of consumption
- diversification of activities and products within the household and the community
- interdependence of livelihood activities
- embeddedness of irrigation management and water rights in community relationships
- risk avoidance and distribution

24 Literally, ‘peasant economy’ refers to the ‘rules and rights that are enacted in and govern the peasant household’ (‘economy’ is derived from (Greek) ‘oikonomia’ = oiko (house) + nomos (rule, manner, custom, law)). In the last decades, apart from dependence and world systems scholars criticizing modernization theories, discussion on Andean peasant economy has been heavily influenced by articulation theory and the peasant mode of production debate (see, e.g. Deere and de Janvry 1979; de Janvry 1981). According to articulation theory, the peasant economy is tied to the wider political economy through unequal relationships so that surplus value is extracted from the rural areas, cheap food is provided to the urban economy and cheap (migrant) labor is provided to capitalist entrepreneurs. In this dual economy theory, Andean communities are seen as being functional for the capitalist system (‘functional dualism’). Critiques have rightly been raised for precisely its essentialist dualism and functionalism (see, among others, Kearney 1996). Later discussions in the Andean region – influenced by neoliberal policymaking – shifted from the question of ‘functionality’ to the ‘viability’ of the peasantry, and peasant economies and communities were classified as ‘viable’ or ‘non-viable’, according to the ‘usefulness of investing in them’ (see Bebbington 1999; van der Ploeg 1998). A broad variety of counter approaches emerged, emphasizing human agency in local production strategies, and the dynamics of resistance in peasant economies while being embedded in national and transnational economies and power structures.

25 Boelens & Gelles 2005. Cf. Baud 2006; Bolhuis & van der Ploeg 1985; Castro 2000; Lauderdale 1998; Mayer 2002; Ouweneel 1993.

26 This set of features is not exhaustive and some might be more important in a certain region than others. They can be considered as the basic materials that combine to form various matrices. For references, see annex 1.

- dialectic relationship among organization levels and between collective and individual property rights
- interaction among the ‘meta’ and the ‘physical’ in mutually constituting water control domains
- labor strategies based on ‘collective, contractual reciprocity’.

Interaction between community and market spheres

As Brown and Ingram have observed, “unless the cultural and community base is secure, any strategy for economic gain through the sale or lease of water rights is likely to be met with hostility” (Brown and Ingram 1987:42).²⁷ This certainly also holds true for the Andean context. A basic phenomenon of Andean peasant economies is their co-determination by exchanges in both the mercantile and non-mercantile spheres. According to Golte and de la Cadena (1983) both spheres compete for the same space and for the same social actors. “While the result of this struggle seems resolved historically, this is not the case for those who interact within this dilemma, seeking their own physical maintenance. They have to structure their labor and their behavior to be able to assure their food supplies and the general conditions of their existence. Therefore, the household optimizes its intervention in the social process of production looking both at income generation through the general market, and at what can be obtained through the non-mercantile sphere. Thus the households’ strategies are doubly determined” (Golte & De la Cadena 1983: 15-16). The advantages and opportunities of both spheres, and their respective threats, are intertwined in household strategies. As Mayer (2002) argues, the two spheres are mutually interdependent and subsidize each other, but they can also deplete each other.²⁸

In practice, these unequal but inseparable spheres interact continuously. In a given Andean locality, it is not uncommon for the *same* products and services to sometimes circulate through the market and sometimes remain in the communal, non-commoditized sphere, according to the respective family’s or community’s vision and conditions, the agricultural season, and the incentives or disincentives offered by community and market junctures.²⁹ For example, in one and the same system, some families hire labor commercially to work for them, constructing and maintaining water infrastructure, while other families carry out *mingas* and *faenas* with their own labor efforts or, if they are absent, fulfill their duties through *ayni* (reciprocal exchange). Another example: regarding the sexual division of family labor, particularly in ‘feminized communities’ as in Licto, it is often seen that in one and the same family a women fulfils irrigation duties through community *mingas* while her husband works for a salary, selling his labor through intermittent migratory activities. A third example: from one and the same irrigated plot, even the same crop (say alfalfa or vegetables), a (variable) part is taken to the market and the rest is for domestic consumption, according to season- and context-prevailing incentives and needs. The list is infinite.

In spite of capitalist market penetration in the Andean communities, non-mercantile sphere exchanges and interactions have resisted – and will resist in the future – substitution by purely commoditized relationships. A principal reason is that neither peasant families and communities nor their

27 See also their contribution to the Searching for Equity project: Ingram and Brown 1998.

28 Golte and de la Cadena, therefore, conclude that “a researcher, when trying to understand the organizational dynamics of production and exchange in the Andean field, has to start from this double determination and has to analyze it as a whole, meanwhile separating both spheres since we are dealing with two different, overlapping and sometimes opposing rationalities. This is the key of the problem: to separate the inseparable” (1983: 16).

29 Although the spheres necessarily interact, as Mayer (2002) shows, peasant households often try to separate commercial and subsistence relationships in their strategies, since they entail different moral rules and values.

irrigation systems will be able to reproduce themselves amidst exclusively mercantile relationships, and they are well aware of this fact.³⁰ The consciousness that the concept of ‘community’ may form a central axis for the adequate defense and effective use of the community’s productive resources, both collective and individual, tends to be a powerful driver and mainstay. Generally, peasant households perceive that non-commodity Andean relationships ensure long-term reproduction and offer a protective framework against the vicious circles of poverty, debts and exploitation.³¹

Instead, mercantile relationships – which apart from unjust exchanges certainly do offer important short-term solutions and opportunities – cannot guarantee stability within an economy of producers with scarce subsistence resources. Due to the disadvantageous features of Andean peasant agriculture (generally small, fragmented plots in fragile, steep hillside terrain) and to the unequal exchange relationship in the market place, peasants do not receive sufficient value for their products and labor in order to subsist in a pure commodity economy. In other words, they need to maintain the non-mercantile community economy while, at the same time, they face the need to incorporate themselves into the commodity economy (see Golte & De la Cadena 1983. Cf. Mayer 2002; Van der Ploeg 1998, 2006).

Dualist ‘dependency’ theories or more sophisticated but equally essentialist ‘articulation’ theories have conceptualized how peasant economies are functional to and integrated into the capitalist system. The latter appropriates the surplus values of peasant production and labor.³² Some approaches consider peasants as a transitory class, condemned to capitalist exploitation until total proletarianization causes the disappearance of peasants: ‘de-peasantization’. Others compare peasant economy to the entrepreneurial model and forecast its disappearance due to its ‘backwardness’, incapable of competitive participation in the capitalist market. However, besides the fact that these approaches deny peasant resistance, it is also necessary to focus on the peasant rationale in functionalizing, in turn, the market to sustain important elements of peasant economies. For example, at certain times of the year, an Andean peasant works mainly within a non-commodity economy, at others he or she ‘takes advantage’ of temporary migration (capitalist employment), as a result of the relative, seasonal unemployment inherent to peasant economies. Furthermore, the community may commercialize certain goods (mercantile sphere) to reinvest the money in rehabilitating the self-managed irrigation system, which guarantees a major part of the collective reproduction (non-mercantile sphere). Examples abound. In other words, the capitalist system uses and exploits the peasant, and the peasant somehow uses the market system to guarantee part of the production and reproduction of the household and community. Interaction between ‘the community’ and ‘the market’ is mutual but not equivalent since it is based on unequal powers and on continuous extraction of the resources that are

30 Another fundamental reason is that many exchanges, incentives and activities in Andean livelihood strategies and irrigation systems simply *cannot* be reduced to just market economy issues. For example, the social function of water, rituals, agricultural and irrigation feasts, etc., are all important features and exchanges considered not additional to but necessary for reproduction.

31 For example, in the last two decades’ economic crisis in Peru, it was common for many communities to strategically retreat from the market and return to non-monetary exchanges as a defense against both market exploitation and hyper devaluation and insecurity of monetary means. Also, Mayer (2002) refers to the 1994 study of Javier Escobar showing that, after Fujimori’s appalling Structural Adjustment Program (labeled ‘Fuji-shock’, starting in 1991) the least monetized peasants were relatively far better off than farmers fully integrated into the market system. See also Bolhuis & Van der Ploeg 1985; Van der Ploeg 1998, 2006.

32 By means of unequal exchange in the market (under-valuation of peasant products) and exploitation of contracted peasant labor (salaries lower than those necessary to survive), made possible because the peasants’ subsistence is already ‘subsidized’ by the peasant economy and, besides, peasant’s labor supply is abundant and not organized in trade unions. Thus, its functionality to the capitalist system. For critique, see chapter 6.

possessed or generated by peasants.

The situation is different and worse for those families and communities who, due to their total surrender to the capitalist rationality, their debts and market dependence, and their broken links with collective reciprocity and protection, are losing not only the value peasants generate but also their productive resources themselves and their logic of production. This logic is externalized: fundamental decisions concerning productive processes and technologies to be applied are not made by families or communities anymore but by market forces and institutions. In these cases, it is not the family itself who deliberately decides whether or not to incorporate certain mercantile elements, it is the exogenous logic of commodity relations dominating the process and defining production norms. Generally in this situation, which is *also* present in the Andes, a limited number of individuals and groups ‘succeed’ and many others are set aside as ‘disposable’ persons (*los desechables*) or communities that are stigmatized as ‘factories of poverty’ (*las fábricas de pobreza*), deeply distressing terms for deeply inhumane situations. Mercantilization of livelihoods sharpens the contradiction between those who have a strong social network, and those who have not.

The fact that current irrigation development means ‘more market’ is not necessarily problematic. It is not a question of either embracing or denying this market. As stated above, in contemporary Andean society peasants also *require* aspects of the mercantile sphere to be able to obtain some complementary resources needed for reproduction. Therefore, strategic questions relate to a) strengthening *endogenous control* over decision-making on questions of why, where, how and when to relate to the market; b) ensuring access to markets in a collective, equitable, organized manner; c) finding the required balance in the interaction between commodity and non-commodity spheres, considering that the latter underlies reproduction of both the collectivity and its parts, and access to the market without losing the capacity for self-management. Andean communities – in all their diversity and interrelatedness with a broad spectrum of agrarian and urban activities, local and transnational contexts – exist because their collective institutions (including their common water rights frameworks) are indispensable to continue, strengthen and defend local livelihoods of mutually dependent families. These institutions, therefore, cannot be supplanted by individual, state or market solutions.

At the same time, as was expressed above, these ‘community’ and ‘collective control’ concepts must not be reified,³³ it is urgent to debunk the myth that individuals, households and communities nested in the ‘same’ Andean livelihood context naturally share a similar set of norms, and differences are basically a function of aggregate scales: the broader the social group, the more ‘expanded’ (and more complex) the local norms. For example, community water rights are often analyzed as if they were a sum of household water rights, and household norms were the sum of individual norms of conduct. This is a basic error: it is not a question of adding-up and expanding norms and rights: at each ‘aggregate level’ a fundamentally different set of rules tends to prevail – just as variety is broad within each level.

For example, within Andean households the definition and enforcement of roles, norms of conduct, rights, obligations and penalties, as well as the distribution of power and status according to gender, age, etc., generally responds to quite different rationalities than the definition and enforcement of these items at the inter-household or community level. Norms of moral or immoral behavior within the household are often different from norms within the irrigation system. Kinship solidarity and affection, household conflict management, elbow room and the whole definition of human

33 We have shown this in joint research on ‘peasant water economy studies’ in Peru, Bolivia and Ecuador. See, e.g., our case analyses in Arroyo & Boelens 1997; Boelens & Dávila 1998; Boelens & Hoogendam 2002; Boelens & Zwartveen 2005; Boelens, Getches & Guevara Gil 2006; Urteaga & Boelens 2006.

agency and social ties within a kinship group, follow a very different rationality when compared to community collective action. I have witnessed many cases of strong collaborative, protective and affective intra-household relations where conflict minimization was the custom, but where the same household could neglect community solidarity and even refuse to work collectively in water control. In the same way, other households or family members were active promoters of organization strengthening and collective defense of community water rights, but internally showed scanty cohesion or even outright abuse. Decontextualized and universal models for explaining water control behavior in local peasant household and community economies, particularly if they are based on ideas of just individual self-interest, on romantic ideas of group solidarity, or on solely structural explanations of the effects of power and economic differences, tend to obscure water control reality and deny local capacity and variety. This calls for a closer scrutiny of regimes representing the Andean ‘community’.

4.5. Construction and deconstruction of the Andean ‘community’

The notion of ‘community’ is contested not just in the Andean region’s history, but also elsewhere in the world. Debates are often strongly colored by ideological views, academic paradigms and political motivations. Where many, particularly indigenist, populist and romanticizing schools, have focused almost exclusively on the Andean community as a relatively authentic, self-regulating entity, others (especially structuralist and modernist paradigms) have tended to develop one-sided views of ‘black-box communities’ as articulated constructs and consequences of capitalism and the world market.

In Latin America, and particularly in the Andean countries, fusion of the diversity of local context-specific self-conceptualizations of ‘comunidad campesina’ or ‘comunidad indígena’ with pre-Columbian imperial history, State extraction structures and strategies, class formation processes and class struggles, recognition policies, and broader ethnic identity struggles, all make the notion extremely complex. Wide-ranging, historical processes that structure organizational, political and cultural properties of Andean communities are dynamically contested, mediated and reshaped at local levels in the everyday life of ‘real people’ – and vice-versa. As a consequence, conceptualizations of ‘community’, ‘Andean identity’, etc. cannot limit themselves to merely situating the community in an increasingly globalizing environment; rather, the conceptualizations themselves are also ‘contextual’ and based on political or academic conventions that must be seen in their own contexts.

When discussing representations of Andean communities, it is important, first of all, to differentiate among formal (legal) representations of ‘community’, non-formal local community perceptions, and academic constructs of community. These categories obviously interact, now and in history. In Peru and Ecuador,³⁴ for example, for communities to exist legally, they must be officially recognized, whereby the State executive branch regulates the status of communities, their rights and their obligations, as well as the norms for their recognition, registration, organization and operation. Positive law-making in Andean countries denies the need to analyze local cultures and their manage-

34 Mayer (2002) reports that in 1994, Peru had 5680 recognized highland communities (*Comunidades Campesinas*), amounting to about 43 % of the rural population. They cultivate half of the countries’ productive land (in remote departments such as Apurimac up to 98 %). In Ecuador in 1988, 1581 communities were officially registered (covering 67 % of the rural population). In Bolivia in 1985, an estimated 2500 communities were registered. Figures of non-officialized communities are far higher: many are not (yet) formally registered.

ment forms as dynamic and adaptable to new challenges and contexts. It prescribes norms and institutional forms that are based on either universal blueprint models and/or stereotyped projections, aiming to codify ‘the indigenous community’ and ‘the peasant community’ (see chapter 8). In their day-to-day reality, the Ecuadorian and Peruvian communities described in my work actively challenge such perceptions and prescriptions. For example, of the four communities joining the Mollepata ‘La Estrella’ irrigation system, Marcahuaylla is the most ‘consolidated and socially coherent’ community but is not formally recognized as a ‘peasant community’.

However, like positive law, academic constructs also tend to conform to what Edward Said called ‘Orientalism’ – in the Andean region labeled as ‘Andeanism’³⁵ – a group of representations that “... approaches a heterogeneous, dynamic and complex reality from an uncritically essentialist standpoint” (Said 1978: 333). For example, none of the 26 Licto communities (or the other communities presented in this book) fit in with the common academic descriptions that pin ‘the’ community down to its presumed properties of a fixed, small spatial unit, a given organizational structure, and a traditional, shared normative system – let alone references that tend to presume a homogenous composition and egalitarian structures. In the Licto region, for example, it is common for the number of households in a community to grow, with organizational structures and internal conflicts growing accordingly, till reaching a certain ‘ceiling’, after which the community splits into two new ones, each with its own leadership structures, communal organization and normative agreements. Also the opposite could occur whereby, with decreasing community members (migration) two communities would join, integrating their organizational and normative frameworks. And instead of the Wolf-type ‘closed, corporate communities’ (Wolf 1957), all Licto communities have intensive linkages with other places and cities, in Ecuador (especially Riobamba, Quito and Guayaquil) and abroad (USA and Europe). As I will show in the following chapters, moreover, they strategize their livelihoods not within presumed homogenous groups, but lodge and ally with a wide range of class and ethnic groups.³⁶

Nevertheless, despite overwhelming evidence, many studies continue to essentialize Andean culture, identity and community, presenting them in binary frameworks as constructs that are separated and distant from the West (in a positive or negative sense). They would display unbroken continuity with a pre-Columbian past instead of analyzing them as multi-layered, dynamic constructions with both sharp difference and strong similarity, within broader networks of power, culture, and meaning. Reference images and political representation, thus, go hand in hand: labeling and categorizing communities is based on conceptualizations that create a symbolic representation of communities, their presumed essential social identity; these representations and categories become naturalized (accepted as obvious portrayals) and thereby become tools and structures of discursive regimes of representation, and of political hierarchies.

To get closer to ‘the community’ it is useful to analyze their regimes of conceptual construction. I distinguish among the following, fundamental approaches in the Andean debate on the ‘construction of community’, which closely resembles the conceptual construction, deconstruction and reconstruction of irrigation as a ‘system’:

35 Said 1978; 1993. See, for example, Starn 1991, 1994; Degregori 2000; Gelles 1998, 2000; Roseberry 1995.

36 Even though many rural peoples have adapted to formal, uniform organization structures, as Golte argues, this does not mean that they are the same in their basic characteristics of social, political and economic organization. “Social science in general has not questioned this concept; on the contrary, they have described a great variety of peoples as if they were variants of a basic organization covering them all” (Golte 1992: 17, in Guevara 2006).

□ *Essentialized negative constructions: 'backward communities'*

Historically, most discourses and approaches have been based on some sort of 'moral objectivism', prescribing universal, homogenous solutions to the presumed backwardness and immorality (*abnormality*, see chapters 6 to 10) of Andean communities and local water user collectives. Modernist perspectives inherited most elements of their colonial predecessors. In colonial approaches, the representation of Andean communities (and efforts to re-construct them) were not just civilizatory and paternalistic but also openly directed at re-ordering the 'institutional chaos' to create a State–community framework for tribute exaction and facilitate State control.³⁷ Current modernization or neocolonial perspectives often maintain these objectives but use more subtle terminology, based on inclusive ideologies (see chapter 8). Modernization ideology typically represents Andean communities as non-integrated, poor, culturally inferior and technologically backward, with old, inefficient land and water use patterns, caught in the trap of negative historical and cultural traditions. Their institutions are doomed to vanish and be replaced when modern enterprises enter. Most of the community's households will have to engage in other economic sectors and integrate as consumers; some farms will remain – those that during interaction with free market exchange mechanisms are able to incorporate 'rational, efficient' modern technology and management forms, whereby available resources often are re-labeled as marketable commodities. Often, collective forms of land and water management are seen as 'by definition inefficient' and should be transformed into individual profit-maximizing enterprise strategies.

Contrary to the too optimistic remark of Starn that "this unabashed paternalism has largely disappeared by the mid-1960s with the decline of modernization theory" (1991:79), neocolonization efforts and modernization representations emphasizing the apathy, ignorance, fatalism and static nature of Andean communities and local institutions are very much alive, particularly in the official water sector. And it is not necessary to go back to Garrett Hardin adepts who preach the tragedy of the incapable, self-destructing commons. Nowadays, it is not just 'Westerners', but particularly national schools, research centers, universities – especially agronomy, civil engineering, economics, and hydraulics departments – as well as local and national government structures, that represent Andean communities as belts of poverty and misery, with water institutions based on unruliness, inefficiency and resource over-exploitation. The working of 'mimesis' - "*ser como ellos*"³⁸ - finds a powerful expression in the assumed superiority of Western science and water management concepts and tools, and the inferiority of local community socio-legal and technological repertoires.

□ *Essentialized positive constructions: 'indigenous-socialist communes'*

The same dualistic approach to 'the Andean community' that we find in either colonial or modernist representations are at the heart of romantic perspectives – radical/revolutionary or populist. The binary opposition between the undifferentiated components (traditional versus modern, rural versus urban, indigenous versus Western, collective versus individual, subsistence versus market, periphery versus core, etc.), largely separated in space and time, is basic here, too. However, now the valuing balance is in favor of the former group. Most commonly the regimes of representation are anti-colonial and anti-capitalist. A historically important current emphasizes the 'natural socialist structure' of Andean communities.

37 That is, if indirect rule to extract surpluses from communities faced increasing difficulties. See, for example, Toledo's policies and politics of creating the 'Reducciones' (chapter 6).

38 "Being like them" - Eduardo Galeano (1995). See also René Girard (1986), Ivan Illich (1978, 1979), and Hans Achterhuis (1988). See chapter 1, 6 and 10.

Where Marx saw peasant communities essentially as vanishing, traditional obstacles to class struggle and progress, early Andean revolutionary scholars (and later Sendero Luminoso) rather have followed indigenist, Mariáteguist and/or Maoist-Leninist lines of thought. Well-known Peruvian thinker José Carlos Mariátegui, who continues to influence contemporary Peruvian politics, progressive thought and radical action, wrote in his 1928 essay *‘El Problema del Indio’* that “the indigenous hope is absolutely revolutionary” (1973a: 33). Not for being an ethnic group (“the assumption that indigenous issues are an ethnic problem draws its strength from the most timeworn repertoire of imperialistic notions”) but because of the class oppression they collectively face, he concludes that “the way to achieve fair valuing of indigenous life is through Socialism”. But despite his sharp socialist critique of ‘mestizaje’³⁹ politics and other culturalist solutions for indigenous communities’ subordination, he also falls prey to revolutionary romanticism and indigenist historicism. Somehow he follows Luis Eduardo Valcárcel’s⁴⁰ indigenist projection of presumed Inca-socialism onto contemporary indigenous community structure – “agrarian communism based on the ayllus’ communist organization” (Ibid: 63). Amidst the worldwide socialist uprising of the 1920s, he asks his audience: “Why should the Inca people – who built the most developed, harmonious communist system – be the only people insensitive to the worldwide thrill?... Socialism appears in our history, not by chance, out of imitation or because it is in vogue, but as a historical act of Fate” (Ibid: 35-38).

Mariátegui also follows Hildebrando Castro Pozo who, in his historic writing *Nuestra Comunidad Indígena* (1924) portrays the contemporary Andean communities as if they were direct descendents of the *ayllus* in Inca and pre-Inca times. They would have socialist or communitarian foundations (see also Baudin’s negative description of ‘socialist’ Tawantinsuyo, 1928), and it was in store for them, as their historical destiny, to become socialist cooperatives.⁴¹ Liberal, individualist state legislation and most of all *latifundismo*⁴² were at the basis of their destruction. But as Mariátegui confirms in his essay *‘El Problema de la Tierra’* (1973b: 83): “Communism, by contrast, has remained the sole defense for Indians”.

The discursive creation of contemporary Andean communities as direct heirs and (socialist) foundation of the Inca Empire has been dismantled. Most communities today are descendants of Toledo’s ‘Reductions’ created to facilitate tribute assessment and socio-political control (chapter 6)⁴³ or were established later as a result of (local or State-driven) territorial colonization, land reforms, or community multiplication. But despite such evidence, the pan-Andean myth regarding the indigenous socialist foundations (and destiny) of contemporary communities is still very strong and has multiple expressions.

□ *Essentialized positive constructions: ‘noble, moral commons’*

Where Mariátegui, despite historic essentialism, stressed the need for cross-cultural action and international alliances (“there is no lack of people who believe me to be a Europeanizer”), a broad group of populist, romantic scholars and activists has basically denied – or ignored – the ethnic and cultural

39 Racial mixing based on biological-racist ideas of ‘improvement’/ ‘melting-pot politics’.

40 In his book of *‘Tempestad en los Andes’* (1927) on Andean society since Tawantinsuyu times, Valcárcel argued that “the indigenous proletariat waits for their Lenin”.

41 And, according to Castro Pozo, unlike industrial enterprises and hacienda yanacunas “the indigenous community conserves two major social economic principles [...]: the multiple labor contract and performing it with the least possible physiological strain, in a pleasant, supportive setting of good fellowship” (1924:47).

42 Creation of large plantations (latifundios)

43 The 16th century decimation of indigenous peoples and Francisco Toledo’s mass deportation and resettlement policy (starting in 1570) altered the human geography decisively.

pluralism within Andean communities. And rather than stressing the socialist inheritance of Tawantinsuyu they emphasized the *cultural and spiritual* continuity of (and inside) Andean communities since Inca times. The group presents a strong tendency to essentialize or naturalize ‘the community’, just as at a lower aggregate level ‘the household’ is naturalized (see chapter 11) and at a higher one, commonly in the Andes, ‘indigenous people’. Often they are portrayed as if they follow universal or pan-Andean organizational patterns, rules and relationships as if their features were irreducible and constant throughout history. Supposedly, there exists an essentialist Andean world view that decisively influences all behavior of human (and often also natural and divine) life worlds in the region. Andean peoples and communities are depicted as fundamentally non-Western.⁴⁴

The group of developmental and academic approaches constructs ideal-type communities, not located in space or time, and in representations it is common to see that tradition, custom and solidarity ideologies mask the process of internal class formation among peasants. Such approaches commonly lead to positions of cultural relativism, or even communitarism, in which (contrary to the equally problematic standpoints of neoliberal or neoclassical individualism) individual rights tend to be neglected when confronted with the rights of the collective.⁴⁵ Despite rightful critique to positivism, escapes into relativism lead to untenable positions,⁴⁶ and although respect for diversity is claimed for, difference leads necessarily to indifference (see chapter 14). Moreover, in terms of Andean water management, such an approach denies the possibility to make cross-cultural political choices or alliances for more equitable water rights distribution.

But in the Andean region, this is ‘solved’ as follows: communitarist or peasantist positions show ‘regionalized relativism’ and non-critical views towards one side only: pro-Andean and anti-Western. Ironically, the ontologies and conceptualizations of the ‘Andean community’ and ‘Andean water management institutions’ that find their origin in pan-Andeanist, indigenist schools of thought share the same fundamental way of reasoning as the colonial and modernist schools. Both construct ‘Andean’ as the direct counter-image of ‘Western’. The difference lies in the fact that the Andeanists first envisage a negative image of everything Western and then, largely unrelated to actual Andean rural and water control practice, posit the ‘real Andean’ as its positive counter-image.⁴⁷

Like the above indigenous-socialist representations, ‘romantropological’ or Andeanist schools

44 Cf. the critiques of Baud 2006; Harris 1981; Mayer 2002; Salman & Zoomers 2003; Starn 1991.

45 For multi-cultural relativists such a non-critical attitude is based on blind respect for other (i.e., peasant or indigenous) cultures and the impossibility of valuing their actions any way but through their own standards. The idea that judgments regarding local human practice can only and exclusively be made according to local codes is typified by the inhabitants of Communitaria in Steven Lukes’ novel *The Curious Enlightenment of Professor Caritat*: “We practice critique, based upon our own norms, but we criticize only ourselves” (1995:193). Communitarians explain this position as a critique of Voltairian Enlightenment, and to ethnocentric and positivist approaches that mistakenly claim to base their visions on value-free analyses not related to personal views, education, political interests, or philosophical beliefs. They argue: “This supposed ‘view from nowhere’ always appears to be a view from a position that is labeled as universal or objective by its advocates, and which they want to impose on others subsequently we accept as a fact that every view is a view from a certain standpoint, and that there is no standpoint that is better than the other” (Lukes 1995:189).

46 For example, if all standpoints (even contradictory ones) are considered to be equally valid and no basis exists for cross-cultural statements, critiques or judgments, not only will intercultural interaction be extremely difficult and is cross-cultural respect (the cornerstone of relativism) nearly impossible, but also the theoretical arguments of relativism itself are untenable since there is no objective standpoint from which to sustain and validate such arguments (‘except for one’s own culture’).

47 Modernist and ‘enlightened’ schools that analyze Andean community practice, on the contrary, skip the first exercise since the norm (e.g., rational farmers and efficient resource control in modernist terms) does not require marking: it is objectified, universalized, and thus *invisible*; and *Andean is what is different and diverging from this essence of rational resource management* (see ch. 9 and 11). And even when positively valued aspects of ‘indigenous’ water control are analyzed (e.g., as in the fashionable ‘best practices’ studies), the measurement criteria are all based on modernist criteria and concepts, reinforcing its image as universal bearer of ‘good-ness’.

are rooted in the intellectual tradition of indigenism that, since the early 20th century, has revived mythical images of the ‘noble indigenous (Inca) race’ to counteract the colonial imagery of backward Indians and subhuman peasants.⁴⁸ They also dichotomize complex reality and construct radical We-Other representations. Within this broad array of perspectives, two schools are prominent in the Andean debate: the first see themselves as We (the ‘Occidental’ academics) and essentialize the Others (the Andeans; see the critique of Starn 1991); the second group of scholars and activists (quite apart from the indigenous movement itself) claims to represent ‘the Andean’. The latter, headed by the PRATEC school (Proyecto Andino de Tecnología Campesina),⁴⁹ combines a ‘return to the commons’ discourse with an anti-imperialist ideology. Estermann (1998), for example, defends the need to break down Eurocentrism and Occidentalism, and sustains that Andean culture and philosophy is based on complementarity and reciprocity. “The foundation of the reciprocity principle is the cosmic order, a system of balanced relationships, which is reflected and has its base in the Andean community” (p. 19). This community “.. is characterized by an attitude of caring and profound respect by human beings for Nature as a whole” (p. 14). In a similar way, Rengifo praises the Andean ‘*chacra*’, the family plot in which the ‘cosmovisión’ and day-to-day practice would neatly intertwine, where “relationships of reciprocity are established among all elements of the natural community, constituted by humans, deities and members of Nature who are considered as living beings These relationships of dialogue, of empathy, of reciprocity among each member and the group as a whole seek the well-being or good health of the natural community” (1991:8)

Mayer rightly characterizes PRATEC as an ideological fusion of Andean cosmology, an ecological ‘back-to-Mother-Earth’ movement and a political, anti-Western, anti-colonial approach. As he observes, much of PRATEC’s research is, ironically, conducted by foreign researchers and funded by Western institutes (2002:274). Indeed, all of PRATEC’s studies are full of references to what would be the ‘occidental’ vision or norm, and then, by inverting this, the ‘Andean’ norm, vision or identity ‘pops up.’ As a consequence, intercultural dialogue, or mutual critique, is made impossible since ‘Occidental’ is made synonymous with the roots and expression of evil, and all things and relations valued as positive are labeled ‘authentically Andean’. This reification of Andean culture and community has, therefore, gone beyond cultural relativism: power differentials, gender discrimination and intracommunity oppression are either relativized, inverted into positively-valued Andean relationships, or critiqued as ‘outside’ influences and power relations imposed on Andean communities. The approach gives no room for individual identity construction, for multiple and interacting identities within communities, or for identity shopping in a rapidly changing rural-urban and global context. The distance between the ideology of harmony and actual power differentials and conflicts in Andean communities remains unnoticed since, instead of investigating ‘Andean communities in action’, cosmovisionist behavior and rights compliance is taken as an unquestionable framework of reference.

Particularly the concepts of ‘dualism’ and ‘reciprocity’, as the grounds for structuring Andean worldviews and actual social relationships, are portrayed as embedding intrinsically equitable, complementary relations among constituent parts. Andeanist scholars tend to emphasize that indigenous families spontaneously organize along ancient dual lines, and continue to do so, applying their own labor, marriage, inheritance and water management institutions in line with cosmic representations. They argue that the upper-lower moieties structure which constituted the basis for (dual, harmonic

48 Cf. Albó 2002; Almeida 1998; Baud 1997, 2006; Degregori 2000; Lemaire 1986; Starn 1991.

49 See, e.g., Apffel-Marglin & PRATEC 1998; Grillo 1993, 1994, Rengifo 1991; Estermann 1998.

and complementary) ayllu organization in (pre)Inca time continues to be *the* foundation. But as Gelles (1998, 2000) argued, this is probably far from the truth: “The maintenance of moieties in Andean communities during Inca and Spanish colonial times had nothing to do with spontaneous organization nor with local ‘preferences’. Rather, it is the exigencies of an extractive tributary and administrative system organized along dual lines (with a corresponding division of resources) that determined moiety endogamy in many communities. Although culturalist approaches have contributed greatly to an understanding of the synchronic functioning of Andean dual models, both in Inca times and at present, they have generally been oblivious to the hegemonic, colonial and extractive nature of moieties” (Gelles 1995: 718).⁵⁰ Moreover, the fact that “dualism is the cultural mechanism by which the random power of the wild is channeled into the domain of human society” (Sallnow, quoted in Gelles 2000: 98), does not imply that dual structures and strategies may not be oppressive and exploitative.

□ *Neo-institutional economic constructs: ‘rationalist collectives of individual subsistence producers’*

As a reaction against both colonial and romantic perspectives, the new institutional economics approach has gained an important position in the Andean community and water control debates. Advocates argue that ‘community’ is not a romantic left-over from the past, nor a germ and basic unit of Andean socialism either, but an organizational form that responds to contemporary livelihood needs. Here, individuals and families rationally choose for collective institutions and actions – not out of tradition but since these common institutions, comparatively, are the most effective, efficient entities to materialize their individual economic interests, reduce transaction costs, control opportunistic behavior (‘free-riders’) and make use of mutual dependency.

Introduction of this perspective of ‘community’ in the Andes followed its popularity in other regions and international policy circles.⁵¹ For its positivist economic reasoning is not so much based on intrinsic Andean culture and history, but has a universal rationality. An inherent problem of this line of reasoning is that it has difficulty to incorporate ‘non-materialist features’ or ‘non-economic incentives’ in its explanation of Andean community constitution and action, particularly those influenced by the political (ideological) and cultural-metaphysical domains. Even more difficulties are encountered when trying to explain ‘irrational motives’ in community action or collective water control, or even give room to contingency in the shaping of collective livelihoods. Issues such as conflict resolution, psychological power games, disciplined behavior, mimesis, resistance, but also responses to supernatural demands, do not always follow local (and even less, universal) individual-collective rationality.

The neo-institutional approach fundamentally sees the community as a group of prisoners captured in the dilemma of rationally and collectively controlling resources in order to optimize or maximize each one’s economic benefits. Ironically, although it tries to ‘defend collective action’ and ‘community’ against the myth of the Tragedy of the Commons by showing the community’s economic rationality, just as in Hardin’s analysis their fundamental tenet is that people are narrowed down to individually calculating economic humans, rather than being social and cultural community members affiliated through ties of kinship, ethnicity and neighborhood, who apart from economic

50 Also Sherbondy (1987) and Rostworowski (2000) show how Inca politico-geographical dualism served to give social organization an economic basis, in order to divide among groups with more and less power and prestige.

51 See, e.g., the studies of Kervyn 1988, Bromley et al. 1992; Ostrom 1990, 1992. For a critique, see Agrawal and Gibson 2001; McCay and Jentoft 1998, McCay 2001; Li 1996; Mayer 2002, Van der Ploeg 2003.

behavior *also* listen to ‘irrational’ motives grounded in love, hate, pride, jealousy, friendship and metaphysical powers.

A fundamental problem of the approach is that it fails to posit or analyze Andean communities and collective irrigation systems within the larger political economy and cultural politics of the Andean nation-States (Boelens & Gelles 2005). The same mistake is made at the local level, despite its integrated discourse. Mayer rightly puts forward a fundamental critique of this model for it bypasses both the community and the household as crucial entities and actors, “in order to focus directly on the individuals within it – individuals who make cost-benefit choices, within the context of the household’s means and needs, between rewards and punishments and between investments and payoffs. The household in this model is a miniature marketplace where rational actors trade in everything – food, affection, authority, leisure, pleasure – and compete with each other” (Mayer 2002: 5). The community is seen as the aggregate outcome of the choices and behaviors of individuals (McCay 2001). Instead, communities, households and individuals – rooted in a shared past, present and future – are linked through, embedded in, and moved by webs of power, symbols and meaning, only part of which are purely economic.

□ *Deconstructing community constructs: ‘unpacking the Andean community’*

Besides Marxist schools and Agrarian Reform experiments with a more classical orientation toward ‘deconstructing’ the peasant community (according to the laws of historical materialism that foresee their proletarianization),⁵² a new intellectual ‘deconstructive’ school has gained ground; it profoundly critiques the above modernist, socialist, romantic, and rationalist (game-theory) concepts of community. The ‘initial community myth’ was already largely dismantled by ethnographic comparative studies showing huge differences among societies that are referred to as ‘communities’ (Guevara 2006)⁵³ and, as Mossbrucker argued, “due to the great variety of functions and contents that communities assume in different regions and peoples, a clear, single definition of their *contents* is not possible at this time, nor does it make any sense” (1990:100). Moreover, rather than being the Wolfian ‘closed corporate communities’,⁵⁴ or the PRATEC ‘noble commons’, evidence has shown that communities are stratified groups, with class, gender, ethnic and age divisions involving not only production and distribution, but also their symbolic world. Authors as Grondín (1978, cited by Degregori 2000:155) even go so far as to talk about the Andean community as a mechanism, dominated by the powerful, that subtly allows its members to participate in exploiting themselves – ‘calculated exploitation’. Other studies now point at the hybrid, fluid identities of comuneros, campesinos, indígenas, and even landlords, and the manifold ways in which communities and their members cross regional and transnational identity and geographical boundaries.

In the Sul Sul community of Licto, for example, absentee landowner Manuel Yungán migrated to Quito many years ago. In Ecuador’s capital he established the now powerful *Comité de los Migrantes de Sul Sul*, with the formal objective to support his community (charity), but with the hidden

52 In Marxist terms, ‘petty commodity producers’ (peasants of whom only part of their resources are commoditized) would either be integrated as proletarians or as ‘simple commodity producers’ (whose resources all enter the process of production as commodities except for their labor) in the capitalist system, were they are confronted with entrepreneurs who only produce what creates surplus-value (‘capitalist commodity producers’ of whom all resources enter the production process as commodities). Peasant communities would be decomposed or transformed into cooperatives, as in the Peruvian Agrarian Reform period.

53 Degregori 2000, Golte, 2000, Mossbrucker 1990, Núñez-Palomino 1995, Salomon 2002, Starn 1992.

54 Wolf 1957, 1966. Even the pre-Conquest *ayllus*, as Murra (1978, 2002) argued, similar to many of the contemporary communities, could better be described as ‘archipelagos’ of households scattered throughout the landscape and tied to each other through ethnic and kinship bonds than through their demographic closeness.

agenda to enforce remote control over land and water management back-home and, as the committee's president, make sure that his interests are met in the community, by manipulating local households and efforts to place figureheads. In the Licto communities, absentee landowners intervene importantly in local institutions for water control and community conflict management, and are an important factor in linking the irrigation system and the community to outside interests and power structures. In the case of Sul Sul, Yungán has shown that he has the power to paralyze water management whenever he pleases (e.g. during local elections), by accusing the current community leaders (“la Junta sólo sabe robar”⁵⁵) or denying the need for collective maintenance efforts and local water rights definitions (“no hay que trabajar en mingas ni pagar cuotas”⁵⁶). Strategically, in Quito he identifies himself as a white-collar mestizo, in Sul Sul he portrays himself as an indigenous leader.

‘Transboundary networking’ and ‘transcultural shopping’ is a common phenomenon of all communities, and the essentialized, legal construct of ‘peasant or indigenous community’ most often proves to be an tremendous mismatch (Boelens et al. 2005). As Guevara (2006) observes, therefore, it comes as no surprise that Skar found in the Peruvian highlands that *mistis* (*mestizos*, i.e. non-indigenous) had manipulated the community recognition law to establish “their pseudo-community under State protection” and that “ironically, although the law was made to benefit indigenous communities, newly-established communities were often neither communities nor indigenous”. Skar reports that the population of one recognized community “was mainly black, while other communities were apparently of Chinese descent” (1997:111). It also shows that social groups creatively use State law to serve their own interests (Guevara 2006; also see chapters 12 and 13).

The deconstructivist schools, in the region and abroad, aim to de-romanticize and ‘unpack’ concepts taken for granted in (among others) community paradigms. As Long observes, it is necessary “to get behind the reifications of local culture and knowledge, to uncover the particulars of people’s ‘lived-in-worlds’. That is, we need to document the ways in which people steer or muddle their ways through difficult scenarios, turning ‘bad’ into ‘less bad’ circumstances” (Long 2001:14). It is also a reaction to the excessive preoccupation in development policies with ‘what ought to be’ rather than ‘what is’ within complex context, with doing rather than analytical understanding (it shows the need for the ‘deconstruction of development’).⁵⁷ This shift has also contributed to bringing into sharper focus the day-to-day socio-legal dimensions of community and water control, and challenged assumptions about law and water rights as instruments for steering and controlling complex processes of planned societal change. It focuses not so much on formal community structures or water rights but rather on the ways these are produced, reproduced and transformed; on the ways in which people are involved in local manifestations of ‘water rights’, ‘community’ and ‘development’; on the degree to which actors can use legal regulation as a ‘resource’; and on the degree to which people orient their behavior towards it (Roth et al. 2005). Communities, and water control, ‘in action’ is the main focus.

□ *Political re-affirmation of ‘community’: ‘cultural-political identity collectives’*

In their rightful critique of those essentialist approaches that construct the community as a projection of their ideological ‘community-as-it-should-be’, it is not uncommon for some deconstructivist studies to tend to deny the very existence of ‘Andean community’. At least, that is the reaction and

55 The Board doesn’t know how to do anything but steal.

56 There is no need to participate in community work parties or pay dues.

57 See, e.g., Agrawal & Gibson 1999, 2001; Benda-Beckmann 1993, 1996; Cleaver 2000, Escobar 1995; Long and Long 1992; Long and Van der Ploeg 1989; Moore 1978; Mosse 1997; Roth 2003, Zwartveen 2006.

counter-perspective of, for example, many indigenous groups and movements in the Andes. They often see it as a denial of their roots, culture and region-specific institutions. As Lema Otavalo says: “Let us tell them who we are, before they come to tell us and impose an image of who we are not” (2001: 119).⁵⁸

Moreover, since the early 1990s, indigenous movements in the Andes (especially in Ecuador and Bolivia), for the first time in centuries, were able to develop an enormous political counterweight precisely by their collective ethnic-cultural identification as ‘indigenous’, rooted in ‘communities’. Open, proud (re)appropriation of indigenous identity and the association with both ‘campesino’ and ‘comunidad’ enabled subaltern groups in the Andes to ally, defending themselves against the very discrimination, differentiation and subjugation as ‘ignorant indigenous’ or ‘backward communities’.

Undeniably, there is a strong tendency in this school or movement to *re-essentialize* as a reaction against both racist or modernist regimes, and deconstructivist schools. I argue, however, that it should not be confused with PRATEC-type radical-romantic representation scholars, who claim to be scientific and rooted in the Andes but have no followers in the communities themselves. The indigenous movement’s regime of self-representation in many instances may ‘factually’ not be ‘true’, however, since identity and community are *also* ideological constructs they become ‘true’ within new discourses, rooted in actual communities (seemingly the same, but subtly quite different from the fore-mentioned essentialist community discourses). Deconstructivists often have critiqued this regime of counter-representation on the basis of just ‘scientific grounds’ (often taking the same objectivist stance ‘from nowhere’ that they themselves commonly attack) but neglected its properties (and social importance) as a strategic, counter-discursive struggle. Divergent images of community, as Li rightly argued, “result not from inadequate knowledge or confusion of purpose, but from the location of discourse and action in the context of specific struggles and dilemmas” (1996:523). In fact, it is part of a process by campesinos and indígenas to re-appropriate what is denied as being Andeanity, ‘lo andino’, ‘la comunidad’ and it generally is done with a clear *political* objective: the formation of alliances and counter-discourses to challenge overt and covert forms of domination. As Starn accurately observes: “In part, then, Andeanism has come full circle. What began as the imposition of outside observers now becomes redeployed by popular organizations. “We” and “they” connected not just through political economy but also across the more subtle channels of representations and self-imagination” (1991:86).

The answer to the question of what an Andean community (or water users collective) is, by definition, is socially constructed and depends on context, time, analytical approach and ontology. The diversity is enormous and the thinking and talking about ‘communities’ is colored by local and historical evidence as much as by regimes of representation, and thus by particular interests, truths and perceptions. The identity, or even the existence, of the Andean community cannot be assumed beforehand, and can only be ‘discovered’, time and again, either in (equally divergent) terms of the community members or as identified by others. And if these ‘others’ identify a community or ‘the’ community, they must necessarily decide which words, concepts, perceptions, and definitions to

58 As Paul Gelles (2000) observed, the rituals, beliefs, norms and institutions for collective action associated with Andean communities are those most easily exoticized and romanticized in representations of the Andes. Conversely, critiques of such representations often relegate Andean livelihood strategies and worldviews to the margins, thus trivializing a key component of highland cultural identity (Cf. Gelles and Martínez, 1993; Gelles & Boelens 2003; Baud, 1997; Baud et al., 1996).

select from the various overlapping layers and repertoires of group properties (collective norms, rules, rights, practices, etc., either in its referential form or as practiced in action) that make up the ‘community identity’. Thereby and consequently, they cannot anymore be considered as ‘objective outsiders’ since they actively relate to the community and from a situated perspective construct and influence its definition. The community is shaped and its definition is attached to its definer.

In practice, despite heterogeneity and differentiation, Andean communities do not generally fall apart (Mayer 2002). “The territorial community maintains its existence despite many pressures and disputes”, as Castro (2007:153) rightly observes. Members identify with the community, which provides social and cultural sense to their lives, and economic and material basis to their livelihoods. Even when for some individual power groups the ‘community’ basically represents a legitimization of their extractive purposes, for most members it is the only means to build, operate and maintain collective infrastructure (irrigation, roads, football fields, churches, *casas comunales*, etc.), access and develop collective natural resources (water, forests, pasture land, etc.), defend community territory, and have their own social security and redistributive system in times of crisis.⁵⁹

Where experiments of vertically installed forms of collective agricultural production (e.g. cooperatives in Peru in the 1970s) have dramatically failed, and many development initiated forms of collaboration (e.g. credit and collective marketing cooperatives) lead a cumbersome life (as long as external support is available), communities, in multiple forms, persist and are growing in all Andean countries. “These numbers reveal that communities are an important and growing component of rural settlement patterns and land tenure arrangements, and not, as is often expressed, a declining left-over of traditional backward rural systems or an empty shell of colonialism that should be abolished” (Mayer 2002:37. Cf. Van der Ploeg 2006, 2008)

The deconstructive approach to ‘the community’, in theory and practice, is not incompatible with the re-constructive strategies whereby the community is re-affirmed and, in particular, the *system* properties – a contaminated word in contemporary social science – of water users collectives are brought back into the picture. It is not a presumed *existing* ‘organic solidarity’ and set of boundaries that define the community – this myth has effectively been dismantled – but the process of seeking its materialization: not in the ‘should be’ policy tradition, but from below and from within. An irrigation system needs to be a system to prevail, a community must succeed in the effort to be a whole if its parts want to survive. For example, the household alone is not capable of delivering the inputs required to build, maintain and recreate the social and technical infrastructure that need to be in place to bring water (and other necessary resources) to their homes and fields. Therefore, being common property entities, rights and boundaries must be conceptualized, established and re-affirmed, in all five water control domains, *precisely because they are fluid and not fixed*. In Andean communities, just as in local irrigation systems, rules must be created and enforced to collectively use, manage and defend their resources – e.g. against outsiders. As I have elaborated in chapter 2, for this purpose it is crucial for community members to work out clear boundaries and shared rules regarding membership, operational rules, rights, obligations, mechanisms of rights acquisition and enforcement, penalties, and the economic, political and symbolic relationships that are to govern the community and/or the irrigation system. This does not mean that they *exist* sufficiently, since ‘community’ is the *challenge and need* to (collectively) create, refine and re-affirm shared norms, values, rights and symbols.

A water users community, thus, although internally differentiated, *requires* a collective identity

59 See Greslou & Ney 1986; Guillet 1992; Mayer 2002; Gonzales de Olarte 1990.

connected to its water sources and socio-technical canal system, it *demands* to have a shared normative system as the outcome of its negotiation processes, and it *requires* a physical and territorial water control space that *needs* to be limited by physical, natural and human boundaries. And these geographical, physical and social boundaries need to be collectively constructed. But they are not a given. They are a process. Communities, then, are arenas where diverse actors negotiate and coalesce to come to an agreement among diverse interests and to determine the rights, rules and conditions under which the resource management strategies are going to be realized and the risks, conflicts and contingencies can be controlled as much as possible.

It is common to see in Patococha (Ecuador) how, at least in these days, indigenous and mestizo farmers work together to operate the collective system. In Mollepata (Peru), poor and middle class peasants, despite inequalities, worked together to rehabilitate their water system and now engage in collective action to maintain it. In Pungales (Ecuador), gender differences in water management are certainly not settled, but male and female users are convinced of the need to collaborate to actively construct, re-establish, affirm and defend collective boundaries. Socio-economic homogeneity in these communities and systems is a myth, and everyday water control or community life is full of divisions along gender, class, age and ethnic lines. ‘Community’ is an effort, a process, and a capacity, to materialize dependency through negotiated cooperation and conflict avoidance, to work together in diversity, and to direct the limitless network it constitutes towards a common resource management objective.

Within most Andean communities and water control systems, apart from power differentials, local authority structures and social control, there is also relatively plenty of elbow room for households. Commonly, there is no such thing as blind conformity and households mostly have relatively enough space to interpret rules and rights as long as community reproduction tasks are fulfilled. Through assemblies and political meetings they can pressure authorities to accept or change rules. Mayer (2002: 249) speaks about the dynamic, symbiotic, and conflict-ridden relationship between the constituent households and the community: necessarily, there is a constant tension between the interests of households (who press for as few duties and as much autonomy as possible) and the restrictions and controls imposed by ‘their own collective selves’ in order to endure as a community.

In sum, communities are complex, multi-layered entities whose members, differentiated by class, gender, status, and often by ethnicity, *try to construct and re-affirm* social and territorial bonds because of mutual dependence: the continuation and improvement of their livelihoods and well-being requires a shared rights system and institutions for collective action to defend and control certain fundamental individual and common resources. Similarly, Andean water control collectives refer to a group of internally differentiated water users who are bound by mutual dependency to develop, use and manage their water sources, by a sense of collective (culture-space bound) hydraulic identity, and who are determined to *realize* their interdependence and materialize their collective and individual water rights by engaging in collective action strategies. To illustrate that this exercise to (re) construct ‘community’ is not an easy one, the next section focuses on a case history in Ecuador.

4.8. Collective water demand and hydraulic identity: delicate balances

'Ethical principles' and collective contractual reciprocity

Morasloma, La Cruz and Patadel are three communities that have historically shared water from four sources, the Azhanga, Chorro Seco, Rumihurco and Garo springs, located at 3400 m. altitude.⁶⁰ Their compound irrigation system is one of several small, inter-communal systems in Nabón, Azuay, in the Southern highlands of Ecuador. No historical data are available on this system's ancient past. Dwellers do remember turning-points in the defense of their rights to the water from these springs. For example, in the year 1935, when it was rumored that the inhabitants of the white-mestizo town of Nabón were going to try to take over this water, comuneros of the three communities managed to defend their rights to the Azhanga and Garo springs. Now, the Patadel canal, a 19-km long *acequia* dug in clayey soil, conducts water to the three communities that were previously grouped into a single hacienda.

Within historical times the region's agro-ecology could be typified as having environmental equilibrium, but in the last decades natural soil loss has been accelerated by aggressive deforestation and intense natural resource use, due mainly to population growth. In interaction with broader economic processes, this has driven the zone into critical poverty through a vicious circle of impoverishment and overexploitation. Under these conditions, 'pendulum-type' migration has developed as the principal subsistence strategy. This intermittent migration process currently includes the great majority of men and around half the young women. Agricultural production has become a complementary

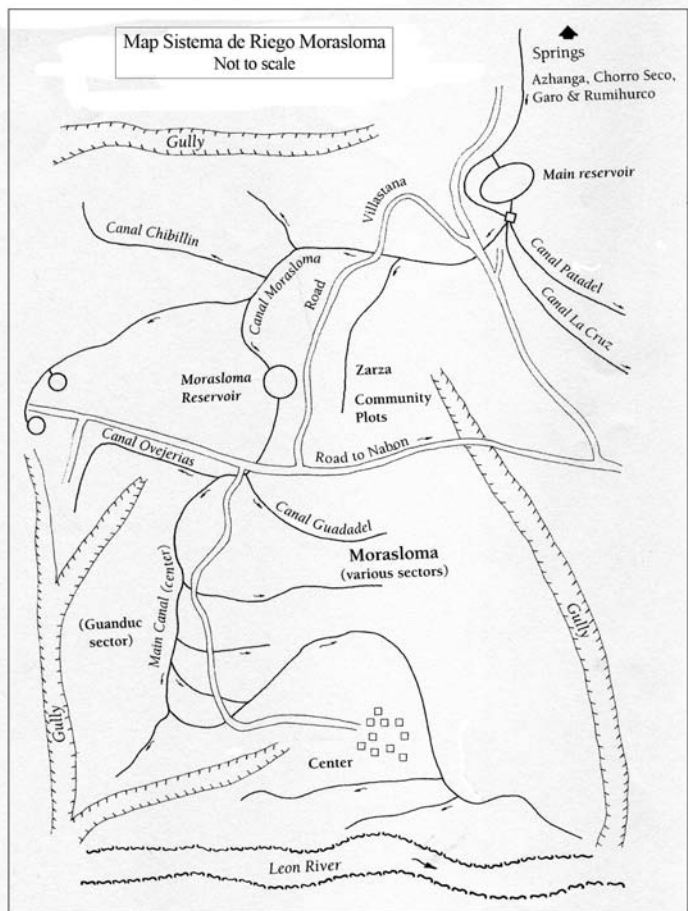


Figure 4.2 : Map of the Morasloma irrigation system
Source: Boelens, Caiza and Unda (1998)

⁶⁰ This case is based on Boelens, Caiza and Unda (1998) and field work of CESA in Nabón.

source of subsistence.⁶¹ An increasingly tight labor market leaves few alternatives to the peasants and inspires them with conviction and interest to improve their own agricultural production system. This would give them some control over their migration frequency and, above all, improve subsistence conditions for people remaining in the community. But their minifundios are very small and scarce irrigation water further limits this 're-peasantization' process.

When in the early 1970s water resources were nationalized in Ecuador, the town of Nabón (again) tried to take advantage of the new legal situation and take over the water from these four springs. So, the communities successfully took action; both their historical use and geographic location made them the natural water beneficiaries. Moreover, in previous years inhabitants had invested much labor in constructing, rehabilitating and maintaining the canal which, according to the local normative repertoire, earned them the right to use the canal and water and to establish their authority. In 1975, a Water Board was appointed by the three communities to conduct negotiations in order to obtain legal water rights from the former state agency, INERHI and so back their claims. This process concluded with the Allocation Agreement with the Morasloma, Patadel and La Cruz group, allocating 200 liters per second to 255 users holding a net total of 200 hectares.

In 1984, after years of lobbying the government agency for infrastructure that could store irregular flow, four reservoirs⁶² were completed. These new conditions facilitated water redistribution, which was based on the number of users and the land area registered with the State agency: 40% for La Cruz, 30% for Patadel and 30% for Morasloma. However, although this water distribution procedure is considered fair by the respective peasant families, users of Morasloma cheated themselves by declaring smaller land areas than they actually have, fearing that this declaration might be utilized for State tax collection. This 'self deceit', very common in the Andean world and evident in many irrigation projects, is the consequence of a long history of deprivation and abuse of indigenous populations by the authorities.

To materialize water distribution among the three communities, a structure was built that divides the flow into the above proportions. Downstream from this division structure, each community manages the system with relative autonomy. In order to understand intra-community water control, the Morasloma water rationality is outlined below, since for outsiders and official regulators the situation cannot be described but as leading to irrational chaos. Hardin (1968) would have studied it as necessarily producing a new 'tragedy of the commons' in need of State intervention or private property institutions, and neo-institutional common property scholars would have wondered how water control can function without installing the famous eight Ostrom principles (Ostrom 1992). In a situation where families have more irrigable land than the water sources can satisfy, is it possible to distribute the scarce water in an orderly, equitable, rational way in these systems, without prescribing fixed schedules for each family, assigning exact shares or volumes to each member, or regulating how much land each family is permitted to irrigate?

According to the inter-community agreement, Morasloma is entitled to a flow of 60 l/s. However, when water is scarce, this can decrease considerably and is regulated by using the reservoirs. The overall Morasloma irrigation area is 150 hectares, divided among 64 families. Land tenure, i.e. the *irrigable* area, differs much from one family to the next. However, families do *not* irrigate their whole irrigable land area. In spite of water scarcity, absence of fixed schedules or regulations defin-

61 Maize, barley, wheat, *melloco* (an Andean tuber), potatoes and some garden vegetables are cultivated, in addition to pasture and alfalfa.

62 A main reservoir and smaller ones for each of the three sectors, together storing around 100,000 cubic meters.

ing exact areas to be irrigated by each family, and despite the fact that certain families have the potential to irrigate much more than the area currently irrigated by them, there are few water conflicts in the community. To better understand, let us analyze in more detail the water distribution norms that have developed.

Local water rights establish that water is linked to the plot, i.e. the user has no right to re-direct the flow to any other plot than the assigned one. The turn that corresponds to a user is utilized until the irrigation of that plot is finished. Thus, there is no fixed time for the turn, which implies that the schedule (the timing) is also variable. Once the irrigation of a plot is finished, the turn is passed on to the neighbor. The basic scheduling principle is ‘until finishing’ or ‘llenar la chacra’, – the right to ‘fill’ that part of the plot that has been sown with irrigation-dependent crops. So, does every user try to sow as much as he or she can, in order to have more water rights? This is not the case, and the fact that water turns tend to last between 6 and 20 hours is not a direct indicator of inequality in water distribution.

Firstly, there is no great range in the areas irrigated by each family that could privilege those who have more land; rather, according to an unwritten rule, water users say that they only irrigate a relatively standard, limited area “so as not to harm others”. Secondly, some farmers in the lower part have flat plots with granular characteristics of high infiltration through which the water runs more slowly. They need longer turns to ‘fill their fields’. Families permit this and explain the situation by saying: “It is not that our neighbor is wicked, it is a question of Nature”. Furthermore, lands with steep slopes and erosion-prone soils or low water absorption properties require the application of only very small flows to the plots, with long duration. Third, families at the tail-end of the canal, generally the least favored in irrigation systems, also benefit from this approach. They get smaller flows due to water seepage and infiltration along the canal, but with this flexible scheduling they can enjoy their right to sufficient water, using longer turns to finish irrigation. For all these reasons, there is a substantial difference in the number of hours used by different users.⁶³ Morasloma practice is that irrigators do not water all the fields they possess. On average, each farmer has some six little plots along an irregular topography and irrigates only the two or three that have better soil, because they take into consideration the scanty volume of water available for the community. This attitude, in Morasloma comuneros’ words, is: “To give everyone advantages”. This explains the relative homogeneity in the area irrigated by each farmer.

Many conceptual explanations may be offered for this principle of respect for neighbors, which we earlier referred to as an ‘ethical principle’.⁶⁴ However, it is not justifiable to idealize it under the diffuse concept of ‘Andean solidarity’. Such a concept easily disregards the sometimes opposing interests of individual families in these communities.⁶⁵ In line with section 4.4., Morasloma inhabitants behave according to the rules of *collective contractual reciprocity*, a fundamentally non-com-

63 In a comparative study, big white-mestizo farmers from an area neighboring Morasloma were asked about the functioning of their water rights and irrigation schedules. The answer of one of the farmers is illustrative of differing equity conceptions, telling that his turn lasts between three and four days (so obviously he was using the water for much more time than the other system users), but he felt that such a situation was fair, because he was paying a higher annual fee (Boelens, Caiza and Unda 1998).

64 Similarly, Cleaver (2000) refers to the system of authority based on the collective ethos of ‘the right way of doing things’, with principles such as inclusiveness, conflict avoidance and respect that are deeply held but open to negotiation, “... the ‘institutional stock’ provides the basis from which mechanisms of cooperation are consciously and unconsciously drawn” (Ibid:381).

65 Thus, such a concept of ethos is not to be romanticized. Richards (1990:105) rightly critiques the mystifying *beliefs*, “... often close to religious conviction, that the life of the poor is somehow more honest and authentic than a life of bourgeois sophistication”.

moditized, non-formalized, moral (not necessarily symmetrical) and mostly unwritten agreement based on mutual trust.⁶⁶ Reciprocity has a compulsory nature, so collective and mutual interests can defeat individual and separating interests. This is a main reason why Morasloma's irrigators limit their irrigated area in times of water scarcity, despite the fact that nobody restricts them through a formal schedule. Respect for neighbors is institutionalized through strong social control that enforces the informal collective contract. The ethical principle, then, does not refer to philanthropic values in Andean communities but to the communal prescription of a reciprocal norm. This norm demands respect for common interests so the community and irrigation system will survive as collective management and livelihood institutions.

As for spatial features of turn organization, distribution order is organized according to altitudinal criteria, but interestingly the turns start from the tail-end up and from the lateral canals. So, irrigation begins at the last plot, which, in this case, is the first to get water. Thus, shifts to neighbors are transferred upwards to avoid, according to the water users, "*the temptation of head-end irrigators to harm tail-end ones*". The function of the storage reservoirs is not so much to expand the irrigated area, as to help get them through dry periods. Then, the reservoirs serve to regulate irrigation flow. Three modes of distribution (*'turnos'*) are used. They are implemented according to climate and rainfall conditions in particular periods of the agricultural season:

- The *Annual Turn* is kept practically all year round as a complement to rainfall. For the annual turn, water from the reservoirs' spillway is used; reserve water itself is not used for irrigation in this period. During this phase, families have much liberty to take the water they need, but they must respect the ascending order and the day that water is assigned to their sector. Normally, four to eight users irrigate each day simultaneously, and not all families necessarily use the turn. Water distribution extends from Monday to Saturday, and water is distributed for two days per 'sector'. The several sectors in the community have been grouped into three irrigation sectors. On Sundays, flowing water is freely available.
- The *General Turn* becomes necessary during dry times. After several rainless days, when crops begin to be affected, verbal petitions are made to the president of the Water Board, who summons a General Assembly of the three communities. At this Assembly they decide the date when the general turn will begin. A general turn can last from a few days to several weeks. In this distribution mode there is no more reservoir overflow. Therefore, the irrigation representative opens the pond valves and turns are organized in such a way that water is distributed to 18 or 19 irrigators per day. Five users irrigate from the tail-end of the Ovejeras branch canal and five from the tail-end of the main canal, coming together at the Guanduc sector (see figure 4.2.). Meanwhile, in the Zarza sector, where families have communal lands, and in the Visllastana sector, 8 or 9 users irrigate daily. The longer a general turn lasts, the less flow is let out of the main reservoir, for the pond must not run out during dry times. Night irrigation is not practiced since the pond is filled from the springs at night. There is no irrigation on Sundays either because the main reservoir valves are closed to store water: "*On Sundays, the water needs to rest*". The community has forbidden irrigation of pastures during a general turn. During an annual turn, it is possible to irrigate cultivated range, though not natural grassland. This also limits and regulates the area's livestock activities.

Since turn schedules are not fixed, irrigation intervals also vary. The irrigation frequency is every

⁶⁶ Accordingly, this is not to be confused with formal or market contracts. Officialization or commoditization of the contract would undermine its nature of moral obligation and reciprocity in Andean water user collectives.

week in the rainy season (winter, annual turn, three sectors) and lengthens to between 15 and 30 days in dry times (general turn).

- A *Complementary Turn* is an extra watering especially for potato and sometimes vegetable crops, which cannot wait more than one week without irrigation. The irrigation representative gives families who are in this critical situation an extra turn, because in the normal cycle the family gets its turn only every 15 to 30 days.

These three ‘turn’ regimes, in combination with irrigated area self-limitation, materialize the water users’ collective concept of relatively equitable water distribution.

Cases such as Morasloma provide clear evidence of the fact that irrigation requirements and water scarcity are not defined just by climatic and technical production-related factors. Ultimately, it is within the system’s collective management where social rules determine a *collective water demand*. This collective demand – one of the operational keys to the system – is possible because, under strong social control and embedded in a particular time-and-space social network, the system has struck a balance between the interests of individual families and those of the collectivity. However, this current (and relatively recent) equilibrium is not fixed and static. The balance can be destroyed, ‘from within’ as a result of some families’ individual initiative or internal differentiation processes, or ‘from the outside’ under the impact of external interventions, imposition of water law and policies, unbalanced penetration of market forces and other processes that influence the communal production system. Under these circumstances individual interests may become intensified and override collective ones, and commonly, the community ‘reacts’ to re-install ‘reciprocity’.⁶⁷

Regimes of reciprocity: between mutual support and concealed subjugation

In the Andean region, reciprocal relationships and exchanges, as in Morasloma, are an intrinsic part of the social water control network. The precise contents and forms of reciprocity relations are worked out historically and differ per system. According to the community or system, new relations of exchange, formalized or commoditized, have altered or supplanted some forms of water control reciprocity while others persisted. At the inter-family level, *ayni* (Peru, in Ecuador: *maquimañachi*)⁶⁸ is a fundamental pillar of non-commoditized reciprocal exchange. In the words of comunero Gregorio Condori Mamani:

“You’d have to lend a hand to your kinfolk and villager friends, from one day to several weeks of work, and then they’d also come work for you when you need them. [...] And then you’d just tell them which of your fields needed work. That’s the only contract there used to be.

67 Morasloma’s peasant economy is intertwined with collective water control and needs to be analyzed as a whole. Outside-driven technological change may have a positive effect on one agro-productive activity but harm the others and eventually endanger the entire collective production rationality. For example, introducing and generalizing new potato and vegetable varieties would modify water requirements and could increase individual demand for irrigation water. Similarly, a program to intensify livestock raising in the zone could encourage individual interests to ignore the common rule of ‘no pasture irrigation’. Such and other factors can *individualize water demand* and so, generate a serious water shortage (chapter 10). It is not crops but human beings who define the social demand for irrigation water. Water scarcity is not absolute but relative, and related to the (im)balance among social interests. In case of future imbalances, the solution to maintain the collective management in Morasloma would seem to be the communal re-definition of water allocation and distribution rules, such as more strictly scheduled turns, fixed volumes, or pre-established irrigation areas for every family.

68 The *minga* (Ecuador) or *faena* (Peru) refers to the collective working parties for community benefit. *Ayni* (Peru) or *maquimañachi* (Ecuador) refer to inter-family reciprocal exchanges. They have numerous, context-specific definitions, contents and names.

And they'd come to help you. Payment was never in money, whether it was you helping them or them helping you. It was done through exchange, by trading labor in *ayni*. [...] The fields aren't the only place where people trade *ayni* favors, it's used in everything: when you get married they help you in *ayni*, and when someone in your family dies, they'll lend their help for the burial. If you don't have a donkey to haul your potato harvest from the fields to your bin, the only way they'll get lent to you is through *ayni*. But one thing's for sure, you have to return each *ayni* you've received with all your heart. [...] When you swap *ayni* favors, you have to put your heart into it, and when they come help you, you've got to treat them right. If there isn't any warmth in your house, few people will come to help you" (In: Valderama & Escalante 1998:41-43).

But not just individuals – the collective also requires reciprocal bonds. For example, in exchange for water rights the community calls for contributing labor to build or maintain the irrigation system, joining in the distribution, administration and vigilance, and sharing the funding of ritual and social expenses such as in *fiestas del agua* and other cultural events that consolidate bonds of community cohesion. And as Mayer observes, “the obligation to pass through one of the *cargos* (community posts) is a *sine qua non* for access to water and community membership” (Mayer 2002:288).

Different from formalized water control procedures in State irrigation systems, or the transfer mechanisms associated with market-based allocation of water rights, community reciprocal exchanges are not decontextualized and depersonalized. Local social relationships give value and meaning to reciprocal exchange, and its local *assessment* is realized according to the prevailing, culturally constructed moral standards and norms of ‘acceptability’ (‘equity’), whereas market transfers are seen as impersonal, general, and morally neutral.⁶⁹ Similarly, different from the depersonalized irrigation obligations in State managed systems (fees, taxes, etc.), contributions in all community systems dealt with in my study, in varying expressions, take the particular situations of persons and households into account. Often, for example, the elderly and ailing are excused from labor obligations. In Ceceles and Licto, irrigation leaders were exempted when they had to travel much to negotiate with outside parties and defend collective water rights. In water use organizations as in Licto, female water users managed to get locally institutionalized that they could get ‘pregnancy leave’ when *mingas* were planned (see chapter 13).

When characterizing ‘generalized reciprocity’, Mayer (2002) argues that for social institutions to work robustly it is no longer necessary for parties to mutually measure contributions or monitor flows; they consider this to be irrelevant or inappropriate – in line with what Sahlins (1972) referred to as ‘not counting’ economies. This is not the ‘contractual reciprocity’ I refer to, the water rights relationship as it is commonly defined in user managed water control systems. Here, members certainly ‘count’, and often, this registration of irrigation *minga*, *faena* or *cuota* contributions is fundamental to organizational strength, conflict control, and water rights efficacy. Visualizing this counting as done in the Mollepata communities (monthly community presentations and public evaluation of each families’ *faena* levels) or in the Licto communities (local water rights certificates indicating *minga* and *cuota* accomplishments) are crucial to ensure collective action.

The Patococha irrigation system in Ecuador (see section 2.9.), is an illustrative case in which the

⁶⁹ As Mayer argues, “a major difference between reciprocity, on the one hand, and buying and selling or barter, on the other, is that calculating behavior is masked or covered up by the etiquette of the supposed voluntary giving and receiving of gifts [...] Because goods exchanged through reciprocity come wrapped in elaborate etiquette, they have not only value, similar to price in buying and selling, but also *meaning*” (2002:106).

state agency INERHI denied the local importance and rationality of ‘counting’. In order not to miss production increase opportunities, the State inaugurated the system and released its flow before all families had fulfilled the locally established reciprocity levels (in terms of numbers of minga labor days provided to the collective system), resulting in chaos and internal struggle, weakening the organization and its reciprocal foundations. Establishing the validity criteria for ‘reciprocal counting’ is a crucial component in local water rights’ negotiation and affirmation. For example, in the case of Pungales, Ecuador, the genderedness of valid counting (e.g.: ‘are female mingas to be counted equally as male labor days?’) was a topic of continual community debate, re-negotiation and revision (Arroyo & Boelens 1997, 1998; Krol 1994). In general, the constant debates among water users on the moral and political definition of ‘reciprocity contents’ in irrigation faenas belong to the clearest manifestations of its importance for Andean communities: how many work days should each right-holder deliver to the community system? Which family members can participate? What gender and age categories are prescribed? Can labor be replaced by cash contributions? Can ‘faenantes’ be replaced by ‘peones’ or should everyone suffer personally for the community? Who is exonerated and under what conditions? The contested definition of the status of being a rightful community member is implicit in these reciprocity discussions - ‘should returning migrants first catch up on missed mingas?’, ‘are faenas of just the heads of household counted as valid?’, etc.⁷⁰

The fact that locally constituted and/or accepted moral standards shape reciprocity does not imply that exchanges are necessarily ‘equal’. Some relations (like most – but not all - ayni exchanges among the Mollepata families or maquimañachi in the Licto communities) are relatively symmetrical – the same services (labor days) and goods (food) have to be returned at a later moment, and the *quality* of work, meals and *chicha* is an important criterion for evaluating reciprocal contents. But many other locally prevailing definitions and forms of reciprocity exist, where unequal goods and services are exchanged.⁷¹ For instance, ayni in Mollepata also may include the provision of the *yunta* (oxen yoke): one yunta day is to be returned with two days of labor. Or when working in *compañía* (mutual exchange of complementary resources), for example, water access rights can be exchanged for other productive inputs. Such locally accepted exchanges tend to diverge morally according to their historical roots. For example, in Mollepata, because of the fear of re-installing historical power relations, irrigation *faena* days by the landlord’s *peones* (contracted workers) were not accepted as valid inputs by the local irrigators (see chapter 2), whereas the migratory conditions in the Licto communities made labor power very scarce and this forced the water users to accept that peones could be sent as irrigation *minga* substitutes. In Ceceles (Ecuador), although members’ monetary payments could substitute for irrigation minga days in emergency cases, this was not commonly accepted as ‘equally valid’ (see chapter 12): the ‘price value’ was equal but not the social and cultural value, since the symbolic meaning of both were quite different. ‘Asymmetric reciprocity’ (Mayer 1974), in a general sense, refers to the exchange of unequal elements. This may serve to complement the mutually lacking components where both parts equally benefit. However, it also can imply the interweaving of important differences in power and social status, whereby legitimization of unequal exchange relations and their ontological definition in terms of ‘reciprocity’ constitute important tools to reinforce the status quo.⁷² A principal aspect of such ‘reciprocity’ is that it establishes and

70 We have presented many context-based answers to such questions in: Boelens & Temmink 1990, Boelens & Doornbos 1996, Boelens & Dávila 1998, Boelens & Hoogendam 2002.

71 See also Van Kempen and Villanueva Florez (1989) and Gose (1994) on the symmetrical *ayni* and the more hierarchic *minka* relationships in Mollepata and Huaquirca, Peru, respectively. Cf. Mayer 2002, Orlove 1977.

72 As I will detail in chapter 6, such discursive legitimization of unequal relations of exchange in the name of Andean reci-

activates hierarchical systems of prestige and unequal power.

Indeed, intra-class support is not necessarily the most important bond between Andean peasant households – bonds of *compadrazgo*, patronage, religion, or geographical location may prove to be as important or even more influential in actual decision-making and strategizing. As I have argued, water control in the Andes forces irrigators to collaborate and, by definition, is characterized by relationships of mutual dependence, also among differential power groups. This ‘forced generosity’ among unequal power groups, as Scott (1976:3) observed, is a product not so much of altruism as of necessity. For example, in the case of the Huayhuanca system in Cotahuasi, Peru, which is shared between some large landowners at the tail-end and a peasant community in the upper reach of the valley, the landlords – who have traditionally owned the water rights – are aware that they need to maintain good relations with the peasants (fieldnotes 2000. Cf. Meier 2000). They are dependent upon the latter, both for carrying out the enormous maintenance tasks of this canal that cuts through a difficult mountainous area, and for the fact that, in times of scarcity and conflict, the community might use its geographically privileged head-end position. Through sharecropping and allocating water shares to the peasants they make sure that the liquid bond of interdependency does not become a situation of conflict, and that a stable flow regime, adequate canal maintenance and timely reservoir cleaning is seen as a mutual responsibility.

Therefore, even the power-differentiated, asymmetric expression of ‘reciprocity’ relates not just to legitimizing exploitation but – in many instances – simultaneously to ‘realizing dependence from below’, where continuous struggle and negotiation define the outcome. The illustration that Arguedas provides in his novel *Yawar Fiesta* – the words with which I have initiated Part 2 - is an extreme example. With the political, economic and legal power in their hands, the mistis could plunder and take over the water rights of the Indians of Puquio, but they could not enforce them. “Do mistis know how to irrigate? ... Who would build the water intakes, who would dig the ditches, who would mend the division structures ...”. The narrative offers a picture of extremely oppressive relationships in which the dependence would seem to be one-sided, but the mistis’ abusive power necessarily had its limits, because the group of mistis also depended upon their ‘dependants’. They needed to maintain ‘good relations’ with the comuneros, and both parties had to ‘justify’ their behavior and be held ‘accountable’ for their actions. For the comuneros this asymmetric dependence constituted both exploitation and suffering and openings for claims and subversive action.

Thus, reciprocity in ‘moral and moralized economies’ may relate to either or both the political tools that tolerate exploitation and legitimize forms of disguised subordination, and the mutual or even egalitarian bonds and exchanges among the group members that support each other and collectively defend against rights encroachment by outsiders. As Mallon observed, “communal ideology and relations of reciprocity have been a double-edged sword since the colonial period. On the one hand, the rich have used them to get access to labor and political power, which they could then manipulate for private profit. On the other hand, the poor have called on communal ideology and reciprocity to guarantee subsistence and remind the rich of their redistributive responsibilities to the village as a whole” (Mallon, quoted by Baud 1993:196). The outcome is an empirical question, and the definition of reciprocity itself is constantly changing and subject to contestation. Hereby, ‘community’ is shaped – through symmetrical and asymmetric reciprocity – to sustain each of its constituent elements.

procuity is not just a local power game. Particularly the Inca and Spanish regimes made it a pillar of their economic and military systems (‘the reciprocity pact’).

chapter 5

HYBRID TRADITIONS AND CONFLICTING POLICY APPROACHES IN ANDEAN WATER MANAGEMENT

IN WHICH I present an overview and background of water policy debates in the region, to comprehend the processes of normalization and resistance that will be scrutinized in the next chapters. In the Andean countries, water has become a source of intense conflicts; powerful water-interest groups intervene in local water systems and claim a substantive share of existing water rights, neglecting local agreements. Competition among multiple users and even non-users generally take the shape of water rights arenas. The discourses used to defend particular policies commonly relate to basic features of the water control ‘traditions’ that have grown up historically in the Andean region. The contemporary outcome of the policy debate that surfaces, seems to be that decentralized watershed and basin policies are a crucial element of the way forward. But, as I will examine, the widely divergent models applied in the region commonly fail to conceptualize basins as local water rights arenas or address issues of power, political democracy and how to accommodate plural rights repertoires. In these liquid relations, the issue of ‘recognition’ of local water rights is ambiguous but central to the region’s water conflicts. Attempts to formally recognize local rights systems have not guaranteed concrete protection in day-to-day realities; apparently, legal and policy strategies that simply aim to ‘include’ local and indigenous rights systems – as ‘distinct sets of rules and rights’ – in national frameworks, are bound to produce negative impacts. They offer serious food for thought and conflict.

Question: what are the fundamental water policy approaches to address ‘the water crisis’ and water rights conflicts in the Andean region?

5.1. Introduction: water policy, authority and legitimacy in a new water context

In the Andean countries, as in other parts of the world, new policies for water management regulation and intervention are being developed as an answer to what is commonly referred to as ‘the growing water crisis.’ Current policy concepts and proposals often refer to participation, decentralization, and transferring management to local government. In principle, these could constitute major steps toward strengthening users’ organizations, by granting them greater decision-making privileges, water rights security, and respecting sufficient autonomy for water control according to their needs and potential. However, in these times of radical State downsizing in the Andes, the slogan of participation is often also a facade for the underlying intention to abandon essential public tasks and cut back on public spending for water management.¹ Further, looking beneath participatory words and promising statements, one must ask whether transfer policies are also a strategy to maintain or even strengthen State control over water at the local level. Alternatively, as initial evidence in many cases shows,² proposals may be questioned as being part of private-sector projects to accumulate water rights, gain control over water supply services, and multiply business profitability, free from governmental control and public regulation.

Obviously, the challenge of water law and policymaking is strongly complicated by the multiple forms of water use in an extremely diverse context. All Andean countries have great differences in ecological and climatic regions as well as in institutional and technological environments, and also show impressive, historically evolved diversities with respect to political structures, cultural backgrounds, and production rationalities. Particularly with respect to small-scale farming and community water control, no replicable external models apply, and the latter generally abide by their own socio-legal repertoires and management forms. Moreover, the extremely skewed distribution of water resources has been and continues to be a source of recurrent conflicts and struggles; but, rather than solving this fundamental societal contradiction, law and policy-making seem to have contributed to its deepening.

As a consequence, water policy debates are fierce since they relate to both the struggle for access to water and other natural, material or financial resources, and to questions of who has legitimate authority to define and sanction water control and what are legitimate water rights frameworks. The multi-layered concept of water rights in Andean indigenous and peasant communities involves rights of access to water and system facilities, but also recognizes that water rights in the Andean region are to be considered as claims to control decision-making about water management.

Chapter 2 conceptualized ‘water rights’ as an expression of agreement about the legitimacy of the right holders’ claim to water *and* to decision making power about the management of this resource. One can talk of ‘rights’ only when the water use is certified by an authority with *legitimacy and ability* of enforcement, and is recognized by users and non-users alike. This authority needs to be able to enforce the rights that are considered legitimate within the particular normative framework, and users need to refer to this framework as orienting their behavior and thus build it into their *actual*

1 Boelens, Dourojeanni & Hoogendam 2005a. Cf. Bustamante 2006b; Guevara 2006; Hendriks et al. 2003; Isch & Gentes 2006; Rap 2004; Wester 2008; Zwartveen 2006.

2 E.g., Ahlers 2005; Assies 2000; Balvín 2006; Bennett et al. 2005; Bustamante et al. 2005; del Castillo 2007; Castro 2002; Getches et al. 1998; Hendriks 1998; Oré 2005; Perreault 2006; Ruf & Mathieu 2001; Swyngedouw 1997; van der Ploeg 2006; Trawick 2003.

social relationships. It would be meaningless to agree that certain families are not authorized to use the water from a source when the authority deciding this – for example a users’ organization, with or without external alliances – does not have the ability to enforce that decision and penalize non-compliance. It does not always mean that this authority will be recognized by all. Because most Andean zones have more than one authority – representing different (socio)legal systems, whether at the local or national level – there are often diverging positions as to recognizing the legitimacy of different claims to water use (Boelens & Hoogendam 2002).

Where State officials commonly equate the concepts of ‘legal’ and ‘legitimate’ water rights and management forms, local user groups challenge this conceptual but also political commensuration. When using the concept and analyzing the status of ‘what is legal’, I refer to recognition and faculties that derive authority from or are grounded in official law. According to Webster’s (1994: 571) it refers to what is recognized or made effective under positive law *rather than in equity*. The concept of ‘legitimate’, however, does not necessarily refer to positive law, but may be related to norms associated to many of the other socio-legal repertoires that exist in the sociopolitical space in question. “Legitimate” refers to what is “in accordance with accepted standards” (Webster’s 1994: 572); the notion of ‘accepted or acceptable standards’ is a property of both the official right-ness frameworks and the diverse, non-official fairness or equity frameworks (chapter 1).³ It comes as no surprise, therefore that, behind the struggle for water and water rights in the Andean countries, an intensive battle is going on in order to establish what these accepted standards should be.

In day-to-day political encounters, diverse interest groups in water management challenge the construction, application and reproduction of rights and bring the different rules and powers of ‘their’ socio-legal systems into interaction and confrontation. From the side of local (e.g. peasant and indigenous) water use groups this ‘struggle for legitimacy’ takes place not only as a *legal* battle aiming for legal (official) recognition of particular equity constructions. It also takes shape in the form of innumerable struggles to gain legitimacy ‘in the field’, within and among households, communities, water use systems and water control and policy institutions. Therefore, the struggle for local water rights’ legitimacy in the Andes provides insight into both the political construction of positive justice, and the way ‘equity’ is socially and politically constructed.

To legitimize their water access and their water rights framework, in the Andean region it is common to see different interest groups refer not just to different socio-legal repertoires but also to different ‘historical water control traditions’ in which their discourses are rooted. Since these generally fuel the debate, in the next section I present an outline that briefly characterizes these (irrigation) traditions and their interaction and transformation in line with water policy transitions.

3 Thus, since, State law, peasant law, ‘project law’ and other rights repertoires co-exist, complement, overlap or even contradict each other, legitimate authority in Andean water management is not restricted to State agencies only, nor do legitimate rights refer to only those emanating from State law. Especially when debating policy objectives, this calls for a thorough understanding of the nature of the water rights in question.

5.2. Irrigation traditions and policy transitions

“Irrigation in the Andean Highlands represents the convergence of three different roads towards its development, each one with its own set of relations among people, land and water, personified in institutions...”. Lynch et al. (1986:10) recommend distinguishing among the Andean tradition, the Hispanic tradition and the bureaucratic tradition, when analyzing the patterns of relations and basic principles and norms that have shaped irrigation water management in the region’s history. However, since the early and mid-eighties when they did their field research, the water management panorama has changed drastically in the Andean region. Below I will present my short reflection on these traditions and, therefore, also include the latest policy transition.

The Andean tradition

The sets of principles that make up the Andean irrigation tradition (*‘la tradición andina’*) have their origin in the practices of indigenous irrigation management before the Spanish Conquest, although many aspects of this tradition are still fundamental in the local irrigation systems we find nowadays. Unlike the Hispanic tradition, this tradition did not have one centralized, legal source for rule-making. It was founded on many local normative frameworks responding to the particular challenges encountered by a variety of peoples in very diverse environments. Generally these peoples were organized in basic communities, *ayllus*, and in many regions these communities were organized in *cacicazgos*, headed by a Cacique or indigenous chieftain. Each of these socio-political units was controlled by a dominant tribe, with its own language, political order and jurisdiction, which was also applied to their irrigation systems.

Apart from the enormous diversity in processes of rule construction, there were also attempts towards political unification and subordination of these tribes in larger political and normative frameworks. Pre-Columbian civilizations such as the Huari, the Chimu and the Inca people in ancient Peru were famous not only because of the enormous empires they built in successive periods, but also because of their impressive irrigation systems and the high quality of their hydraulic technological development. This led to intensive debates in the past decades about the ‘hydraulic hypothesis’ (by Karl Wittfogel 1957, later extended and applied to Peru by Julian Steward). Basically, this hypothesis stated that the organizational requirements associated to (large-scale) irrigation in water scarcity regions such as the Andes would inevitably lead to centralized, despotic political organizations, imposing their water management norms (as well as other rules) on conquered regions and communities.

However, subsequent research in the Andean Highlands has questioned the supposition that irrigation itself could have been the cause of developing extended hierarchical, despotic societies in the Andes. Conclusions contradicting the hydraulic hypothesis are, for example: the fact that Andean systems are too small and localized to establish large hydraulic societies; rules and sanctions associated with Andean irrigation are flexible compared to other agricultural activities (e.g. rainfed agriculture) of the same community, which makes centralized water control not plausible; according to the stage of the agricultural season the validity of irrigation rules fluctuates strongly in the Andes, which would undermine the basis of eventual constant hierarchical control; a great variety of local rules still exists which shows that attempts of centralization and standardization were either unsuccessful or not omnipresent, etc.⁴ Furthermore, notwithstanding the fact that for example the Inca

4 See Mitchell 1976; Hunt & Hunt 1976; Mayer 1977, 1979, 2002; Kelly 1983; Golte 1980; Lynch et al. 1986; Lynch 1988;

people first of all incorporated water sources as strategic military objects in their empire when invading a new region (chapter 3), they usually did not impose on these conquered communities their own normative frameworks related to *irrigated agriculture*. Especially in the more remote areas, such as Ecuador, they came as soldiers and taxmen, not as irrigation engineers and water lawyers (see e.g. Knapp 1992).

Therefore, the Andean irrigation tradition consists of a heterogeneous set of local water management norms and practices, which may or may not have incorporated influences of the great Andean ‘water societies’. Still, we can see many common elements in present-day peasant and indigenous systems, elements which go back to an ancient shared vision of nature and parallel development of political organizations, human relations and socio-juridical norms in similar contexts of ‘highland water scarcity agriculture’.

The Hispanic and hacienda tradition

After 1532, in the colonial period, a new set of principles was introduced and often imposed on the existing indigenous or newly built systems. This Hispanic tradition was imported and based on legislation and management practices in Spain. Its fundamental principle was the hierarchy of public ownership and individual property rights, whereby the latter were regarded as Crown property which could be given in concession to users. “The underlying premise in New Spain was that the Spanish Crown owned everything it ‘discovered’ or conquered. Thus all property titles, including land and water, stemmed from the Crown because everything belonged to the Sovereign as discoverer” (Berry 1998a). Officially, water rights were not taken away from the indigenous peoples. The *Leyes de las Indias*⁵ recognized water allocation to indigenous users, and even protected them against expropriation (Apollin et al. 1998, Boelens et al. 2005a). However, in practice the provision that water was to be used ‘for common good’ was confined to Eurocentric notions of rational water use (Berry 1998b), and the new landlords usually managed to expropriate the water from ‘*los indios*’ (Gelles 2002, Guevara 2006). In chapters 6 and 8 I will delve deeper into the legal complexity of this colonial water legislation, for it contains important building-blocks of both ‘exclusive’ and ‘inclusive’ power strategies that sustain and shape the ‘politics of recognition.’ Though differing in many aspects, for ages, public colonial water law and private hacienda water rule were mutual companions in water rights practice.

So, during the colonial and republican periods, the *encomienda* and *hacienda* systems secured almost absolute irrigation water access to the landlords who, furthermore, expropriated most agricultural surpluses. As Van der Ploeg (2006) observes, this control over water powerfully established local elites’ dominion, far beyond the clout that presented ownership of the land itself. Feudal relations constituted the basis of the system of water rights and principles, with the exception of water distribution in ‘free’ or more isolated indigenous communities. Under hacienda rule, landlords typically established water rights and operational rules vertically, although the relationship with communities was complex. Indigenous communities were given access to some land and water, often under extremely unfavorable conditions, in exchange for compulsory labor and other services (see chapter 6). Hereby the hacendados abused and inverted existing rules and often reciprocal Andean relationships that sustained local communities and their irrigation systems.

Gelles 1998, 2000. In chapter 6 I present a new focus on the ‘Hydraulic Hypothesis’.

5 Laws of the Indies

19th-century liberation wars did not bring any substantial change. First, the existing situation of water allocation and distribution was consolidated or worsened and private property rights to water increasingly accumulated in the hands of the few. At the national level, the republican governors continued to use colonial water codes, and in most regions haciendas had no real formal obstructions anymore to keep them from establishing their own norms, based on private property accumulation and enforced with private armies and State support. This was because, while colonial policy had to some degree respected traditional forms of water control, on the contrary, one of the central objectives of government policy in the 19th and 20th century in Peru, Bolivia and Ecuador was to transform existing indigenous agriculture.⁶ As Baud (1993, 2003) argues, this policy was strongly influenced by the ideas of 19th century liberalism and positivism. He quotes Bolivian politician José Vicente Dorado who, illustratively, wrote in 1864 that the indigenous population did not show any evidence “of being suited for civilization or hankering to rise above the backwardness and ignorance they live in” (2003:67). Abolishing Indian communities and their historical rights was crucial because the latter would result in the survival of a “separate State”, one that would be “indifferent toward the developments and transformations in the life of the white class, serving as a stumbling-block for progress and reform” (Ibid:67). The racist background of agro-economic policy direction was clear: “Wrest this land from the hands of ignorant, backwards indigenous people, without any means, capacity or will to cultivate it, and deliver it to the enterprising, active, intelligent white race, eager for property – this is truly the most healthful conversion for Bolivia’s social and economic order” (Dorado 1864, quoted in Baud 2003:67).

Legislation followed, for example in Bolivia 1866, decreeing that all collective property titles of indigenous communities were nullified. Legislative and policy ideology and action in Peru and Ecuador was very similar (see chapters 4 and 6); indigenous collective land and water systems were (and often still are) seen as obstacles for ‘progress’ (see chapter 9) so they lost the scanty protection they had had in colonial legislation (cf. Boelens & Zwarteveen 2005b, Oré 2005). They were the first ones to suffer from liberal modernization while at the same time the structures of *gamonalismo* retained their power in rural practice.

By way of illustration, in his book *Agua*, published in 1935, José María Arguedas tells how the landowner of the San Juan region, Don Braulio, had taken over all the irrigation water. Through a child, Ernesto, Arguedas observes the profound injustice. (Ernesto personifies the author in his own childhood, when Arguedas would accompany his father, an attorney, in his travels throughout the Andes to defend indigenous communities). Once a week, Don Braulio would arbitrarily distribute a portion of water to the members of the four communities of San Juan. The families depended on this water for their livelihood. This dependence and insecure access to such a vital resource reinforced the plantation owner’s power.

- “Water, little Ernesto. There isn’t any water. San Juan will die away, because Don Braulio gives water to some people, but he hates the others”.
- “But Don Braulio says he has made the water everyone’s property, by taking it away from Don Sergio, from Doña Elisa, from Don Pedro...”
- “That’s a lie, lad. Now the water is Don Braulio’s all month long. The men who distribute it are afraid – they tremble when they see Don Braulio.” (1987a(1935):53).

6 This policy also aimed to transform the feudal agrarian structure itself, but till the mid 20th century landlords had the power, means and structures to resist.

Community households either got no water at all, or didn't get water when they really needed it. This fanned internal division and fatalism among community members. At the same time gamonales argued that they 'protected' indigenous water and land property against third parties. As in this novel, *Agua*, struggles for land and water during the period of *gamonalismo* often took the form not just of 'wars between classes' and 'contestation among ethnic groups'; rather, power plays confronted communities against other communities, facing off 'one gamonal's Indians' against 'the Indians of the other boss', as well as the unceasing conflict among the big bosses themselves.⁷ In many cases, apparently strange alliances were built to defend the traditional agrarian structure vis-à-vis liberal policies and intruding 'modern enterprises'. For example, gamonales welded strong, scheming bonds with 'their' indigenous communities, because they saw that the indigenous labor force they needed to maintain their hacienda systems was severely threatened by mining corporations, agro-export business, and new liberal legislation.

The bureaucratic tradition

Since the end of the 19th century, a new professional entered the arena of irrigation development: the hydraulic engineer. Several haciendas began to invest in new enterprises, requiring new, more complex irrigation infrastructure and distribution schedules. Often these engineers were hired by haciendas or user groups during or after water distribution lawsuits. The engineer's professional influence increased during the early and especially mid 20th century, along with speedy change towards a bureaucratic water regime in which the State began to intervene in the Andean region by planning and constructing major irrigation systems, made possible by the introduction of 'modern technology'. Large distances could now be covered to bring water volumes of various cubic meters per second to the command areas (Ruf & Núñez 1991; Vos 2006; Oré 2005).

In the same period, the extreme differentiation between land-and-water-lords and peasant / indigenous communities gave rise to increasing conflicts over access to land and water. Massive peasant and indigenous rebellions of the '50s, '60s and '70s triggered major socio-political changes in rural areas of the Andes, followed by successive periods of Agrarian Reform. As Degregori (2000) describes in the case of Peru, between 1958 and 1964 the large-scale peasant mobilizations gave large land-holders their coup de grace, even before Agrarian Reform began (Cf. Matos Mar 1976; Matos Mar and Mejía 1980).

Liberal sectors supported rural change because out-dated relations of production in the countryside counteracted the process they were interested in, of modernization and capitalist development of the rural economy. What is more, traditional haciendas failed to 'do their job': peasant rebellions made it clear that gamonalismo was unable to establish effective control over rural masses in order to actually protect elite domination and property. When the liberal-dominated governments realized that not only gamonalismo was being challenged, but the very foundations of dominant power, they

⁷ In particular in Arguedas' *Todas las Sangres* (see chapters 3, 6, 10) this dynamic, conflict-ridden interaction 'within' dominant and dominated groups, is powerfully represented, debunking the supposed formation of pre-constituted identities as clear, solid categories. Arguedas showed how multiple bloodlines, hybrid policy traditions, and multiple characters (of both the 'oppressors' and the 'oppressed') are a constant in Andean society; gamonales not only had continual conflicts with communities, but also among themselves. As Alberto Escobar said in the historic Round Table on *Todas las Sangres*, the book "is a multiple, polyvalent face of Peru" (Cf. Rochabrún 2005, Flores Galindo 1988, Degregori 2000). It was also that Round Table, paradoxically, that harshly criticized Arguedas for "failing to perceive contemporary social changes" according to prevailing theoretical dogmas of the time. Arguedas, who always lived in two opposing but inter-related 'Occidental' and 'Andean' worlds, such criticism plagued him (see his letter "Have I lived in vain?"), right up to his suicide.

resorted to repressing these ‘uncontrolled masses’ who had invaded private property and political power.

Initial land and water reform attempts were taken over by the subsequent nationalist-revolutionary regimes in Peru and Ecuador. Although the process of Agrarian Reform, in terms of actual change, had more impact in Peru (1969 – 1979) than in Ecuador (where the first Agrarian Reform started in 1964, and the second ran from 1973 through 1994), in both countries it marked an important phase in bureaucratic transition: from irrigation systems based on hacienda-style domination and management rules towards systems based on centralized State control. Key to the new land and water policies were paternalistic governance and protectionism, top-down collective production systems and cooperatives, and bureaucratic implementation of planned economies, framed in a discourse of national interests.

In 1969 all Peruvian water resources, both surface and underground water, were declared public property. The same happened in Ecuador in 1972. In both countries new Water Laws were enacted – it is significant that most Andean countries’ new water laws could only be established in times of military dictatorships (see also Chile, chapter 9), because of the strong impact and popular reactions that agrarian and water legislation generates. Under the new Peruvian and Ecuadorian laws, water was provided by the State to user groups as concessions, when they could prove that they were the former owners. Although nationalization of water originally (or according to official policy discourse) intended to stop water accumulation by haciendas and redistribute to small-holders, particularly in Ecuador it was far easier for landlords to register their rights than for the indigenous peasantry. In Peru, water was conceded massively to the agrarian cooperatives that were installed top-down.⁸

Meanwhile, the Velasco regime, mainly through its official, class-based discourse and the way it remade rural Peruvian policy and language to involve ‘*campesinos*’ as a blanket term (see, e.g., Degregori 2000; Mayer 2002), also relegated numerous *indigenous* cultural water redistribution systems. In their attempts to modernize highlands political structures, the regime imposed bureaucratic norms taken from international irrigation tradition, challenging people’s own ways of organizing water management, production and ethnic identity (Gelles 2002). All irrigation and water systems had to be adjusted to facilitate centralized governmental control. Most cases of large irrigation systems used as illustrations in this book are State-initiated systems originating in this period (early 1970s), e.g. Licto and Patococha in Ecuador and Majes and the Canal Nuevo of Mollepata in Peru.

The new bureaucratic tradition was most visible and direct in those irrigation systems built and managed directly by State agencies. These agencies, consisting mainly of hydraulic engineers and economists, were charged with ‘applying the Law’, prescribing the rules, rights and obligations of user groups. Water user associations were often set up by the agency itself. In the case of systems built and managed by user groups, sometimes with the support of NGOs, their design and management rules often had to be adapted to official norms and approved of by the State officials. Even in these peasant-managed systems, where water in practice was managed according to local common-property rules, State agencies often tried to increase their influence over the actual application of management and distribution rules.⁹

8 Other factors also, such as formally non-existent property titles of small holders, complex social relations and conflicts between different users of the same canal or river, lack of contacts, formal education and access to information about rights registration procedures – all worked against any serious process of redistribution.

9 See e.g. Alfaro et al. 1991; Ruf & Nuñez 1991; Gelles 1998; Oré 1998, and chapters 7 and 8.

A new, endogenous tradition?

Since the early 1990's, a new paradigm has entered the Andean irrigation world, which apparently runs counter to this tradition of centralized rule-making. A superficial analysis would conclude that it rightly responds to the peasant and indigenous claims for more strategic space to define their own rules and rights. The new discourse is that bureaucratic tutelage should be dismantled, and that user groups themselves know far better how to organize and manage their irrigation systems. The solution to reduce centralized State control (and to cut back extremely high public spending on irrigation management) is to hand over irrigation system management to users. A new tradition of rule-making in Andean irrigation, under the name of 'decentralized decision-making' and 'user-controlled water management', is on its way and the transition is implemented very swiftly.¹⁰

But if we take a closer look, we see national authorities and elites themselves (rather than peasant and indigenous water users) advocating what they call 'modernization' through State withdrawal from bureaucratically controlled systems.¹¹ On the contrary, peasant and indigenous water users are protesting fiercely. They view this new tradition, expressed in new national policies and legislation, as the modernized return of private water regimes. And it is striking to see how, this time, the transition is not so much a national affair or a process restricted to the Andean region. It is a global move, in which the basic rules are set by international policy-making institutions. And the models for rules and rights in irrigation water management are not system-, country- or region-specific, but 'global'.

Despite the fact that neoliberal proposals to privatize water resources are disguised (in order to quell popular protests) as a national system for public ownership, these new water reform proposals and actions in the Andean region blatantly link local to international (Cf. Assies 2006; Castro 2002, 2004; Perreault 2006; Swyngedouw 2003).¹² Beyond a policy of just 'decentralization' (supposedly on the basis of subsidiarity principles), a fundamental tenet is to smooth market-based exchange among local, national and international levels, by making the rules and rights the same for all. It is also astonishing to see how, over these last two decades, these new international policies, claiming to democratize water management and decentralize decision-making, have spread through the Andean region, aggressively running roughshod over most water users, totally beyond their power to curb or control them. Chapter 9 presents a conceptual analysis of this powerful policy model and the way it is being applied in the region. Here, the Ecuadorian 'decentralization process' is briefly outlined:

As part of the wave of structural adjustment policies in the 1990's Ecuador has undergone an intense process of State and policy reform. A new Constitution and institutional framework based on decentralization, modernization and privatization endorse new modalities for public entities and a different political culture. In the process of decentralization in Ecuador¹³ several functions, tasks and responsibilities are handed over to local government bodies in order to enhance overall government

10 As a reaction against State intervention, over-regulation, protectionism, and State-installed collective water management systems, this policy fosters irrigation management transfer (IMT) to the local government or user organization, elimination of subsidies, deregulated management and a self-regulating water rights and/or water service market, privatization of system construction, individual initiative and involvement of private (and currently also public-private) enterprises.

11 See Oré 1998; Rap 2004; Perreault 2006; Ahlers 2005; Bustamante 2006b; Guevara 2006, Wester 2008.

12 Notwithstanding contradictions between this new model and actual practices and requirements in Andean irrigation systems, the internationally supported model and its application by national authorities proves to be very powerful (see chapter 9).

13 The process was enforced by the law of State Modernization (1993), the law of State Decentralization and Social Participation (1997) and the National Plan for Decentralization (2001).

functioning and efficiency. However, local governmental institutions have inherited the technocratic water control legacy. Although INERHI (*Instituto Ecuatoriano de Recursos Hidráulicos*), the powerful, vertical central State agency for water management, has been dismantled, its biases and disciplines have been largely reproduced in reduced, decentralized government institutions. Mono-disciplinary engineers (civil and hydraulic engineers) and planners (economists) are mainly the ones in charge of irrigation and water development. Even provincial governments often interpret their new tasks as just building large-scale irrigation infrastructure, neglecting manifold opportunities to support small-scale highlands community systems (Hendriks et al. 2003; WALIR 2002). Engineers' expertise continues to be glorified. Therefore, issues such as democratic water control, equitable distribution forms, organization-building and legal pluralism, still have great difficulty entering the official irrigation sector (Cremers et al. 2005).

For reasons of incipient regionalization and reduction of State tasks, INERHI was replaced by the *Consejo Nacional de Recursos Hídricos*¹⁴ (CNRH) in 1994, functioning as an independent institution, with reduced competencies and resources. Responsibilities for investing in new hydraulic infrastructure and for operating and maintaining State-owned irrigation systems were taken over by the Regional Development Corporations, created as autonomous bodies but with ever-less budget. Whereas the CNRH required firm, democratic political decisiveness to enable local water management organizations to grow and flourish, 'decentralization' laws and policies have been enforced that have generated a situation of institutional chaos (Hendriks et al. 2003b). This facilitated 'hidden agendas' and is being used by those enterprises and interest groups with more economic and political power.

While paving the road for 'private investments' (and agendas), the public water management responsibilities and capacities have been largely dismantled. Irrigation takes a central position in the water management reform process, since it is by far the sector requiring the most fresh water (80% of national water demand). Since 1994, the Government began transferring administration, operation and maintenance (AOM) tasks within State owned irrigation systems to (newly-created) water user organizations. In reality, the transfer basically consisted of merely abandoning public tasks and responsibilities, without sufficient funding, training or organization-building for users to take over AOM tasks for adequate system functioning and conservation (Cremers et al. 2005).

Similar destruction of public capacity and responsibility occurred, for example, at the place where water rights ought to be dealt with according to decentralization policies: the Water Agencies (*Agencias de Agua*). These institutes have almost no specialized human resources to execute and monitor their tasks, or defend public interests.¹⁵ This problem has been undermining the sector as a whole institutionally. The vicious circle becomes tenser with every passing day: increasing water scarcity leads to more water rights claims; lack of Agency capacity leads to lack of water availability monitoring in the field, so concessions are not based on actual water availability; over-allocation of water rights leads to increasing water conflicts (water theft, destruction of infrastructure, unequal distribution practices, etc.); legal disputes increase and intensify, to be dealt with by the same small group of employees, who lack time and dedication to properly deal with new demands, etc. In Ecuador, the privatization discourses, policies and practices of the 1990's have dismantled not just State bureaucracy, but also its capacity as a framework to creatively help local government and water user organizations manage their own water affairs (Cremers et al. 2005; Hendriks et al. 2003; Zapatta

14 National Water Resource Council

15 Cremers et al. 2005; Hendriks et al. 2003; Dávila & Olazábal 2006.

& Gasselin 2005). Moreover, as I will show in chapters 6 to 10, the policies frontally (as well as in disguised ways) attack local water rights and user groups' power.

Therefore, the new policy discourse is contested by a counter-discourse of especially peasant and indigenous organizations; in the words of indigenous leader Nina Pacari: "Neo-liberal globalization necessarily calls for structural adjustments and legal-economic reordering. Serving the interests of small, financially powerful groups, governments have had to encourage privatization, labeling it lately as 'modernization'. [...] In fact, such solutions will intensify peasant poverty and will cause conflicts due to water monopolization, abuse and unfairness, just as in colonial times. [...] The form of organization to administer irrigation currently proposed by the State, destroys traditional forms of organization, generating conflicts and weakening decision-making" (Pacari 1998: 279-282). In chapters 12 and 13 (see also annex 3) I analyze users' responses to these developments (which, unlike official multilateral policy institution discourse, point at the *real* water crises that are going on).¹⁶

If we survey the sequence of Andean irrigation traditions, we can see that the process of local rule-making is contested or influenced by rule-makers and sources over an increasing radius of action. In the 'Andean tradition' the source was mainly local, although in some cases ancient indigenous empires had their influences on local water regulation. Basically, norms were developed under common property regimes. In the 'Hispanic tradition' the source might seem to have been international (Spanish colonial law), but in practice rules were mostly developed and applied by local landlords in a local or regional feudal context. In the 'bureaucratic tradition' the State tried to take over control, imposing national law as the only legal source that should regulate water management at the level of the whole nation. The public property regime was enforced not only by nationalizing all water resources, but also by intervening directly in the process of local rule-making and implanting national, positive-law regulations as the single center of appeal for water users. In the current transition toward a 'modernizing tradition', as observed above, the source of rule-making – although labeled as looping decision power back to the locality – is fundamentally international or global.

At the moment, we find a mixture of the above traditions, sometimes even in one and the same irrigation system. Furthermore, some systems have never experienced direct intervention either by landlords, State agencies or development institutions, while others have been constructed and managed by the latter. In 'indigenous systems' we may find important elements of 'externally developed norms' or user groups who try to make use of State law in order to meet personal interests, and in bureaucratically managed systems we often find many 'illegal' or 'tolerated' practices originating in local normative frameworks. This seemingly 'chaotic' plural legal situation, which in the neoliberal analysis by Hernán De Soto (2000) explains 'the mystery of legal failure' and poses a fundamental obstacle to the development of what he called 'people's capitalism', constitutes a basic challenge to contemporary power games whereby new strategies and instruments are developed to externalize and control local water management. Therefore, as background for approaching these normalization forces in the Andean region (chapter 6 to 10), in the next section I will outline current policy approaches that, nowadays, focus particularly on integrated watershed or basin management, not just on irrigation.¹⁷ Thereby, I will analyze the watershed as a water rights arena.

¹⁶ As in Bolivia, the new Ecuadorian government advocates fundamental changes; realizing them in the current power structures and institutional landscape it forms part of is another thing (see also chapter 7).

¹⁷ Irrigation remains central for being the largest consumer, as well as key to domination and a niche for resistance.

5.3. Current water management approaches and reconciliation of conflicting water rights in the Andes¹⁸

Beyond the irrigation system level, in the Andean river basins and watersheds, the burgeoning competition for water among different users and different uses, in combination with the declining availability of water,¹⁹ breeds fierce and growing conflict among ‘upstream’ and ‘downstream’.²⁰ This competition is usually won by those with the greater economic, legal, or technological power. There are many examples of peasant and indigenous populations whose water is diverted and polluted by mining corporations or withheld for hydropower projects and other such high-profit uses benefiting users outside the zone.

In general, water interventions in the region show little awareness of human dependence on water, and policies have been unable to respond to the explosive growth of demand created by industry and urbanization in recent decades. The response by Andean countries’ governments has consisted primarily of major investment in hydraulic works to expand urban and industrial supply. The emphasis is more on tapping new sources than on reducing waste or improving distribution. Opportunities for strengthening local institutions controlling distribution and maintenance, and public attitudes toward water use, have largely been neglected. As CEPAL (1982, 1988a and b, 1992b) and Dourojeanni (1997, 2000b, 2001) have shown, largely, there has been an absence of national coordination or any comprehensive approach to water management. Conflicts between supply and demand have generally been resolved by each individual sector, whether public or private.²¹

A consequence of the rapid change process is that various water policy models coexist in the Andean region. This may result from last decades’ revisions in water legislation (e.g., Chile’s, leading to a water rights market), enactment of environmental legislation, rethinking of the State’s role, privatization of water services or establishment of new institutions to manage water in river basins. All these existing policies have been unable to address the dramatically unequal distribution of water quantity and quality, of water-related opportunities, and of public investment in water development. The Majes project is a dreadful illustration:

Illustration: the Majes project in Peru

The legendary Majes Project in southern Peru is one of the many cases in which Andean communities were dramatically affected by the water development process. Major investments were made, some US\$ 1,300,000,000 dollars, to capture and conduct the water from the Colca Valley and irrigate desert lowlands, stimulate large-scale commercial agriculture, and generate power for the cities. According to Hendriks (2002: 62) only 15,000 hectares have been irrigated,²² for

18 This section is based on Boelens, Dourojeanni and Hoogendam (2005a).

19 E.g., owing to climatic change and erosion, water retention and storage have been reduced and peak flow rates have risen (CEPAL 1992a, 1999). Competition is not limited to the availability of water but is also strongly related to worsening quality. The discharge of domestic and industrial wastes, chemicals used in agriculture, etc., has in many of the Andean rivers created a high-risk situation (Hoogendam 1999; Dourojeanni 2000a).

20 And between those in different basins when water is transported outside the basin, as occurs increasingly.

21 Moreover, as Dourojeanni (1997, 2001) observes, little has been invested in works to manage supply, such as facilities for monitoring water quality, controlling pollution and erosion, catchment basin management, and other investments to protect the population against extreme natural phenomena, and to manage multiple uses of water.

22 Although the original project planned an irrigation area of 23,000 hectares, the actual irrigated area proved to be far more limited, and there are indications that water availability has reached its limit. This is, among other reasons, because farmers needed to apply twice the water that engineers planned (Hendriks 2002: 62) – a classical example of ‘structural deceit’ in irrigation project planning (see chapter 10).

a total of 3000 families, each obtaining a 5-hectare parcel. This is an investment of some US \$ 80,000 dollars per hectare, or (even more appallingly) US\$ 400,000 dollars *per family*.

The original design excluded outright any provision of water for the upper basin where the peasant and indigenous communities live, and where the water comes from. Furthermore, to 'recover' investments, those families who did acquire land and water rights in the lower basin, had to pay 25,000 dollars per parcel – by no means affordable for an indigenous small-holder family. Communities in the Andean catchment zone were completely ignored and left without benefits. They were 'included', however. To undo their 'backwardness', they did get the largest share of the burdens, for example, the expropriation of land, strong price inflation, depredation of natural resources, destruction of terraces, and debilitation of existing patterns of organization and culture.²³

"The waters of Colca will then create new wealth by irrigating dry land and driving the project's two power plants. But the Colca villagers will once again, as always, be left by the wayside, to demand the justice that will evidently not be achieved by any granting of a concession, but by fighting for and seizing the rights that they have historically been denied" (Manrique 1985:223). In Peru, as in other parts of the Andean region, most water user communities do not have official (legal paper) rights to the waters they historically use and own. Therefore, peasant and indigenous communities have enormous difficulties defending their rights vis-à-vis mining, agribusiness, drinking water and other companies who intervene with legal documents to take over their water resources. Moreover, in Peru, these water rights ('*licencias*') are granted to individual farms only ('predios'), under strict techno- and bureaucratic conditions (except for the rights given since the 1970s to government installed cooperatives, which dramatically failed). Of the 1.8 million irrigated predios in the country only 60,000 have an official *licencia*, leaving the rest without possibilities for legal defense.²⁴

In the upper Colca Valley, this fact powerfully facilitated encroachment by both State intervention and individual companies, taking away users' unregistered water rights (see also Gelles 1998, 2000, 2002). Investment was also dramatically skewed to the well-to-do classes in society: the United Nations/ CEPAL estimated that barely 0.2 % of total project investment was allocated to the upper basin, where the poorest sectors greatly needed irrigation water. Moreover, comparing this budget with other options at that time, 750,000 hectares of abandoned terraces could have been recovered and brought back into production in peasant and indigenous communities (CEPAL 1988a. See also Boelens et al. 2005a; Manrique 1985).

Andean campesinos have paid dearly for water policies in the last decades, under both centralist and neoliberal policies. Some policies aim to provide assistance to improve their irrigation, drinking water supply, and small hydropower systems but coexisting policies and practices directly or indirectly clash with the former, opposing and often overriding them (Dourojeanni 2000b). For example, oil, timber-trade and mining companies in Peru, Bolivia, Chile and Ecuador, backed by mining laws or investment policies, continue to destroy numerous catchment areas, neglecting local water use systems in these territories as well as the environmental laws and policy notions of 'integrated development'.²⁵ The more powerful policies and intervention programs are geared toward encouraging private and foreign investment, for example, to tap natural resources or to generate energy for

23 Gelles 2000; Gelles & Boelens 2003; Hendriks 2002; Manrique 1985; Tipton 1988.

24 Pers. comm. Laureano del Castillo, president of the IPROGA inter-institutional water network (Jan. 2005).

25 Balvín 2006; Bauer 1998; Dourojeanni 2000a; Gelles 2002. See also chapter 12.

public services. These policies have granted decisive power to water use projects based on analyses from and benefits for 'the outside' (Dourojeanni 2000a; Hoogendam 1999).

A policy reorientation: coordinating among multiple uses and users at basin level

To confront the 'institutional and policy chaos', in the region, as elsewhere, there is growing interest in better coordination at the watershed level, by formulating framework laws that should grant greater decision-making leeway at the local level.²⁶ In general, new water management policies consider it necessary to move toward greater deconcentration of functions and powers, from national authorities toward the level of river basins, catchment areas, and watershed organizations. Here, the policy proposal goes, multiple interest groups must define how water will be apportioned, distributed, and managed, and take an active part in inter-sectoral water management. The call for decentralization and deconcentration of water management is grounded in several arguments (Boelens et al. 2005a):

- Conflicts over water among multiple, competitive uses and users will continue to increase due to growing demand for and scarcity of water, and increasing water pollution. These multi-sectoral conflicts materialize at the watershed level.
- Jurisdictional limits now clash, but should coincide with the boundaries of the geographical unit where water accumulates and flows. This can involve one or more basins if they are interconnected by hydraulic works or underground water flow.
- Water must be managed with participation from local governments and rural communities whose political and administrative jurisdictions overlap or belong to the watershed areas in question. 'Platforms' of local interest groups have better capacity than national agencies to understand, analyze, and propose solutions to resolve local water management problems.
- When decisions are made at the watershed level, it is easier to improve relationships of accountability among water regulators, water providers, and water users.
- Economic losses can be reduced and public spending for water management can be cut back when conflicts among mutually dependent user groups are minimized and when direct relationships between investment and benefits in water management are established.

The watershed is both a physical and a social unit - it is a zone where groups of inhabitants are interrelated, sharing its water, and organizing around its reaches. In mountainous zones, rivers, or mountain ridges between basins commonly define the pathways for transport, exchange, and communication. The hydrological characteristics and hydraulic works strongly influence the ways that people living in the basin interact and generate day-to-day interdependence. In these watersheds, ancient Andean civilizations and polities established infrastructure and management rules for using water in a relatively stable manner (see chapter 4), but this physical and institutional heritage is incapable of meeting today's increased needs.

Still, as Dourojeanni (2001) observes, it was not until the 1970s that the concept of watershed management arose in policy debates in the Andean countries. At first, it was highly slanted toward protecting basins' more productive lowlands. In isolated highland areas, there was intervention only when these upper basins became problems or opportunities for exogenous economic development; when they were jeopardizing infrastructural works or settlements downstream, or when water could

26 CEPAL 2005; Solanes 2002; Solanes and Getches 1998; Warner and Moreyra 2004; Wester 2008.

be gathered for urban and/or commercial purposes, such as mining, agribusiness, hydropower, or water supply for cities (CEPAL 1992b, 2005). Partial approaches to watershed management, with a meaning that is reinterpreted according to the outlook and functions of each public agency in charge of pursuing its tasks under the watershed banner, prevail to this day (Dourojeanni 2001). Moreover, although watersheds and river basins are usually easily demarcated geographical units, the boundaries of administrative entities (municipalities, districts, provinces, etc.) normally do not coincide with the natural limits of basins. In such cases, water control platforms require collaboration by entities from different political and administrative zones, which generates problems of competent jurisdiction. There is often jurisdictional interference among local institutions, national agencies, and international programs. As a result, many actions in basin areas are taken without consulting local authorities (Hoogendam 1999; Warner and Moreyra 2004).

Difficulties in preventing conflicts, reaching agreements among different groups of rights-claimants, and establishing common usage rules and rights involve not only political and normative issues. They also depend heavily on Andean basins' characteristics and hydrology. Water availability and demand in the highland zones is unpredictable, irregular, hard to measure, and monitoring water use throughout a watershed is complex. Control and measurement are still more complicated for underground water, because withdrawals are almost invisible and difficult to monitor. Water management by hydrological units is complicated further by the long distances within such basins.²⁷

Illustration: the Ocoña-Pausa river basin in Peru

Three major rivers originating in the Andean highlands together shape the contours of the river basin of Ocoña-Pausa, in Southern Peru, which includes the coastal area and drains into the Pacific Ocean. By law, the official Technical Administrator (ATDR) is responsible for overseeing and coordinating water affairs at basin level, where formally an Autonomous Basin Authority should be in place. In Peruvian practice this seldom is the case. The Administrator's task is to coordinate basin management with the different Juntas de Usuarios in each sub-basin. However, geographical, political and cultural distances make such 'integrated water management' impossible. For example, interaction between the Administrator and the Junta de Usuarios in Cotahuasi, a remote sub basin covering the province of La Union in the highlands, is scarce: physical distances in this mountainous area are enormous and even insurmountable in the rainy season, and ethnic, legal and geographical (coast-oriented) idiosyncratic biases impede working together fruitfully with lower water management bodies. Each sub basin is shaped by a great number of Comisiones de Regantes, who must 'oversee' the many Comités de Regantes that are in charge of actual water management. In Cotahuasi, as elsewhere in the Peruvian Andes, these lowest level water user organizations have their own, very diverse frameworks of rules, rights and regulations, and the main objective of the basin level administration – installing national rules, authority and charging water fees – certainly does not coincide with local wishes, which commonly refer to financial support for infrastructure development, and rule-making autonomy.²⁸

As outlined in the previous section, under titles such as modernization, decentralization, participa-

27 The scarcity of usable roadways makes it difficult for population groups along the basin to have exchanges. In general, users upstream take full advantage of their strategic position, out of any control by those further down. However, in large river basins, major cities intervene in the upper reach and produce the opposite phenomenon so that those downstream take the water they need first from upstream.

28 Field notes 2000. Cf. Meier 2000; Balmissé 2001; Panzani 2003.

tion, privatization, and management transfer, processes are in motion to transfer some water management responsibility toward local or municipal government authorities, user groups, private enterprises or combined public–private institutions. The system level and water management aspects to be transferred vary with the circumstances. But where people agree about the need for policy change, the direction of change is heavily contested. Discussions hinge upon such topics as the role of the State versus the private sector, and how suitably market forces can allocate water. The primary questions in these debates are: “Can and should water be treated as private commodity, or as a basic, non-tradable human need, as a public, collective human right?” and “Must water allocation and/or water supply service be controlled by central public authorities, or can that control be decentralized or privatized?”²⁹

The effectiveness of current decentralization policies is questioned, especially since usually tasks but not decision-making powers are being transferred to lower management levels. There is also the fear that government actions to privatize water services and establish water markets will not be complemented by adequate frameworks or regulatory bodies to protect the collective interests and community water rights. Several countries in the Andean region, such as Peru and Ecuador, have attempted (or been forced, see chapter 9) to copy Chile’s Water Code, then becoming enmeshed in interminable debates and fierce popular resistance (Boelens & Zwarteveen 2005b; Castro 2004; Dourojeanni 2000a). Where presumably decentralized institutions have been implemented, they have often been only paperwork (CEPAL 1992a, 1999); as a result, virtual water management bodies have been created without any detailed analysis of local problems or practices. Moreover, these entities tend to deny and supplant local initiatives, organizations, and platforms aiming to coordinate among grassroots user organizations with own water management rules, often reinforcing State and elites’ power (see chapter 7 and 8).

Fundamentally, despite the presence of some institutional initiatives that seek to actually benefit the Andean highland communities, other reasons for undertaking watershed management have often prevailed. Examples of such motives include controlling peasant and indigenous migration to the cities or trying to get them to return to their places of origin (‘re-peasantization’ or ‘re-ruralization’); preventing city belts of poverty from swelling; preventing erosion and sediment from affecting hydropower dams that supply energy to distant urban centers; mitigating the impact of flooding and drought in the lowlands; and averting emergence of grassroots protests and violent resistance groups in the highlands (Cf. CEPAL 1992a, 2005; Dourojeanni 2001).

Multiple-use water management at the level of basins and watersheds is fundamentally a question concerning the societal distribution of water rights, which include issues of control and authority. In this arena, different rights-interest groups can be distinguished. There are the actors for whom water use represents benefits, whether by direct consumption or by generating products.³⁰ Other interest groups are not necessarily direct users, such as basin inhabitants who are affected by flooding or pollution. A third group of actors, commonly also non-users, have interests in intervening in water control decisions, such as politicians, public officials and government agencies, local NGOs, development agencies, and research institutes. Definition of water rights and distribution, management strategies and water quality conservation takes place among such different interest groups, so that

29 Bustamante & Duran 2006; Boelens 2006a and d; Isch and Gentes 2006; Perreault 2006; Urteaga & Boelens 2006; Vincent 2001a and b; Warner & Moreyra 2004.

30 Within abstract categories, such as farming, industry, mining, water supply, there is a variety of specific groups and multiple-use combinations.

management essentially becomes a process of ongoing confrontation and negotiation.³¹

Since policies and legislation in the region generally do not adapt to local user collectives' reality, in the day-to-day political arenas, they challenge rule construction and application and bring different socio-legal systems into interaction and confrontation. Thus, legal pluralism is reinforced not only by Andean peoples' diverse history and different physical and social contexts, but also by local resistance against legislators' attitude itself. Despite the water society's diverse nature, legislation is uniform and policies tend to consider all of society as a homogenous reality, in which there is no room for different rights (Boelens et al. 2006b; Guevara 2006; Vidal 1990). In Andean policymaker and legislator circles, the instrumental myth persists that intended changes in water management can be made by just formulating and legislating official watershed authorities and rules. The assumption is that implementation is an almost automatic consequence. In practice, nevertheless, the preceding chapters have shown how these actors and social forces interact and generate different normative frameworks, mixtures that vary from one watershed to another, and also from one users' group to another.

In such an inter-legal panorama, characterized by great heterogeneity of de facto authorities, legitimizing and being legitimized by divergent normative systems, it is not easy to achieve a consensus regarding water rights. It is not just a question of competition for use of the water and infrastructure, but also conflict regarding the mechanisms that justify acquiring or claiming water rights. Different normative frameworks recognize different mechanisms, as I have shown in chapter 2. Furthermore, there is great heterogeneity regarding the contents or meaning of a 'water right', which has very different features according to the normative framework that is deemed valid. This pluralism in systems of rights and authorities in Andean basins cannot be denied by official decrees, the imposition of a single positive normative system, or regulation by the market. Such imposition may seem quite appealing to legislators, politicians, project officials, and outside authorities, but it will never resolve the underlying conflicts.

Diverging approaches to accommodating multiple water uses and rights

In all efforts to construct agreements on multiple uses and interests in basin management, it is crucial to recognize that reconciling interests and decentralizing management fundamentally entails redistributing resources, authority, and power. This refers to the power of users, of involved non-users and of the consensus-builders and policy-implementing agencies themselves. Hereby, societal relationships and power structures, manifested in the current unequal distribution of the means of production and wealth generated, decisively influence policy- and law-making regarding water resources and their enforcement. Therefore, any 'consensus-building policy' cannot escape the question of divergent stakeholders' positions, their knowledge, interests, powers, as well as their diverse strategies regarding water control (see also Getches 1999; Tarlock et al. 2002; Vincent 1996; Wester 2008). This must demystify all the discourses based on terms of equity, democracy, or popular participation that fail to make clear how to achieve such goals.

Andean region water policies (as a consequence of denying issues of power) often lack explicit, in-depth discussion of existing interests or their influence on decision-making in integrated watershed management programs. Instead, there are 'established' intervention policies and 'proven' rules

31 Bruns et al. 2005; Edmunds and Wollenberg 2001; Meinzen-Dick and Zwarteveen 1998; Meinzen-Dick and Pradhan 2005; Steins and Edwards 1998; Vincent 1996.

and professional criteria. Thus, many programs are grounded in the implicit norms of professionals, institutions, and legal regulations, emphasizing above all ‘efficiency and productivity’ in technical and economic terms (see chapter 10). Also, in the socio-organizational field, there is the tendency to develop and impose the ‘most adequate’ organizational structures and rules for consensus-building entities and negotiation platforms. So, many artificial organizations have emerged, often to channel institutions’ interests and messages or to reinforce national legal regulations.

When analyzing the different discourses and action proposals that show up in the discussion on integrated water management, in the context of increasing water scarcity and competition, a number of marked differences stand out in their different responses to the following questions (Boelens et al. 2005a):

- What water rights system (what regulation mechanism) can best allocate water rights?
- What (kind of) regulatory entity should be responsible for this water allocation?
- How can conflicts about the resulting distribution of water and water rights be settled?

As a preliminary answer to these basic questions, four policy approaches may be distinguished conceptually in current debates, and with them proposals and strategies for intervening in watershed management (Boelens et al. 2005a):

- The ‘*State approach*’, advocating governmental control over water management and over allocation and adjustment of water rights.
- The ‘*market approach*’, seeking to decentralize management and to allocate or adjust water rights by means of market forces, using the ‘rational decisions of individual actors.’
- The ‘*consensus-based management*’ (‘*concertación*’) *approach*, seeking to decentralize management and to allocate or adjust water rights through regulation by consensus-based platform entities.
- The ‘*mobilization approach*’, advocating local organization-building (grassroots and marginalized groups) to improve equitable resource distribution and to generate a balance between the power and opportunities of actors involved in water control decentralization.

Below a brief review is presented of some regulatory experiences that cover these approaches, analyzing how the corresponding discourses are translated into practice. The focus of analysis is the actual capacity of these approaches to find a consensus among different water uses and rights in the watershed, to resolve conflicts among stakeholders with criteria of equity, and to protect the ecological functions of the watershed or basin.

The State approach

The first approach is grounded in granting the State a strong, decisive role in regulating and implementing multi-sectoral water management. The fundamental idea is to preserve and strengthen public responsibility to ensure that all societal sectors and the environment have rights and access to this strategic resource. In practice, this often results in vertical imposition of the rules of play on users. In the case of decentralization of water management to the watershed or basin level, a government agency is appointed to be the agent responsible for local administration of water resources.

In Peru, for example, the Law to Promote Investments in the Agrarian Sector (1991) authorizes the creation of Autonomous Water Basin Authorities (IPROGA 1996). Article 55 establishes that “in basins with regulated irrigation and/or where there is intensive, multi-sectoral water use, Autonomous Water Basin Authorities will be set up, as the top decision-making body regarding water and soil resource use and conservation in that jurisdictional area.” However, in most basins, these

bodies have not been set up or they have remained paper institutions. In others they were established vertically and bureaucratically, without sectoral participation or inter-sectoral coordination. Only in a very few cases have they attempted to bring the different user sectors together, but even in those cases it has proved difficult to achieve democratic, effective management (Toledo 1999; CEPAL 2005; Hendriks 2004). In part, this is caused by the paternalistic history and still bureaucratic setting of water administration and the power of dominant sectors preventing democracy and redistribution of decision-making faculties. Moreover, legislation itself vertically prescribes organizational structures, functions, and forms of representation, and leaves little room for stakeholders' problems and potential in the contexts of particular watersheds.

In this way, great controlling power is maintained, paradoxically in a setting of decentralization and privatization.³² Apparently, the same medicine is prescribed for quite different ailments. These entities must operate "...under the norms and supervision of the national-level water authority" (Article 56) and strictly enforce official water norms in the watershed. This ignores tremendous variety in watersheds, especially considering the great difference among the coastal, highlands, and jungle regions, where users apply local normative systems that are quite different from positive law.³³

The market approach

A decentralization model with universal pretensions is grounded in neo-institutional concepts and a neoliberal market approach. It defends decentralization and privatization of water management services and privatization of water use rights, as in Chile. In Chile, although water is formally a national good of public use, in legal practice water rights function as private property, overriding other regulatory norms.³⁴ The Water Code grants almost total, permanent freedom of the way in which to use water that one has rights over, for any purposes; users may transfer water rights separately from the land, to use them anywhere else; and sell them like any other merchandise (Castro 2002; Gentes 2006).

The approach is based on the idea that the free market's regulatory function—through competition among different users and among different water uses—will be able to (re-) distribute water rights to the user and sector with the highest economic water resource value and water use and market efficiency. By setting the real price of water on the free market and generally commoditizing the resource, multiple uses of water could be compared, determining 'optimal' uses and users (Bauer 1997; Dourojeanni and Jouravlev 1999a). To enforce this in practice, water rights must be defined as private, exclusive, transferable property. National legislation must defend the security of private ownership, to encourage investment in the best utilization of water, and must offer a framework promoting transactions among rights-holders. In practice, it appears that commoditization and privatization of water rights in the Andes entail tremendous environmental and social justice problems. Especially when social usage priorities are not established, and effective, beneficial use of water rights is not prescribed, large mining and hydropower companies are quite free to accumulate

32 For example, Article 56 stipulates precisely how the Board of this body shall be constituted: five members from representative agrarian organizations; the Technical Administrator of the Irrigation District, who chairs the Board as representative of the Ministry of Agriculture; a representative of the Ministry of Energy and Mining; one from the Ministry of Housing and Construction; one from the local government; and one from the National Development Institute (which is governmental) or the most important irrigation project in the zone.

33 Recently, various new proposals have been formulated and issued to create 'Autonomous Water Management Authorities' by basins, but actual results are scanty.

34 Individual property rights over water enjoy strong protection. Article 24 of Chile's Constitution states that: "Private water rights, recognized or constituted pursuant to law, shall grant their holders ownership over them."

and speculate with water rights (Solanes and Getches 1998). In such cases, water rights are often purchased by the economically most powerful entities at the expense of subsistence communities in the Andes (Castro 2002, 2007; Isch and Gentes 2006). Although in theory the Water Code strengthens user organizations and grants them great autonomy over using their rights, it does not help with conflict resolution or collaboration among users.³⁵

At the level of multi-sectoral water management in basins, the approach does not seem to offer the generalized benefits that economic theory had predicted. The few in-depth studies conducted so far have shown that the Chilean model even impedes solving multi-sectoral problems. Economic development in the water sector based on market rights has multiplied water pollution problems, aquifer management issues, problems in preserving ecological flows, and so forth – all problems left to be settled between private and privatized players of unequal power. In multiple-sector conflicts the bigger, more powerful water users have little incentive to negotiate water allocation or settle conflicts in platforms, precisely because their private rights are so strong relative to the regulatory authority of the State or any possible platform, as Bauer (1998: 150) argues (Cf. Dourojeanni and Jouravlev 1999a). “The task of coordinating different water uses at the river basin level is left mainly to voluntary bargaining among private rights-holders and their organizations. Because State administrative intervention is so limited, when bargaining fails the conflicts are supposed to be settled by the ordinary civil courts, which have expanded powers” (Bauer 1998: 112). The market-model itself, dependent on the highly legalistic judicial system, generates part of the fundamental problems (Hendriks 1998; Castro 2002; Gentes 2005).

Whenever watershed boards are established, the influence local communities can exert in meetings is little. Within multiple-actor boards, decisions are made by voting, but small-holders are at a disadvantage. The Code establishes – in violation of Andean customs – that users’ voting power is proportional to the number of water rights shares they hold. Generally, then, the most powerful users dominate decision-making (see Hendriks 1998). For example, in the case of the Maule River described by Bauer (1998), local irrigators for many years confronted the power generation company. The company cut off their water upriver to store it during the season of maximum agricultural demand and often interrupted the flow releasing water in irregular amounts and unforeseeable timing, making it unusable for farmers. Before the company was privatized, there were ways to solve such conflicts in terms of public interests, but now they face off as two private entities in court. After many years of legal battle, the Supreme Court backed the company, but found no solutions for the thousands of local farmers affected. The courts decided solely on the basis of legalistic prescriptions, closing their eyes to the social and productive consequences. Meanwhile, several new hydropower plants have been built in the watershed, reinforcing this sector’s power and allowing it to consolidate its strong rights.³⁶ Now, although the democratic government has attempted to soften the harsh facets of neoliberal legislation (with some initial legal results in 2005; see Budds 2007; Gentes 2006) resistance by powerful stakeholders against State interference in their private rights remains intense

35 Especially in situations of insecurity, subsistence, and collective management systems, privatization produced very serious consequences. See chapter 9.

36 A similar case reported by Bauer is the construction of the Pangué dam on the Bío Bío river, which would reduce downriver flow and concentrate pollutants. Affected indigenous, environmental and irrigators’ organizations joined in an action platform and went to court. At first, the court ruled in favor of the opponents, asking the dam project to make a compromise with the affected users before continuing construction. But the Supreme Court overruled that decision and gave the project its blessing, without considering the alternatives that would be less harmful to the indigenous communities, the farmers and the environment. Instead of insisting on a platform compromise, the court worsened the conflict. “The Pangué decision resulted in a major transfer of wealth from farmers and the agricultural sector to power companies: a political decision with significant distributional consequences” (Bauer 1998: 142).

(Budds 2004, 2007; Castro 2004; 2007).

Water access rights are not comparable to rights to other transferable goods, because of the great interdependence among multiple uses and users of a single source in a single watershed. Water use also affects non-users and the environment. And, as chapter 9 elaborates, private market policy does not recognize water's social and collective features of Andean user communities. It fails to resolve multi-sectoral water rights conflicts, where there is no effective legal and institutional framework to support it.³⁷ In this situation, such water policy encourages monopolization and speculation with water rights by dominant sectors, and fosters disorganization, by individualizing water control and externalizing conflict resolution.

The consensus-based management approach

A third group of institutional strategies and proposals to address inter-sectoral conflicts over water in the Andes and foster beneficial use, equitable water rights and environmental preservation, is grounded in a consensus-building ('concertación') approach.³⁸ It is not the all-powerful State, or free-market rules, but negotiation and collaboration among different players, often with diverging interests but mutually dependent, who have to reach a consensus that is beneficial for all. These strategies and proposals include, as a core element, generating or strengthening platforms (*mesas de concertación*) and mechanisms for consensus-building, for integrated watershed management, comprised by combined entities: governmental and nongovernmental organizations, multi-sectoral, endogenous and exogenous bodies, representing the wishes of different interest groups. Considering the interests of all parties involved in the basin, for mutual and equitable benefit, makes it compulsory to consider participation by representatives of all of them and seek consensus among their water rights and their divergent normative systems. This management by consensus does require an adequate information system, transparent, and broadly accessible. It generally has an outlook that is not limited to multi-sectoral water management but also involves other resources.

Ecuador, Bolivia and Peru have undergone a process of constitutional and institutional reform entailing – along with privatization of governmental institutions – decentralization of natural resource management authority to regional and local governments. For example, in Ecuador, several legal proposals for watershed management have been made, and the National Strategy for Territorial Development proposes a model for integrated, decentralized development based on involving networks of local, provincial and national players and a basin approach. But the reform is facing enormous political, financial and institutional problems. Therefore, rather than wait until official regulations and government agencies settle the contradictions of institutional competence and administrative authority, local coordination initiatives in the Andean countries are developing a number of interesting experiments at the watershed level (see Pereyra 2004; Warner and Moreyra 2004). Still, there are very few cases in the Andes that have materialized management platforms that are genuinely multi-sectoral and democratic. They often exist only on paper.

The approach's strong point is also its weakness. "For negotiation on activities to lead to sustainable development with equity, it has to happen within a framework of democratic consensus-building in which all players are aware of the proposed aims, their responsibilities and the future consequences for managing watershed resources. The overarching objective posed is to organize water use in a harmonious, win-win manner among all water users" (IPROGA 1996). But administration

37 Bauer 1997, 1998; Dourojeanni 2000a; Gentes 2005; Moreyra 2001.

38 E.g., CEPAL 1992b, 1999; Dourojeanni 2000b; IPROGA 1996; IMAR 1997; Warner and Moreyra 2004.

or redistribution of water rights at the basin level is no easy matter for such a platform, precisely because it runs against powerful vested interests. Theoretically, platforms are based on ‘general’ consensus can work well when there are possibilities for positively valued transactions among actors. These can only be achieved with awareness of proposed solutions and political interest in true social change. Habermasian dialogue, however, generally is out of the question in the strongly stratified, authoritarian Andean policy context, where local and national water elites, water expertocracy and a traditionally centralized State control decision-making. “*Let them have all the dialogue they want as long as they obey*”³⁹ seems to be the reasoning of dominant water players. If mutual benefits cannot be found, the process of redistributing rights can easily be blockaded by powerful sectors already holding rights. The latter will find ways to dominate platforms or turn to other ways to satisfy their interests. Thus, instead of just focusing on good intentions, optimal social and technical ‘should-be’ results, and a consensus-based ideology that places a Rawlsian ‘veil of ignorance’ to cover the power differences in platforms, it is critical to scrutinize the relative power structures in such watershed platforms and policies.

The mobilization approach

The mobilization (or empowerment) approach is grounded in two basic concepts regarding watershed management dynamics. First, that many changes do not result from the planning of an integrated water management strategy, but from collective initiatives by users and their platforms in terms of a shared interest or need. Most of the time, such local platforms are not organized to address the entire integrated water management situation, nor do they intend to; rather, they come together to address specific water problems. They generally do not gather (or want to invite) all stakeholders within their platform, because some nonparticipating players do not share in their interests, or because the platform’s objectives may be based precisely on mobilizing against the actions of a certain interest group.

The second concept is that distribution and adjustment of water uses and rights are processes entailing harsh confrontations among interest groups, which often are not based on harmonious, consensual negotiation. The less powerful groups, although also facing internal conflicts among themselves, have almost always suffered the consequences of ‘reorganization of rights and uses’ by other, stronger players, such as the destruction of habitats and extraction of water resources from rural communities to benefit mining, hydropower, and agroindustrial companies or modern irrigation systems with economically and politically powerful users. Commonly, interest groups as female, indigenous and poor water users are denied access to decision-making positions and negotiation platforms.

The mobilization approach seeks to empower groups with less voting and advocacy power, so they can gain the capacity to defend their water management interests. One way to mobilize is through water-sectoral organization or joining forces among groups with similar problems and proposals. These mobilization platforms are often oriented toward demanding the creation or restitution of rights to which they feel they are entitled (see Dávila & Olazával 2006). This approach generally feels that self-valuing, organization-building, democratic participation, and enhancing negotiating capacity are strategic elements, along with the capacity to build alliances with other grassroots groups and assistance institutions. Platforms can seek alliances with other users and inhabitants of the basin or micro-region, especially when their mutual dependence on water gives rise to possibili-

39 My paraphrasing of Frederick II’s response to criticism by Kant (Foucault 2002b:195)

ties for reciprocal actions. Within this approach, possibilities for multi-sectoral management appear, for example, when environmental groups, peasant organizations and nongovernmental organizations, sometimes with local government agencies, join and manage to consolidate fronts that force other players to respect ‘responsible water management.’ Some common examples of platforms with an empowerment approach are:

- The federating of different user groups in the lowlands to avoid being deprived of their access to water by upstream users, and vice versa;
- The collective struggle against monopolization of water rights by one or more users, such as large landowners or privileged villages, or against accumulation of and speculation with rights by hydropower companies or urban zones;
- Mobilization of rural communities against pollution caused by mining companies or factories dumping their toxic wastes in lakes and rivers or polluting ground water;
- Organization of user groups in the lower and mid-basin against logging, and demanding erosion control in the upper area;
- Coordination among local users’ organizations to establish more equitable water management within the basin territory, to demand hydraulic projects for their common benefit, or to debate consequences of new policies formulate counter-proposals.

According to the platform’s objectives, local players do not necessarily coordinate their action at the single-basin level, since their territory or sphere of action may cover more basins. For example, in Chimborazo Province, Ecuador, a large number of peasant and indigenous irrigation and drinking water organizations have joined to form the *Interjuntas* (‘Inter-Boards Platform’). Their issues of common interest are the struggle against legal discrimination, conflicts resolution, and the defense of local decision-making and users authority (see annex 3). Territorial watershed defense is another common ground for mobilization.⁴⁰ Sometimes they organize to defend shared water sector based interests. Therefore, their proposals do not necessarily reflect a vision that is any more holistic regarding integrated water management.⁴¹

All four approaches diverge in answering the fundamental question on how to accommodate multiple water rights and water uses in a region characterized by strong legal pluralism. Intrinsicly, policy options cannot be based on neutral or just technically most optimal criteria, since they profoundly involve political visions and choices. Next, the balance among different water allocation mechanisms and the keys to build regulation and conflict resolution systems can only be site-specific and depend, among other things, on the hydrological situation, competition for use, power relationships, institutional history and agreements, and the political and administrative structure in force in

40 For example, as Moreyra (2001) reports, in southern Chile some 60 Mapuche communities in the Chol Chol basin have formed a platform to defend the indigenous inhabitants’ rights: the Chol Chol Communities Coordination Commission. Among other issues, they call for the expansion and reconstitution of territory taken from them during colonial and early republic times. They want their water rights back, and recognition of their right to manage water according to their own rules, and demand support, through subsidies and assistance for irrigation projects - from which they have been excluded, because irrigation subsidies are conditioned to owning formal water rights. They also consider it crucial to strengthen their institutional political power. For similar cases, see also Assies 2006; Castro 2000; Bustamante 2006; Gentes 2006.

41 So, for example, in the Cochabamba Valley, irrigators using well water were opposed to the drinking water company extracting water from its own wells, arguing that the aquifer might be drained and exhausted. At the same time, these same irrigators were in a free-for-all among themselves over access to ground water, careening toward aquifer depletion, but showing no interest in making rules regarding responsible water removal among themselves (Hoogendam 1999; chapter 12).

the basin. Variations in Andean watersheds have created, over time, very diverse, divergent local institutions, so no single recipe can be prescribed for watershed entities, river basin committees or for water rights policy, beyond setting general criteria as to regulatory mechanisms and bodies. But some orientations can be highlighted:⁴²

Policies that re-address the fundamental water property contradictions among the water-haves and the have-nots appear to be indispensable as a background for conflict resolution. Next, rather than creating conflicts, national law and governmental agencies would need to enable local conflict resolution and support local dispute solving within the general normative framework. Fundamentally, local user groups establish their internal rules and rights, within the framework of broader legal principles of justice, democracy and sustainability. And, importantly, in case local institutions fall short, second- and third degree institutions for dispute solution need to be in place. As Arendt (1969, 1990) analyzed extensively, here there is an important role for ‘checks and balances’ against powerful interest of both the governors themselves and third parties, to be built into the laws and governance structures. ‘Non-structuralist’ Foucault (“the liberty of men is never assured by the institutions and laws that are intended to guarantee them” (in Rabinow 1984:245), paradoxically, comes to a similar conclusion: “Against power there must always be opposed unbreakable laws and unrestrictable rights” (in Gordon 1991:48). But indeed, it is not just a question of the laws and structures themselves: it is (aside from the many local rights practices outside the formal, legal arena), the process and practice of their constitution and enforcement, as the case of Interjuntas clearly shows (annex 3). Checks and balances in the Andean context require the continuous process of mobilizing from below in order to change and shape laws and policies and to monitor the way they are enforced. There are no unbreakable laws.

5.4. The demand for local rights recognition: analytical and strategic agendas

Recently, there is growing policy attention for customary peasant and indigenous culture and rights systems in the Andean region. Most countries have accepted international agreements and work towards constitutional recognition of ethnic plurality and multiculturalism. Ratification of International Labor Organization (ILO) Convention 169, on Indigenous and Tribal Peoples in Independent Countries is an important example. The last decade’s change of Constitutions in the Andean countries, ratifying the multicultural, plural roots and peoples that make up these countries, is another. However, when it comes to materializing such general agreements in more concrete water legislation (or worse, in policy practice), many difficulties arise. A major problem relates to political power games and structures, which mean that context-specific local and indigenous forms of water management (especially forms of autonomy and decision-making rights) tend to be denied.⁴³ Thereby, the imposition of bureaucratic, nation-wide regulations, or adhesion to universalistic market prescriptions, fiercely challenge local (collective) water rights frameworks and their dynamics.

Another main challenge is related to the notion of ‘legal recognition’. In order to confront processes of discrimination and exclusion, indigenous and campesino advocacy groups often aim for

42 For other and more detailed elaborations: see Boelens & Dávila 1998; Boelens & Hoogendani 2002; Bruns et al. 2005; Gerbrandy & Hoogendam 1998; Mollinga & Bolding 2004; Roth et al. 2005.

43 Assies & Gundermann 2007; Boelens et al. 2007; Bustamante 2002; Gentes 2005; Getches 2006; Guevara et al. 2002; Hoekema and Assies 1998; Pacari 1998; Palacios 2002, 2003; Urteaga et al. 2003; Yrigoyen 1998.

strategic-political action with clear, unified aims and answers. However, the struggle for formal, legal recognition presents enormous conceptual and strategic problems with important social consequences, which mean that simple answers or slogans, by either policy-makers or resistance movements, necessarily fail to address fundamental water rights issues. These dilemmas are raised here to serve as a background for the chapters to come, in which ‘recognition policies’ will be linked to the ‘politics of recognition’.

As we argue in the book *Liquid Relations*, it is crucial when dealing with the issue of rights recognition, and thus the recognition of *legitimacy of legal hierarchies*, to distinguish between analytical-academic and political-strategic recognition. Taking legal recognition as a point of departure implies that there is a ‘recognizing party’ and a ‘party being recognized’, and assuming that legal recognition is the desired condition for local rights systems and cultures leads to an important political bias: it would result in the kind of State-biased position in which matters are decided upon on the basis of a State-determined hierarchy ranking legal systems’ validity – thus invalidating the insights derived from legal pluralist conceptualization (Boelens et al. 2002; Roth et al. 2005). But it is important to be aware of possible opportunities involved in (State) recognition, taking seriously the fact that many local resource users, ethnic groups and other minorities actively aspire to and strive for this form of recognition. Water users (and especially marginalized actors) are often constrained by State law, but at the same time they can (try to) approach it as a powerful resource for claiming or defending their interests and rights. At that moment they *recognize its legitimacy and power* which, however, does not mean that they *accept its current manifestations or the power structures* that sustain it.

By claiming legal (State) recognition of their own socio-legal repertoires, local communities and movements in the Andes generally perceive the State in three different ways (at once). The first concept of the State is as an ideological construct with a role as benefactor and protector, an amorphous actor and structure that nevertheless has clear objectives: to serve the public good and well-being. This State–as–it–should–be is a positively valued parent of ‘the community’, also seen as a should-be ideological construct. It is interesting to see how, therefore, both campesino federations and indígena movements in Peru and Ecuador fiercely claim that water should remain *public* property in the hands of the State – the same State that historically has largely denied and taken away their common property rights.⁴⁴ It continues to be seen as the fundamental entity for defending and guaranteeing their collective water rights systems, particularly in these times of supranational, neoliberal water policy-making.

Next, there is the State as it is experienced: a set of institutions such as agencies, offices, officials, rules, administrative procedures, etc., linked to each other through actual relationships and practices. In the Andes – particularly through the eyes of marginalized water user groups – this is often perceived as almost the opposite of the first concept: unfair, ethnically discriminatory, class- and gender-biased, technocratic, bureaucratic; a group of institutions and individuals (national elites) that control decision-making for their own purposes and fill their pockets at the expense of local communities and families.

When confronting these two, the third common concept of the State is constructed: the State

⁴⁴ In Bolivia, interestingly, many indigenous groups did not claim water to be public property, but local, collective property (especially before indigenous leader Evo Morales became President). Traditional weakness of the Bolivian State in, among others, water affairs is a fundamental reason. Strongly centralized, water-intervening States (Peru and Ecuador) have colored grassroots groups’ perceptions in those countries, showing that the State does make a (positive or negative) difference and that defending local groups’ rights therefore must happen through (among others) State power: a quest to be both in and against the State.

that can and should be a ‘public-affairs-State-in-practice’.⁴⁵ To materialize this State, last year’s strategies were directed both at taking over the government⁴⁶ and, through elections, claiming strong grassroots participation in government agencies and policy-making and implementing bodies (at the local, provincial, or national level).⁴⁷ Maybe not surprisingly, one of the first actions of the new indigenous-campesino supported MAS government in Bolivia was to restructure the national water administration, install a Ministry of Water, and change neoliberal water policy.

Legal recognition, therefore, goes further than simply ‘accepting existing State legal hierarchies’, and even may go against it. As Bourdieu observed, the State exists in objective reality, as a set of institutions, and also in the way people perceive the State, “in the minds of the people, in the form of subjective law (‘it’s my right’, ‘they can’t do that to me’)” (1998a: 34). This attachment to ‘legitimate rights’ presents what the State should do according to local concepts and in keeping with historically conquered rights to co-decision and social benefits. Therefore, “the State in every country is the track in reality of social conquests...” (Ibid). As a result, the State is an ambiguous reality. “It is not accurate to say that it is an instrument in the hands of the ruling class. The State is certainly not completely neutral, completely independent of dominant forces in society ... It is a battleground” (Ibid: 34).

Returning then to the issue of recognition of plural legal repertoires, in an *analytical* sense, legal pluralist thinking does not establish a hierarchy (based on the supposedly higher moral values or degrees of legitimacy, effectiveness or appropriateness of a legal framework) among multiple existing legal frameworks. In *political* terms, however, it is important to consider that the existing, official legal structure is fundamentally hierarchical (Roth et al. 2005). Recognizing – but not straightforwardly accepting – the existence of this political hierarchy and the emerging properties of State law in particular contexts offers water user groups the possibility to devise strategies for social struggle and progressive change. In the discussion about ‘recognition’ as a way of giving legal pluralism a place in policy-related issues and in rights battlegrounds, both the political-strategic and analytical-academic aspects of recognition combine.⁴⁸

Thus, the notion of ‘recognition of legal pluralism’ is, by definition, many-faceted and ambiguous. First of all, recognition of legal pluralism in the analytical sense refers to the *theoretical possibility* for there to be more than one single normative repertoire in one and the same socio-political setting – multiple frameworks that interact with each other. On a second level, it refers to the *empirical existence* of normative plurality in a given, particular society, with its concrete social relationships: the analytical recognition or confirmation on an empirical basis – ‘what there is’ (what an observer recognizes scientifically). On a third level, it refers to *political, administrative and juridical recognition*, generally by the State and its legal framework, that there are multiple legal systems within one single concrete society (institutionalized or ‘legalized legal pluralism’). On a fourth level, the notion of ‘recognition of legal pluralism’ often is defined as ‘what should be’. Here, the issue in question is the perception and *valuation of the way existing normative plurality is recognized* in a given society, thus, according to one’s ideology, the way that rights and State’s role exist in the

45 In water issues, its task would be to support local rights systems and increase water distribution justice.

46 Through a coup, as done by the CONAIE indigenous movement and allies in 2000 or through popular uprisings to kick out the current government (on several occasions in, e.g., Ecuador and Bolivia). An entirely different (not comparable) case was the Peruvian terrorist movement, Sendero Luminoso, aiming for ‘burning down the State.’

47 E.g., CONAIE, with Pachakutik, winning governmental elections in Ecuador in 2002, and MAS with Evo Morales winning the elections and taking the Presidency in 2005.

48 Boelens et al. 2002. Cf. Benda-Beckmann 1996; Roth 2003, Roth et al. 2005.

minds of people.⁴⁹

The analytical aspect of recognition concentrates on the academic quest to know how plurality is ordered; the political aspect regarding whether and how this plurality is (or is to be) embedded in a political and legal hierarchy, based on existing power structures that establish faculties and properties of ‘recognizers’ and the ones to be ‘recognized.’ Ambiguity of the concept and meanings that differ according to time, place and actor make ‘recognition’ a strategic, dangerous concept that may both support or frustrate local rights struggles, and that may either challenge or reinforce domination and normalization practices. Instead of simple, unified claims, many questions arise in debates and struggles for ‘recognition’. Some important examples are:

- How to define and delimit the domain of validity of local, customary or indigenous rights systems? Considering the multi-ethnic compositions of most Andean regions and dynamic properties of local normative frameworks, it is difficult (or impossible) to come to uniform definitions. Would it be better to define rights systems in terms of exclusive geographical areas, traditional territories, or flexible culture and livelihood domains?
- Do indigenous peoples and their advocates claim recognition of just ‘indigenous rights’ (with all the conceptual and political-strategic dilemmas of the ‘indigenous’ concept), or do they also struggle for recognition of the broader repertoires of ‘customary’, ‘local’, and ‘peasant’ rights prevailing in the Andes? And what is the difference in concrete cases?
- Do recognition efforts focus only on legal recognition of explicit and/or locally formalized property structures and water rights (‘reference rights’, often, but not always, written) or do and should they also consider the complex, dynamic functioning of local laws and rights in day-to-day practice? These ‘rights in action’ and ‘materialized rights’ emerge in actual social relationships and inform actual human behavior, but are less ‘tangible’.
- Which recognition strategy is appropriate? There are no clear-cut, local peasant or indigenous normative frameworks, but many dynamic, interacting and overlapping socio-legal repertoires: should indigenous peoples, peasant communities and local water user organizations try to present and legalize *delimited frameworks* of own water rights, rules and regulations? Or should they rather claim recognition of their *autonomy* to define, develop and enforce collective *water control rights*, without any need to detail or specify these rules, rights and principles within the official legal framework? Or would it be a more appropriate, effective strategy when they would claim and defend legalization of their water *access* rights – since these are increasingly being taken away from them – and assume that water management and control rights will follow once the material resource basis has been secured?

As I have observed in chapter 1, a major challenge stems from the difference between universally (or nationally) valid laws and context-dependent rights systems. National (positive-law) legislation, by definition, claims that law must focus on uniform enforcement, general applicability and equal treatment for all citizens. At the same time, local and indigenous rights systems, by definition, address particular cases and diversity. How to deal with the conflict and fundamental difference between legal justice (oriented toward ‘right-ness’ / generality) and diverse, local equity (‘fair-ness’ / particularity)? How to avoid ‘complementing and adapting’ the positive-law rightness system by including

⁴⁹ For example, it is common to hear in the Andes (with legal plurality in the sense of levels 1 and 2) that “the State does not recognize indigenous normative frameworks or legal plurality”, whereas that same State may have institutionalized legal hierarchies and linkages among the country’s different socio-legal repertoires (level 3). A political observer and strategist-activist will reject such ‘subordinating’ recognition, since it does not fit in with his or her own outlook (level 4).

local law, and thereby making the dynamic local fairness system institutionalized, formalized and thereby unsuited to address particular water rights contexts?

These conceptual challenges raise several new questions. For example, how to avoid freezing local dynamic systems by official recognition? Indigenous and other local socio-legal repertoires make sense only in their own, dynamic, particular contexts, while national laws demand stability and continuity: how to avoid 'fossilizing' customary, peasant / indigenous rights systems in static, universalistic national legislation in which local principles lose their identity and capacity for renewal, making them useless? How to avoid assimilation and subsequent marginalization of local rights frameworks when these are legally recognized? And how to avoid a situation in which only those 'customary' or 'indigenous' principles that fit into State legislation are recognized by law, and the complex variety of 'disobedient rules' are silenced after legal recognition?

'Enabling' and 'flexible' legislation might solve the above problem. However, enabling legislation and flexible rights and rules often lack the power to actually defend local and indigenous rights in conflicts with third parties. Thus, an important issue is how to give room and flexibility to diverse local water rights and management systems, while not weakening their position in conflict with powerful exogenous interest groups? Also, answers must be found for the question of what such legal flexibility means for 'internal' inequalities or abuses of power. If, according to the above dilemmas, autonomy of local rule development and enforcement is claimed (instead of strategies that aim to legalize concrete, delimited sets of local rights and regulations), how to face existing gender, class and ethnic injustices which also form part of customary and indigenous socio-legal frameworks and practices? Answers to such questions necessarily point out directions where frameworks of collective rights and rule-making autonomy for local collectives are combined with establishing supra-local institutions and rules that need to guarantee protection for individual and minority rights. These also need to offer opportunities for the above-mentioned second-order conflict resolution and appeals in case local conflicts cannot be solved adequately.

Another important question that arises is how to balance the strategic effectiveness of legal recognition with other struggles for water rights? Considering peasant and indigenous communities' lack of access to State law and administration, this question comes prominently to the fore: is *legal* recognition indeed the most effective strategy, or would it be more effective for these communities to defend their own water laws and rights 'in the field?' To this respect, moreover, it is often not State law as such that sets the rules of the game in peasant and indigenous communities, but hybrid complexes of various socio-legal systems. As Moore (1978) once argued, formal rights and rules cannot act by themselves, and it is only the forces and relationships of society that can turn legal instruments into societal practice. Especially social and technical water engineers, lawyers and other legal advocates have often overestimated the actual instrumentality of formal law and policies in local contexts. On the contrary, their legal anthropological colleagues have sometimes tended to underestimate the power of formal law, assuming that all conflicts are settled by means of local normative arrangements, without any influence from official regulations.

Experience shows that legal recognition, just as legal misrecognition, tends to have an important effect on the daily lives of indigenous and peasant populations. For example, the neo-liberal water laws (e.g. Chile) or top-down instrumental water policies (e.g. in Ecuador and Peru) have not only neglected customary water-management forms but have also had concrete, often devastating consequences for the poorest people in society. Because of the negative impact of applying currently existing law, indigenous and grass-roots organizations have fiercely engaged in the legal battle. And

their efforts to gain legal recognition do not *replace* but rather *complement* local struggles ‘in-the-field.’ On both levels, there is political-strategic action to defend water access rights, define water control rights, legitimize local authority and confront powerful discourses.

In chapters 6 to 10, I will examine how the ‘politics of recognition and participation’ and uniform water policies at the national and international level, facing off against local water rights and customary laws, shape the complex water rights arena. The contestation of local water rule-making communities is addressed in chapters 11 to 13. They show that the rightful critique to prevailing ethnocentric and universalistic approaches must not lead to equally simplistic praise for local autonomy or to cultural relativist reification of local rights systems. Critical analysis of power relations underpinning both customary and official rights systems is crucial in order to improve local, national and international water laws. Local water rights and identities are given shape not by isolation or policies that reduce them to folkloric practices, or by legal or hierarchical subordination, but by conscious confrontation and meaningful communication among plural legal systems.

PART 3

ENCOUNTERS OF NORMALISATION: INCLUSION OF THE EXCLUDED AND THE CULTURAL POLITICS OF PARTICIPATION



“What would you say, if by the gradual adoption and diversified application of this single principle, you should see a new scene of things spread itself over the face of civilized society? - morals reformed, health preserved, industry invigorated, instruction diffused, public burdens lightened, economy seated as it were upon a rock, the gordian knot of the poor-laws not cut but untied - all by a simple idea in architecture? [...] A new mode of obtaining power of mind over mind, in a quantity hitherto without example: and that, to a degree equally without example, secured by whoever chooses to have it so, against abuse. - Such is the engine: such the work that may be done with it.”

Jeremy Bentham, *Panopticon or The Inspection-house: Containing the idea of a new principle of construction applicable to any sort of establishment, in which persons of any description are to be kept under inspection* (1995[1787-1791]: 95, 30).

chapter 6

COERCIVE AND CAPILLARY POWERS. THE HYDRO-POLITICS OF IDENTITY

IN WHICH I will introduce the complex and dynamic power game that encircles, invades and constitutes the arena of water rights and identity formation. Since ancient times and with powerful continuity, ruling groups have tried to expropriate and control local family and community labor and other resources, such as water, by strategically playing the cards of cultural politics and identification. In the field of water control, since community labor, water property creation, water rights distribution, and the process of identity formation are intimately linked, not just resource ownership but also local rules and patterns of identification have been manipulated and confiscated by dominant groups. Apart from outright exploitation and reshuffling of communities, ‘reciprocity pacts’, governance ideologies and cultural categories were purposely constructed and often internalized to suit lines of command and extraction. The tactics deployed to prevent people from ‘wrong-doing’ and generate docile, obedient communities and water users differed strongly. Generally speaking, Inca, Spanish and local hacienda regimes used to put their cards on the table. The game was based on ‘coercive power’ mechanisms that controlled the extraction of labor, tribute and land and water rights by means of centralized juridical procedures sustained by visible force and outright violence. Gradually however, the tricks became more subtle, the cards were hidden, and the rules of play were concealed. Together with diverse equality ideologies that conquered the Andean nations, efforts became oriented to including subalterns instead of excluding them from society and water management. As potential equals, people are actively involved in controlling themselves, by identifying and self-defining them as participants in a water control discourse approaching and materializing norms that they were not involved in defining. The quest to shape users’ water control norms, beliefs, desires, identities and practices, so as to secure their obedience to and compliance with a dominant model for water control and ‘normal’ water rights, is at the heart of the issue. However, as I will argue, the divide between ‘ancient’ and ‘modern’ power mechanisms is not so strict as it might appear. Instead, I will analyze how they mutually interact in Andean water control.

Question: In the history of Andean water control, how is power exerted to influence both identification of and self-identification by people in order to subjugate their labor and collective action, and control their water rights and resources?

6.1. Introduction. Don Fermín and the politics of identity

“I don’t know how I will do it – but Indians have got to vanish. They are the darkness of an alien past. They have the Andes inside them, with all their jumble of mysteries, and their force.

Mystery is the opposite of technology and progress. And if they don’t get technology pretty soon, they will be beheaded. I will bring them down to the Coast, and have coastal farmers go plant the hacienda land and transform those communities. This mass must be scattered into individuals... They must be dispersed, turned into enterprising folks. Let them learn ambition and get to killing each other a bit. That will give rise to the true Peruvian people.”

(Don Fermín, in: *Todas las Sangres*, José María Arguedas 1980/ 2(1964): 68)

Modern policy proposals for the new millennium, like liberal postulates and humanistic philosophies that back them, would seem to show that current agrarian policies and rural development interventions have gone beyond the ideology set forth by hacienda boss, Don Fermín Aragón de Peralta. Don Fermín is one of the main characters of *Todas las Sangres*, which is José María Arguedas’ masterpiece. It was written amidst the turbulent social and political history of Peru in the 1960s and 70s, characterized by multiple conflicts and contradictions, peasant uprisings, and agrarian and water reforms.

However, the book is anything but outdated, and still holds up a meaningful mirror to today’s societal relationships – and in our field of special interest, ‘agrarian and water relationships’ – in the Andean countries. Obviously, no one could deny that there have been significant social and institutional changes, or that rural-urban relations have been transformed. Nor could one deny that the region has enacted ‘multi-cultural’ legislation and that processes of ‘supporting rural development’ have changed, too. However, underlying many new policy discourses and plans we can perceive practices that, rather than breaking with the past, demonstrate horrible continuity. The bitter figures of ethnic discrimination, of unequal natural resource tenure, of unfair day-to-day legal treatment, of denial of local rights and political representation that makes a mockery of anything that could be genuinely called democracy – these mirrors clearly reflect ‘continuity within discontinuity’.

In these last few decades, ‘after Don Fermín’, campesino and indígena communities have confronted a great range of policies and ideologies. After the denial of the ‘Andean community’ and ‘indigenous and peasant realities’ by racist ideologies, and their segregation under colonial projects, mestizaje politics pushed for assimilation of their norms, organizational forms and identities into a great melting-pot, integrating them into the ‘imagined community’ envisioned by national bureaucracy and hydrocracy. They were simultaneously confronted with essentialization and romantization by indigenist, Indianist and cosmovisionist currents; a standardizing ideological interpretation under the parameters of revolutionary movements; and finally philosophical de-construction at the hands of post-modernistic currents, along with political and economic de-construction by neoliberal policies. In chapter 4 I have analyzed how, according to such ideologies, ‘communities’ have been constructed in discourse, along with norms, identities and local cultures.

Although several Andean countries’ Constitutions recognize ‘multi-culturality’, in concrete strategies and practice local cultures, norms and identities are not viewed as hybrid and inter-related, but as static, homogeneous, even folksy. Tellingly, official sectors manipulate the debate on ‘inter-culturality’ in Andean countries (and everywhere else in the world), trying to strip it of political or historical contexts. Inter-culturality is presented as a dialogue among cultures and ethnic groups who have no power differences between them, but only harmonious mutual interests. Just like the con-

cept of ‘we are all equal’ in the liberal humanistic standardizing melting-pot, the idea of tolerance among fixed ethnic categories with pre-constituted identities – without challenging power differences – is key, both for political and bureaucratic stability and to integrate them into the neoliberal market system.

As I shall explore in greater depth in this and following ‘domination and domestication chapters’ of this book, current policies to recognize ‘different’ cultures and norms, after strategies of ‘fighting or assimilating differences’, seem to be turning into the new political response of ‘recognizing, reifying and pampering’ – *providing* their individual and collective identities fit in the rules of play for the Nation or the Market, or at least do not contradict them. Universal Equality, even while pretending to respect and embrace different cultures, has clear standards that each must obey.

It is for this reason that this chapter will dive deeper into the question of how local cultures, identities, norms, and rights – particularly those related to water control – are shaped or ‘normalized’ by different regimes, strategies and mechanisms of power. I will start my analysis by scrutinizing a very concrete, basic water control issue: historical development of the collective community labor mechanism, here referred to as the ‘mita’,¹ for ‘hydraulic property creation and upkeep’. The reason is that in water control communities, as I have shown in the foregoing chapters, it constitutes the foundation of locally managed systems, underpins collective property, livelihood, and hydraulic identity, and directly shapes the contents of local water rights and institutions. For the same reason, however, collective labor mechanisms – in *faenas*, *mingas* or in *ayni* relations – were also welcome to the extractive purposes of Inca and Spanish rulers and landlords. They expropriated these local customs to their own benefit and changed them into forced community labor tributes.

As I will analyze in subsequent sections, historically, local labor power, collectively generated wealth, and corresponding identity formation, have been manipulated by using strongly diverging power strategies and differing techniques of governance. Apparently, brutal, exclusionary, and openly visible ‘top-down’ power manifestations have been replaced by subtle, inclusive, and hidden ‘capillary’ power. Nevertheless, I will show that this apparent discontinuity is not that abrupt, and that these two fundamental regimes of power and their mechanisms of domination strategically co-exist and interact – as they always have done. Modernity is Janus-faced. Moreover, these alternating power strategies increase the ruling group’s capacity to dominate local water societies, since the manifestations of power change color according to the kind of opposition they face from local water user groups.

1 Often called *mit’a* in pre-Columbian times (community service as well as service to the Inca Emperor), *mita* in colonial documents (forced collective labor, e.g. in the mines and Spanish *encomiendas*), and in rules established by haciendas (e.g. forced Indian labor to build irrigation canals), and currently referred to as *minga* (Ecuador) or *faena* (Peru): collective working parties for the community. This Andean rotation- or turn-based resource provision relationship has very diverse local manifestations.

6.2. The expropriation of creation: eroding control over collective labor and reciprocity in communal water control

The ‘creative dynamism’ of Padre Abelardo

The parish church in Licto, province of Chimborazo, Ecuador, is one of the largest in Ecuador’s central highland, although the town of Licto has a much smaller population than surrounding cities and towns. The church was built from 1940 through the 1970s. It is impressive to observe the church’s basic structure: thousands and thousands of huge stone blocks. The work of providing these stones was contributed by local residents, often in *minga* work parties, and mostly from the indigenous communities surrounding the *mestizo* town of Licto. As the current priest puts it, according to the pain petrified in this temple, “we should beg God for forgiveness, supplicating on our knees, for building this church”.²

For each burial, the community of the person who died had to drag down for splitting 15 huge boulders from a stone quarry several kilometers from Licto, and heave them to the church, crossing a deep gully and hazardous paths. The punishment for failing to perform this so-called community-church ‘reciprocity’ task was the family’s exclusion, including the deceased, from the parish cemetery and all sacraments. In other words, the excommunicated family would have to bury their dear one in ‘bad land’, predestined for Hell. Similarly, for each baptism of a community resident, the child’s family would have to contribute 20 stones from the quarry. Otherwise, the child would lead a sinful life and end up in the abyss. Next, each marriage required a contribution of 25 stones.

Father Abelardo, the former priest, was the main driver of this church building, forcing indigenous communities to provide unpaid labor for many years. The priest was dearly loved by the white-mestizo people in town, and they made a strong alliance to dominate the indigenous peasantry. As Inés Chapi, one of the female irrigation leaders who confronted this abusive power (see chapters 7 and 13), tells us, this ‘reciprocal’ work to contribute stones was only one of the many tasks that the indigenous community members had to do for the church and the mestizo townfolks:

“... the priests, since I can remember, had everything that is the convent now, as their own hacienda for their own benefit. They had lots of livestock, and they made people serve them. If a couple wanted to get married, they were forced to provide free labor, the bride and groom, their families, all had to till the soil, gather forage, pasture the animals – otherwise, they could not get married. The church itself enslaved them.

The priests taught that it was a serious sin to answer a white person back, or raise one’s voice, or stare back at a white person – the priest made people believe that God would punish you. The white people made us, the communities, clean their streets. When the Day of the Dead was approaching they made the communities clean the cemetery, they and their children watching us work, never working themselves, only giving orders ... it was a life of too much slavery. The local police authority would arrest you for any pretext. Then, if one was taken prisoner, their whole family or part of the community had to come clean the streets – and they were fined. Since we have always been afraid of authorities, we have had to go do their work. Above all, our elders would say, ‘How can we be exposed to the shame – if we don’t do what

² Discussions with the (new) priest, Inés Chapi and Antonio Laso quoted in this chapter date back to 1996, 2002 and 2004.

these bosses say, they will keep bothering us or arrest us'. It was very bad for rural people, for the elders, to be arrested or harassed, so they would just do whatever they were ordered by the Governor, the Regidor, the police authority – they would say that we had to obey to avoid being 'put to shame'.

They would wait for indigenous women when they went down to Sunday market; the white men would wait for them and rape them as they left. They went to our communities to claim that: 'you haven't done your work!' and took away our sheep, our other animals, beating and mistreating the people. I resented this, and wondered why this should happen. I figured, if we are brethren, just different clothes, which means nothing at all.

I used to cry, saying I didn't see why we should be so enslaved, why they were so much against our being the way we were. 'Where are we going to live?' I would ask my mother. 'Let's go live somewhere else – these people treat us too badly.'

The tremendous walls of the Licto church embody the sweat and suffering of the rural folk of Licto, and bear 15 paintings in Father Abelardo's honor. These paintings were donated by the white-mestizo population to the church. Each shows a scene from the crucifixion. The paintings have two texts. Ironically, the painting showing how Jesus was crucified says "*Thanks to Father Abelardo's enterprising spirit*". Another painting bears this other caption: "*Thanks to the creative dynamic actions of Father Abelardo Castillo*". The satirical offense toward community members who built this church and the other forced-labor constructions for the white-mestizo populace is almost surrealistic.

Further, the forcible expropriation of their labor by physically and psychologically abusive control in collective minga work parties and individual services for the dominant groups heavily impacted communities' (im)possibilities for survival. Collective work is one of the vital labor relationships of the Andean peasant economy. For water user communities as well, mingas are the primary activity to build and manage collective systems, and make collective survival possible.³ A chapters 2 and 4 explained, allocation of local community rights to water is firmly rooted in the fact that users invest in building and maintaining the canal networks. The notion that collective and individual water rights are earned through families' and communities' labor investment in the construction (creation) and upkeep (re-creation) of infrastructure is a leading principle in many communities.⁴ Obviously, as mentioned, this makes the 'mita' also an important material, political and symbolic object for local elites and outside power groups that seek to control local resources and production relations. Loss of local autonomy over reciprocal, collective labor input and thus water rights re-creation mechanisms leads to the destruction of system management and community property relations and the 'expropriation' of local water-identity formation patterns.

In this regard, the expropriation of the minga or faena – making it mandatory service for power groups and thereby transforming norms of reciprocity – has broken down this labor relationship *within* many communities. Because of the intensity of the exploitation and expropriation of labor, many communities lost a large part of their capacity to (re)create for community benefit. This is evident, *especially in irrigation*, since this is an activity which, in the Andean highlands, requires abundant labor input continually to sustain systems.

This process of expropriating creation and identity is nothing recent. In the following sections,

3 As Sherbondy observes, "the community's continued existence and survival as such is attributed to this communal work, because the entire community depends on the irrigation canal" (1987:136).

4 This practice also leads to collective system appropriation, formation of property and identity relations among the communities' right holders and collective water management.

I will analyze the roots of the expropriation of this fundamental re-creative norm, the *minga*, for which it is necessary to go back in history before the Conquest. This analysis, illustrated with examples of the ancient Puruhá nation, the cradle of the Licto people, will also provide a basis for describing the expression of power that apparently constituted the backbone of this process: vertical, coercive power.

Violent, vertical mita expropriation: from Inca to republican rule

In pre-Conquest times, besides the cultivation of their own fields and their tasks in collective work parties for the community's common good, community members could also be requested to work on the fields of the local ethnic lords (the *kurakas*, or *caciques*) that governed communities (*ayllus*). This service in turn obliged the latter to take care of the elderly people, widows, orphans and the disabled. Guamán Poma (1992 [1615]), when elaborating on local government and the '*Justicia de Indios*' (pp. 739-762), describes how the elderly and disabled, whenever they were 'well and able' enough were charged with, for example, distributing and overseeing the water turns (Ibid:745). When Tawantinsuyu, the Empire of the Four Quarters, invaded and incorporated new territories, the Inca rulers established the State *mit'a* system.⁵ They took reciprocal community labor relationships as its model (Murra 2002:46).⁶ This was ideologically phrased and framed as the 'pact of reciprocity' between the Inca State and its subject ethnic groups and communities (chapter 4. Cf. Platt 1982; Patterson 1997). In exchange for State protection and food security, on top of the obligations to their own *ayllu* and its *kuraka*,⁷ all able men (heads of household) had to provide labor force to the State, the Inca nobles and their military apparatus.⁸

Marriage was a point after which the State would have additional labor power, so the wedding ceremony was no longer just a personal or community ritual act, but one pertaining to the sphere of precise bureaucratic calculations and enforcement (see Murra 1982; Mayer 1984; Patterson 1997).⁹ Since labor was the major tribute, the wealth of rulers directly depended on the number of servants they could mobilize. There was a clear need for lords and the State, therefore, to ideologically influence the ontology of labor tribute in terms of reciprocity and complementarity. The Inca State was both repressive and re-distributive¹⁰, not as a benevolent caretaker but as a strategic ruling system that functionally sought to maintain necessary loyalties at all levels. In return the State provided food-for-work as well as State military protection and – particularly important to effectively expel

5 *Mit'a* or *mita* (Quechua) means both 'turn' and 'assigned task' (Mayer 2002:124). Particularly in Bolivia it is a common term to indicate both the irrigation turn (shift) and the rotating distribution system as such (see Boelens and Dávila 1998; Gerbrandy 1998b; Gerbrandy and Hoogendam 1998; Gutiérrez and Gerbrandy 1998b).

6 Unlike other subjugated communities, royal Inca villages (*panaaqas*, towns of Inca kinship) and most Cuzco *ayllus* (where 'Incas by privilege' lived) were exempt from most labor tributes (Patterson 1997; Guaman Poma 1992). See also the descriptions by Inca Garcilaso de la Vega in 1609 (Garcilaso 2000).

7 The Incas (like the Spanish after them) installed an indirect-rule system. The *kurakas* had to administer *ayllu* justice and well-being.

8 Usually, tribute-producing fields were separated from the local community and assigned to the State: these fields 'for the Sun' (religious) and 'for the Inca state' had priority regarding *mita* labor input. Other important labor tribute to the State involved weaving and craft production, construction and maintenance of public infrastructure, transport of State goods, and joining the army (Guamán Poma 1992 [1615]).

9 New 'contributors', just like all other strategic State means, were included in the State census and registration system by means of the '*kipu*' (the records kept by knotting cords).

10 This led Baudin (1961[1928]) to label the State system as the "socialist empire of the Incas" (Baudin constructed and used Tawantinsuyu to argue against socialism), while others (e.g. Morgan, 1946) claimed that Thomas More based his Utopia on the model of the Inca empire (see chapter 9. Cf. Lemaire 1986, Murra 2002).

hunger from the empire's territory – provided food and resources from the State storage houses (*tambo* and *qollqa*) that were established in all regions. The dark side was massive expropriation of local labor and submission of all ethnic groups to centralized State power interests. On the one hand the mita absorbed much of the 'surplus' labor force of local communities, and on the other, most mita tribute was not invested in imperial 'prestigious' infrastructure but in local, productive facilities – construction of roads, terraces, and irrigation canals and the channeling of rivers.

The Inca indirect rule system meant that local governance and property structures were respected to a certain extent and embedded in the broader politico-economic system. Nevertheless, State interests to establish a stable mita system were crucial. For example, when delving into the history of Licto (who hark back to the ancient Puruhá nation), we can see how the Chronicler Inca Garcilaso (Comentarios Reales, 1609) talks about the existence of both collective and individual property rights structures within communities. Rights were authorized by local chieftains and inherited by the heirs of each family. However, in the most warlike places (such as Puruhá) the Incas placed *mitimaes*: residents from the center of the Empire were relocated to pacify rebellious areas, model 'proper behavior' for them and spy for the governors; part of the rebel peoples were relocated in more secure, distant areas.¹¹ This also took part of the Puruhá population to southern Peru (Haro 1977:31) and filled the Puruhá region (and other parts of present-day Ecuador) with ethnic groups from other places. The Incan Empire, through imposing the mitimaes system, not only achieved a high-impact strategy based on violent military control and economic, productive colonization (see chapter 4). They also achieved to mix up, muddle and so control local property rights, confused identities and local ethnic groups, and organized and controlled mita service by rebellious peoples.¹²

After Conquest, Spanish colonial government also based its policies of mita extraction on traditional Andean governance and production systems, meanwhile transforming agriculture, particularly in those regions with great productive potential. Just as the Incas did in their strategies of colonization and pacification, the Spanish conquistadors also transplanted whole peoples to faraway regions. So, according to Haro (1977) several peoples from Puruhá were forcibly transferred to other places, to work in distant mines.¹³ Once again, the mita concept was central, but even more exploitive. "Without the labor of American Indians, the treasury of Spain would have dwindled" (González Prada, in Mariátegui 1973a(1928):42).

Even before defeating the Incan empire in 1532, the conquistadors established the first 'distribution' (*repartimiento*) of Indians. This was the beginning of the *encomiendas*, a grant of Indian tribute, particularly labor, by the Crown to Spanish elites in the 16th century.¹⁴ In the Spanish Empire, the Andean region Indians were labeled excellent laborers, for example to dig irrigation canals

11 Also: *mitmayos*, *mitmaquna*. Cf. Garcilaso 2000; Gelles 2000; Haro 1977; Mayer 2002; Murra 2002; Patterson 1997; Rostworowski 2000. The Incas set up mitimaes to spy (as agents of the Empire); mitimaes to build roads and aqueducts as tribute; mitimaes to colonize remote areas; mitimaes to conquer and pacify new areas; and mitimaes who were brought as slaves from rebellious regions.

12 After the Inca period, many indigenous chiefs identified themselves as 'natives', claiming their long-standing property rights, as opposed to the rights of the 'newcomer' mitimaes' rights (Haro 1977:71).

13 The Mining Ordinance of 7 June 1549 decreed: "As for the Indians who belong to Luysa, who is Martyn de Calle's wife, no more than 120 Indians may be sent to the mines. As for the Indians of Fernando de la Parra, who are Puruhaes, he can send no more than 50 Indians to the mines. As for the Indians of Mondragón, who is called Don Pedrillo, he can send no more than 100 Indians to the mines. As for the Puruhaes Indians who belong to Juan Padilla, he can send no more than 100 Indians to the mines" (Book II, Cabildo de Quito. in Haro 1977:30).

14 Encomienda tributes often implied extremely burdensome exploitation of local communities, consisting of goods and crafts (e.g. woven cloth); agricultural produce and animals from one's own land; mita labor on the encomendero's land; domestic labor service in the encomienda; and according to the region, mita work in the mines; aside from tributes to the Crown and the Church.

and work on roads. In 1533, one year after the conquest of the Andes, the Spanish lord Espinosa wrote to Emperor Carlos V: “These Indians of these provinces of Peru are the best people to serve Spaniards, which they will do with the best good will ... because they are accustomed to serving ...” (Porras 1959:73, in Murra 2002:31).¹⁵

Even though the institution of the *encomienda*, because it was so hugely abused, was restricted by the Spanish Crown, on 26 May 1536 the *Encomienda Succession Law* was enacted. It authorized large-scale conscription of Indian labor force by their Spanish ‘owners’, “the same ones who also benefited by being allocated these Indians’ land and water” (Haro 1977:37). Francisco Pizarro, after his notorious assassination of Atahualpa in Cajamarca,¹⁶ was governor of the Province of Puruhá (and the Andean region territory in general). The King of Spain granted him the power to divide up the indigenous peoples who were conquered, among the conquistadors.

In 1540 Pizarro did the First General Distribution of *encomiendas*. Agricultural fertility but most of all its dense indigenous subject population made Puruhá a very attractive region for the *encomenderos*. On 18 May 1540, “Marquis Don Francisco Pizarro, Vanguard Governor and Captain-General appointed by his Majesty in these lands of New Castile known as Peru and the Council”, granted an *encomendero* (Don Diego de Torres) an ‘Indian Decree’ regarding the land and Indians of the Province of Puruháes. The *encomendero* received it because of being “one of the first conquistadors ... who hast served his Majesty, with thine own weapons and horses, at thine own expense and risk, and thou art an honest person,”¹⁷ Among the many peoples granted to the *encomendero*, was the Licto zone. The population, land and waters of Licto¹⁸ were given over (*encomendados*) to the conquistador to take charge of exploiting them. Because of the influence of the well-known criticisms by Bartolomé de las Casas (1999[1552]) regarding the inhuman oppression of the Indians, new grants to *encomenderos* contained additional conditions for landlords in Puruhá, such as “... whereby thou are obliged to indoctrinate (the Indians) and teach them about the things in the holy Catholic faith and not plunder or exact more tribute than they can readily give without vexation”.¹⁹ In practice, each *encomendero* acted according to his own interpretation.

Along with the massive destruction and confusion of existing collective property structures and local livelihood systems – particularly affecting irrigation and terrace systems –by *encomienda* and *mita* practice, the Spanish also irrevocably changed Andean identities. Where Andean identity and

15 When the construction of a large canal was planned to connect the Gulf of Mexico with the Pacific Ocean, and slaves and mules were lacking, Espinosa proposed to bring Indians from the Andes: “[...] The Indians from the provinces of Peru are very clever at opening and making roadways, pavements and fortresses and other stone and rammed-earth walls and to get water and dig ditches, and anyone who has seen these buildings says that they are very good” (Porras 1959:72-73, in Murra 2002:31-32). The problem that, according to Crown decrees, Indians from the Americas could not be enslaved (see chapter 8) was solved legally by making exceptions to this rule for “rebels and those who merit death penalties” (Murra 2002:32).

16 Pizarro’s public act, the brutal murder of the Inca Atahualpa, who just had managed to conquer the throne of entire Tawantinsuyu by killing his brother Huáscar, is maybe South America’s most widely known illustration of the mechanism of ‘visible and coercive’ power that I deal with in the next section.

17 Indian Decree of 1540, in the Book of Land Grants of the Quito Council, 1583. Cited by Haro 1977:57-66.

18 The Decree particularly mentions the people from Chumug in Licto. Additional notes refer to Mt. Tulabug, a volcano in the center of the Licto zone, worshipped by the ancient Licto-Puruhá peoples. The current communities of Ceeceles (‘Sesel’, chapter 12) were *encomendados*, as were all the ‘*ayllos*’ in the area.

19 Unpublished document, 1549, cited by Haro (1977:65). Chronicler-soldier Cieza de León (1553) tells how it was a major aim to *domesticate* the Puruháes: “They were easy to conquer, most of them are under-populated and their land is sterile, with very rustic people, without lords or government or any other policy at all, no law or religion, each one worshipping as a god whatever he felt like; many others didn’t even know about worshipping anything, and so they lived like wandering beasts, scattered in the fields, so it was harder work to indoctrinate them and reduce them to manners and courtesy than it was to conquer them” (Cited by Haro 1977:108).

ethnicity were rooted in the diversity of territories, rights to natural resources and belonging to local, sacred land and waterscapes, the Spanish introduced the generic category ‘indio’ to define ‘those who pay tribute’. As Gelles observed, “they gathered under one term a great number of ethnically distinct peoples; the term was used to define the conquered, those obliged to pay tribute and service” (Gelles 2000:29). Indeed, local cultures were thus homogenized and constructed as a segregated ‘ethnic identity’, in economic and financial terms: as those who were to pay financial tributes and deliver corvée labor were labeled ‘indios’; ‘non-indios’ were those who were allowed to establish mercantile relationships and who in exchange had to deliver a tax (*alcabala*) over commodities that were exchanged (Harris 1995; Serulnikov 1999).

The Crown realized that the growing power of the encomenderos would not only challenge the Spanish Empire’s control in the Americas, but also dramatically decrease State revenues. The overburdening and genocide caused among the Indians would result in irrevocable tribute losses. Viceroy Toledo headed the Crown’s conflict with the encomenderos and changed the encomienda tribute paying system into a head tax to be paid to the Crown. In practice, however, Indians often had to pay to the encomendero, to the Crown, the Church and to the kuraka in their own community. Because of these multiple tasks and the direct and indirect mita linked expropriation, for most communities and households it was practically impossible to continue performing community tasks and livelihood reproduction activities, leading to massive starvation. Generally, the Crown, encomenderos, priests, and kurakas did not diminish the group’s tribute rate of the Indians ‘granted to them’, so fewer and more diseased people had to deliver an even a larger work load (Mayer 1984).²⁰ Because of mass starvation, flight or displacement from home territories and resource systems, and weakened labor forces (diseases, and overburdening of those encomienda-Indians ‘left over’), the time and energy consuming construction, operation and maintenance tasks required in community irrigation were largely abandoned. Most local irrigation systems fell into disuse, others were expropriated by the encomenderos themselves, or by the Church. Water rights generally changed owners and contents, and the creation of hydraulic property was squeezed.

After the de-population of the decades following the Conquest, Viceroy Toledo set up the Reductions (chapter 4). To keep the vanquished peoples under control and get their mita contribution out of them, a model of dual society was planned, with two Republics co-existing, the Indians and the Spaniards. “To control the Indians, they were organized into towns, following the pattern of Spanish communities. This enabled them to be watched, readily mobilized for mita work, and ready to listen to religious preaching” (Flores Galindo 1988:38). The Toledo policies, similar to most colonial and postcolonial policies, were not just ‘legal’ or ‘political’ institutions but constituted a socio-technical and political geography aiming to control space, infrastructure, production and identity, thereby exploring the ‘acceptable limits of exploitation’. Also Mayer observes this rationale behind the Reductions, “to reduce family access to production zones, limiting them to those required for minimum subsistence levels in order to expand available labor time for tribute” (2002:268).²¹

20 Unlike the mit’a established by the Inca rulers, generally the elderly, widows, disabled and diseased had to work as well, and the tribute was fixed for the group, not as in Inca times according to the number of recognized tribute payers (married heads of household) in the ayllu. As Mayer observed, “the fine gradations of diminishing obligation and increased responsibility and honor were simply abolished” (2002:98). Moreover, commonly, there was no institutionalized re-distribution or work compensation (‘reciprocity’ in Inca ideology) (see also Guamán Poma 1992 [1615]).

21 Gelles (1995, 1998, 2006) has demonstrated how spatial division of Andean villages in higher and lower moieties (*hanan* and *hurin*) is not a matter of intrinsic Andean duality and reciprocity – corresponding to only cosmological referents – but constituted the basis for controlling the communities by Inca and later Spanish rulers. Labor exaction, mita exploitation and political control over communities were facilitated by a ‘divide and rule’ strategy where the two moieties had to compete with each other.

Instead of forming a unified tribute-collection front vis-à-vis the indigenous communities, a fascinating power play developed among the Church (with, among others, its ‘fiesta cargo system’ and ‘arancel’ or ecclesiastical fees), the State (e.g., taxation and compulsory mita), the landlords (‘repartimientos and encomiendas’) and local ethnic lords (customary mita exaction), each one trying to secure and enlarge their portion.²² Materially, politically, and symbolically, the mita tribute was fundamental to subject the indios and to establish the rulers’ local, national or international empires. Manipulation of locally existing forms of Andean reciprocity was a powerful strategy of the Incas but inherited by the Spanish colonizers, the Church and later haciendas. Their challenge was to give new meaning and contents to existing concepts, and present them as natural. Mutual control, competition and revenge, cloaked in terms of reciprocity, were a common feature of the art of governance and domination. In post-colonial hacienda times, again, mita labor was reconfigured to meet the interests of landlords, Church and governors, and again, it was based on ‘Andean’ cultural concepts. For example, in Ecuador semi-slavery debt servitude was euphemistically labeled ‘concertaje’ (mutual agreement). In Arguedas’ novel *Todas las Sangres*, landlord and mining boss Don Fermín knew well how to play the game and make use of ‘local labor reciprocity’:

“Don’t let the Indians take this mine work as ordinary labor, but as a community faena. That is, they will work competitively. Let’s see who can do more! They will have selected their *k’ollanas* [the best] through some contest of agility and strength. The winners will guide the faena; they will work at a devilish pace, as fast as they can get their breath. The others must follow them. In this way, a field of wheat that takes 30 peons six days to harvest, these 30 can do it in two or even in one day” (1980/1(1964):103).

Contemporary mita expropriation: a new manifestation of ‘power’?

The colonial definitions of *indio*, *español* or *blanco*, and *mestizo* as well as their interwoven-ness with mita exploitation have been fundamental to Spanish and Republican political economies, and they still exert strong power in the Andes (Gelles 2000, Mayer 2002, Degregori 2000). They describe – economically and culturally – their identity in society and their position within the relations of production. Racially grounded abuse and extraction practices changed little after independence.²³ As the cases in this book show, up to now the terms *indio*, *mestizo*, and *blanco*, and the many in-between-categories and locally prevailing labels, are fundamental to the political economy and cultural politics of water control, the term ‘indio’ being tantamount to ‘person of an inferior race’.²⁴ Exploitation of community labor (later in combination with migrant labor) by ruling classes, indeed, remained to be essential to fuel feudal and later capitalist economy.

The latter was theorized by many, in particular ‘articulation’ theorists, who showed the functionality of subsistence economies (with livelihood and labor strategies based on faenas, mingas, etc.) for capitalist development (see chapter 4). But despite their contribution to questioning the de-

22 See e.g. Serulnikov 1999; Ouweneel 1993, Mayer 2002.

23 For example, in 1920, the Peruvian government enacted the *Ley de Conscripción Vial*, establishing that Indians were obliged to provide labor for road and public works construction while the non-indigenous citizens were supposed to pay only a small monetary tax. Again, in the name of reciprocal tradition, the mita was abused and caused tremendous suffering among Andean communities and large benefits for construction companies (Mariátegui 1973b(1928)). In 1930 the draft law was abolished but by no means ended (semi) slavery.

24 Since the 1990s, the term has been re-appropriated by the indigenous movement in Ecuador and Bolivia (see Albó 2002, Baud 2006, Boelens et al. 2006; Degregori 2000, Gelles 2006, Guevara 2006, Trujillo 1993).

terministic, binary, universalistic structural under-development theories – for example, the Dependency Theory once so popular in Latin America – I argue that ‘articulation’ theories lacked insights into the *actual inner* functioning of these ‘subsistence livelihoods’, on the ground. Also, because of theories’ blanket claims, they tended to overlook the fact that exploitation in many particular Andean communities went *far beyond the limits* of community reproduction. Contrary to the claims of theories of functional dualism, historically, for a great number of Andean communities their ability to stay ‘functionally articulated’ (de Janvry 1981) was made impossible simply because they were exploited so profoundly – by either hacienda or capitalist enterprises - that they lost the capacity to reproduce their livelihoods, including their water control systems.²⁵

De Janvry argues that in Latin American commercial agriculture profits can be maintained²⁶ because “the hiring of semi proletarian rural workers at wages below subsistence costs is secured through functional dualism with subsistence agriculture. Subsistence agriculture thus becomes the ultimate embodiment of the contradictions of accumulation in dis-articulated economies” (de Janvry 1981:39). However, such sweeping statements neglect and cannot explain the many particular cases where subsistence reproduction was no longer possible because of late-feudal and new capitalist exploitation, and why terraces and canals were deserted massively in the Andes – on top of the systems abandoned earlier because of colonial (reduction) policies.²⁷ The huge destruction of agrop productive social security and subsistence systems – of which community irrigation systems often formed a backbone – acted directly against the supposed functionality of these ‘traditional economies’ for capitalism based on articulation.²⁸ Articulation theorists tend to overestimate the dominant classes’ capacity to ‘plan’ and (have) reproduce(d) the relations of production and control; the plundering by the one local ruler against the shared interests of his class members could not be stopped simply by legal decrees or State force to ensure a social contract for ‘stable exploitation’. It denies exploitative diversity.²⁹

Certainly, Marx was right when he observed that “if people live by plunder for centuries, there must, after all, always be something there to plunder; in other words the objects of plunder must be continually reproduced” (1972[1867]:39). And as I evince in later chapters, it is true that colonial and postcolonial plunder economy has not totally disrupted the Andean production systems in many of the highland communities, to the contrary. In certain cases communities could ‘adapt’ to the *encomienda* system, Toledo’s Reduction policies, the hacienda system, and later to the abusive relationship with capitalist enterprises that broke all ‘reciprocity pacts’ and ‘moral economies’. But most of all, the endurance of local collective systems was due *not* to the functional ‘articulated-ness’

25 I.e., the (too often romanticized) moral principle of ‘right to subsistence’ as an Imperial trait among ruling classes and peasants was broken (see also Eggink and Ubels 1994; Larson 1991; Scott 1976; Wolf 1982).

26 According to de Janvry (1981), unlike sectorally and socially articulated economies (increase in demand/production of consumer goods is linked to increase in demand/production of capital goods; which implies coordination between capitalist entrepreneurs and laborers), Latin American economies are disjointed: there is external dependence on imported capital goods and technology, and the traditional sector/ common people do not have the ‘purchasing power’ to absorb the modern sector’s products. Thus, the latter do not serve as consumers of capital goods but as a low-wage reserve for export production in the ‘modern sector’.

27 Another weakness of the theory is its dualistic assumption that actors belong either to the one or to the other sector, are either proletarian or peasant, and that rural identities are rather uniform and static. Massive national and transnational migration blurs such representations (see, e.g., Kearney 1996, Gelles 2000, Stavenhagen 1999).

28 Ironically, in the Andean region liberal and neo-liberal policies have generally – to foster ‘coordination’ and capitalist development in rural areas – tended to destroy local subsistence communities by taking away outside protective shells (e.g. legislation protecting communal property). See also chapters 8 and 9.

29 Besides, according to Flores Galindo (1988), those hacendados who ‘modernized’ (acting as new capitalist entrepreneurs) forgot their paternalist care-taker tasks and what remained was their racism with all of its cruelty.

of communities but to their strategies to either *disconnect* and *disarticulate* or challenge the terms of this articulation.

Modern times, modern power. Where policy vocabularies, under influence of radical and indigenismo³⁰ intellectuals, had changed already since the early 20th century towards a liberal equality discourse, it was not until the 1960-1970's agrarian and water reform épocas that this change broadly impacted water development discourse and practice. As observed in chapter 4, emerging State ('public') influence in water management in Peru and Ecuador marked a different approach towards the mita and the role of community labor in irrigation development. According to liberal modernization ideas, instead of expropriating communities' collective human energy, the latter were now to be included in the benefits of modern society and 'share in development'. Systems such as Chambo, Licto and Patococha in Ecuador, or Canal Nuevo in Mollepata and the Majes system in Peru, among hundreds of others since the 1960s, show how existing water users communities and their water rights frameworks were made to participate in 'public water development'. Unlike all empires before, communities were no longer forced by coercion to build systems. As free, individual laborers – and sometimes even as collectively paid community factions – they could join the State-financed construction companies. No longer were they building other people's systems that excluded most of the community members, but they were contracted (and paid) to construct State systems in which they themselves would be *integrated* as water users. Modernization offered them the mirror to join this public endeavor as individual water users.

In State-developed and managed systems in the Andean highlands, although often entire communities were incorporated into the (multi-village) command area, commonly each family had to sign individual contracts with the State irrigation agency. In these systems, community authorities no longer called for collective working parties, but State engineers and social organizers directed the work of groups of individuals.³¹ Unlike the rationality of community system faenas, future water users were not creating their own collective hydraulic property – where common and individual water rights were embedded in shared infrastructure – but 'State property for their own benefit'. The authority of users assemblies to establish site- and culturally-particular irrigation rules, rights and obligations and enforce sanctions was supplanted by blanket national regulations, and the fundamental relationship between rights-concession owners and the new system authority was through individual fee-payment – even in those cases where the user communities were in charge of mediating tariff collection.

Again, particularly in State irrigation system development, the faena was largely taken out of community authorities' hands or was de-legitimized. The conscious or unconscious effort of State intervention was to paternalistically remodel the mita, no longer as a tool of elite power groups but in the name of public participation. Instead of the coercive or obligatory nature of the ancient mita, the modern mita should be voluntary. The ideological intention was to establish a *new reciprocity pact* – which rings familiar old Inca bells – whereby everyone should gather under the banner of

30 Indigenism, see chapter 4, an intellectual movement in the late 19th and first half of the 20th century, focusing on analysis (and construction) of the role of Indians in national society. The aim was to integrate them into the mainstream. The analytical tools were very divergent, although commonly glorification of Indian virtues was combined with paternalistic defense of "Indian communal interests" (Cf. Albó 2002; Baud 2003, 2006; Sieder 2002; Starn 1991; Stavenhagen 2002; Trujillo 1993; Van Cott 2000).

31 These agency-led mobilizations of local faena labor for irrigation development tend to differ strongly from user group-directed faenas. Where the former emphasize the sum of individual labor contributions, the latter emphasize the collective nature of the event, which also includes food and *chicha* preparation, liquor [*trago*], music, accentuating also the *quality* of social interaction and cohesion.

progress and modernity. Later proposals, especially since the 1990s, intended to improve the remodeling of the mita and the other Andean reciprocal relationships by also taking away the paternalistic resonance of the State model. ‘The market’ was to replace ‘the State’ in arranging the use and direction of collective and individual human energy (just as other resources) for irrigation development and management. New discourses supported this shift subtly. In the next section I will analyze the backgrounds of this apparent change, from an exclusive, top-down vertical power regime toward an inclusive, participatory power game. A new dive into Andean history.

6.3 From the quartering of Tupac Amaru to the process of ‘mestizaje’: a power regime transition

In 1572, Viceroy Toledo’s executioner beheaded Inca rebel Túpac Amaru I in the Heraldry Square of Cusco, in the well-known public action³² that gave origin to the famous myth of the *Inkarri* – feeding popular imagination about resurrection and resistance in later époques (see also chapter 14).³³ Two centuries later, his successor, rebel army leader Tupac Amaru II, was brutally executed in the same place. Similarly, it was done as an openly, public, visible, violent execution. The merciless act of quartering, by visually and physically tearing the body apart, aimed for devastating, symbolically, people’s resistance and, politically, destroying the incarnation of a free Indian nation.

“The execution of Túpac Amaru II in 1781 was described in great detail by his Majesty’s scribe in Cusco:

“One of those executioners cut out the tongue of said José Gabriel Tupa Amaro, and then they tied him by each of his arms and feet with some strong ropes, which they then tied to the saddle straps of four horses, whose riders were facing toward the four corners of the main square.

When they were given the signal to pull, they pulled that traitor’s body into four parts. The head was sent to the town of Tinta, one arm was sent to Tungasuca, another to the capital of the province of Carabaya, one leg to the town of Livitaca in the province of Chumbivilcas, and the other to Santa Rosa in the Lampa province, and then the rest of his body to Mt. Piccho”

It seems, according to a witness, that the horses were unable to pull Túpac Amaru II, apart, and the executioner had to help. Another eight prisoners were also executed. This show took from ten in the morning until after five in the afternoon on 18 May 1781. This cruelty was supposed to frighten and intimidate the Indians, to spread fear and terror. ... The execution happened within a society in which domination was increasingly based on coercion” (Flores Galindo 1988:166-167)

32 “Those attending were able to see how the executioner cut his head right off and, once it was separated from his trunk, showed it around to everyone. So there could be no doubt, the head was left on the gallows, whereas the body was buried at the cathedral” (Flores Galindo 1988:48).

33 The hybrid *myth of Inkarri* (Inka Rey = the Inca King) mixes the Christian discourse of Christ’s body and resurrection with the origin, domination and destiny of Andean society. Tradition has it that the head of Tupac Amaru did not decompose, but got more beautiful day by day. The Indians worshipped it, so the corregidor sent it to Lima. However, one day, it will join back with the rest of the body to lead the resistance (Garcilaso de la Vega 2000[1609]; Flores Galindo 1988). Tupac Amaru II was a personification of this myth, and the Indians understood that they were called upon by Tupac Amaru II for a ‘pachakuti’ (see chapter 3), i.e. a reversal of the prevailing oppressive order (Flores Galindo 1988:151).

Coercive, vertical, exclusive power

Coercion and oppression, indeed, were a fundamental basis of the existing power structures, and they were clearly visible. As Eduardo Galeano tells of the above condemnation of Tupac Amaru II and his wife, Micaela Bastidas, he also highlights the great importance granted by the Viceroy to making his reign and his cruel, brutal power clearly *visible*, using multiple rituals of torture. Everyone was *obliged to watch and see this*, including their young son, Fernando:

“Dragged in by a horse’s tail, Micaela entered the Main Plaza of Cuzco ... The horses also dragged in Túpac Amaru and Hipólito, their son, as another son, Fernando, watched.... The child wanted to turn away, but the soldiers forced him to look. Fernando saw how they tore out the tongue of his brother, Hipólito, and pushed him to the stairs of the gallows. The executioner also hanged two of Fernando’s uncles and then the slave, Antonio Oblitas, who had painted a portrait of Túpac Amaru, and chopped him into pieces with an axe – and Fernando had to watch. With chains on his hands and shackled on his feet, two soldiers forced him to watch, and Fernando saw the executioner vilely bludgeon Tomasa Condemaita, leader of Acos, whose battalion of women gave the Spanish army a tremendous drubbing. Then Micaela Bastidas was taken up to the gallows, and Fernando saw less. His eyes filled with tears as the executioner poked around for Micaela’s tongue, and a curtain of tears closed the boy’s eyes when they seated his mother to put an end to the torture; the noose was unable to strangle her slender neck and they had to wrap ropes around and around and tug on them, while kicking her in the belly and breasts, to finish her off.

Fernando, born of Micaela nine years ago, no longer saw or heard anything. He didn’t see them bring in his father, Túpac Amaru, and tie him to the saddle straps of four horses, by his hands and feet, face skyward. The riders spurred their horses toward the four cardinal points, but Túpac Amaru would not be broken. They held him in the air, like a spider; the spurs wounded the horses’ flanks, and they rear up on two legs and charge ahead with all their strength, but Túpac Amaru would not be broken. ...” (Eduardo Galeano, *Memoria del Fuego II*, 1995[1984]:74-75)

This act is quite similar to the extremely cruel torture and execution of Damiens (1757) with which Foucault begins his book, ‘Discipline and Punish. The Birth of the Prison’ (1995[1977]). In both cases, as in many executions of those times, it is described in detail how the execution was performed as a great public show, as a visual ritual, to make it clearly visible who has the power and who are the vanquished. Visibility, rituality and open brutality, which we saw above in the pre-modern control over the mita, are key characteristics of the way classic power worked (Foucault 1980, 1982a, 1994, 1995), also called ‘vertical power’ (Achterhuis 1988). In this book I refer to it as ‘coercive power’. Below, using several illustrative historical examples, among others from the field of water control in the Andes, I analyze its characteristic features.³⁴ Classic, vertical, coercive power is:

³⁴ This chapter’s description of ‘coercive’ and ‘capillary’ power (see also chapter 1) directly reflects my reading of both Foucault (e.g. 1977, 1980a and b, 1982b; 1994, 1995), secondary ‘Foucault sources’ (Achterhuis 1988; De Folter 1987; Karskens 1986; Rabinow 1984, etc.), sources on ‘power in the Andes’ (e.g. Arguedas 1975; Flores Galindo 1988; Gelles 2000; Sherbondy 1998; Murra 2002; Rostworowski 2000), and my field observations; but I do not neatly follow Foucault’s analysis. Foucault himself was often unclear about the two forms of power, and changed his analysis in his later works. E.g., in his earlier work “modern power” was more strongly connected to economic possession and the (Marxist) struggle for resource ownership, which had the properties of negation, exclusion, and oppression, that he later would characterize as “classical” mechanisms of power (see also Achterhuis 1988:257. Cf. Rabinow 1984).

... based on inequality and vested in the rulers. In the Andean region, historically, the Inca, the King, the hacendado and the priest were not just symbolic representatives of a system of power, they effectively embodied it. Power, its use and its functionality, is fixed in the rulers and therefore they are endowed with the legitimacy and faculty to dominate, dictate law, claim the obligation to obey them, serve as a referee, and where needed, use violence to enforce submission. As Von Hagen (1977[1962]) observed, where the Sun King of France, Louis XIV still had to insist that he was the State ('L'Etat c'est moi'), for the Sun King of the Andes this was not necessary: he actually was divine, a direct descendent of the Sun, the embodiment of Rule and Power. The land, the water, the air, the people, everything belonged to him and his power was absolute.

Class, ethnic and social inequalities are basic for the traditional power mechanisms to function and the institutionalization of this inequality is fundamental to its continuation. Authoritarian power and nobility-thus-divine-rule were reflected in institutions and in a discourse of intrinsic inequality, from pre-Conquest Inca to post-colonial hacienda empires. For example, as Flores Galindo rightly observed, "the Peruvian upper class and their intellectual and political elite enthusiastically applied racism: it enabled them to justify their domination, convinced them that the more violent their rule was, the more it was justified" (1988:277). Existing inequality structures under Inca reign were sharpened after Conquest, and the political and biological naturalization of 'blancos' and 'indios' constructed the latter not just as tribute payers but also as ethnically and culturally inferior, the inverted image of the blancos. "The Indian race is a degenerate, old branch from the ethnic trunk from which all the inferior races have emerged. They have all the characteristics of decrepitude and inability to lead a civilized life. Without any character, with an almost non-existent mental life, apathetic, without any aspirations, they cannot be adapted to education", and "Peru owes its misfortune to the indigenous race".³⁵ As a common saying in the Republican period went, "Indians are talking llamas" (Ibid:276), which directly reflects the structures of command.

... hierarchical, centralized and centrifugal. Just like the Spanish reign, the Inca Empire was based on a strong, top-down centralized hierarchy, both in political and in spatial terms. At the top level the Inca; then the prefects (*apo's*) who governed the empire's four Quarters (Chinchaysuyu, Antisuyu, Kuntisuyu, Qullasuyu); below them were the governors (*toqrikoq*), who in turn oversaw the *kurakas* who commanded the *ayllus* at the bottom of the empire (Patterson 1997). The central power of the Inca Empire was further accentuated by the ceque system, a structure of 41 virtual sightlines (ceques) that originated in the empire's center, the temple of the Sun, in the capital Cusco. Along these lines, a centralized, 'radiating' political, religious and water rights-related infrastructure was installed (Sherbondy 1986).³⁶

At the local level the Incas established or reinforced existing dual organization of communities, ranking people in upper moieties (*anansaya*) and lower moieties (*urinsaya*).³⁷ Irrigation systems and water management under Inca rule functioned accordingly, and local dual equilibrium was incorpo-

35 Quoted by Flores Galindo (1988:279) from the époque's standard works, respectively: Clemente Palma, *El porvenir de las razas en el Perú* (1897), and Alejandro Deusta, *La cultura nacional* (1927).

36 In theory and ideology, the ceque system spread throughout the Incan Empire, physically covering Cusco Valley. According to Sherbondy, its rays connected 333 *huacas* (sacred places), generally where sacred springs were found. Ceques had multiple functions, the most important being to distribute rights to the valley canals. Codification of the water rights system and therefore of the land was an important key to the geographical, political and symbolic organization of Inca power (Sherbondy 1986, 1987, 1998).

37 Also throughout the whole empire, the *saya* structure was superimposed on the four suyus: Chinchaysuyu and Antisuyu were classified as the upper moiety, Kuntisuyu and Qullasuyu as the lower moiety (Gelles 1995, Sherbondy 1986, Zuidema 1990).

rated into a hierarchical divide-and-rule system (see Gelles 1995, 1998; Zuidema 1990). Land and water rights were allocated to the ayllus according to the saya division, and the watering schedules usually followed the spatial and organizational structure of saya moieties (Sherbondy 1982, 1998). As Gelles (1995:713) argues, the anansaya/ urinsaya division was deployed to the farthest corners of the Inca State as a model and tool for organizing subject communities and their water management systems.

Dual, hierarchical classification did not just inform the binary geopolitics of the Inca State and the political organization of subject communities. It constituted the basis for their cosmological interpretation, which was directly mapped onto human relationships, social organization and production systems (see chapter 3). Fundamental elements of the cosmos and human society were subdivided into hierarchically structured, complementary parts. In this sense it also heavily influenced water management ideologies and practices – in the past and until now.³⁸ Matching it with their own hierarchical structures, the Spanish copied a large part of Inca (indirect but hierarchical) power mechanisms and institutions, expressed among others in the two Republics (Spanish and Indian) in one socio-geographical space, headed by the Crown. The Spanish colonial challenge, in a similar way, was to continue rulers' dominance by explaining, legitimizing and reinforcing centrally organized, hierarchized difference and social inequality.

... *based on visibility*. The ritualization and public exhibition of the power of Inca emperors, Spanish kings, encomenderos and hacendados, were important elements of classic power. Authorities and nobility were 'placed upon a pedestal' the more they exploited the invisible masses of peasant and indigenous populations. Visibility of the means and instruments of power, and thereby, of the powerful groups, elevating, differentiating and so distinguishing themselves from subjugated classes or inferior ethnic groups, affirmed the power structures.³⁹ Public displays such as with Atahualpa⁴⁰ and Tupac Amaru I and II, loaded with rituality and manifesting the total destruction of rebels, glorified and reified the might of the Spanish Crown and reinforced its top-down power regime.

... *repressive, negative, exclusive*. As Flores Galindo (1988) rightly observes, in the day-to-day experience of Andean residents, the Inca Empire had been truly despotic and dominant. Particularly outside the imperial center, the Inca did not bring irrigation but war and oppression. "In 1560 the memory of the Incas was still associated with wars, with forcible subjection to work land for the Cusco aristocracy, and massive population transfer through the mitimaes system" (Ibid:44). It was far later in history that their idealization began (the 'Andean utopia' asking for the return of the Inca and his 'omnipresent justice') - as a reaction against (post)colonial oppression of the even more brutal Spanish colonizers or hacienda oppressors. "Death became a synonym for Conquest. Violence became a form of domination" (Ibid:45). Traditional power mechanisms were grounded in negative concepts such as exclusion, negation, repression, censorship, and prohibition. The rule of law was to establish 'right' but it formalized prohibition and repressive power in the hands of

38 E.g. community ideology (chapter 4), water scheduling (chapter 7), and gender ideology (chapter 10).

39 Also in arts, this "Culture of Power" visibly cultivates rulers' power and arts are directed at the imperial realm, unlike later century arts and culture expressions where the "power of culture" comes to the fore, increasingly belonging to the public domain (see Blanning 2002).

40 The Spanish certainly were not the first. For example, in the imperial war among the Inca brothers Atahualpa himself, in a very similar way, killed the kinship, children, pregnant wives and servants of his brother Huáscar, who was forced to see the execution, together with his mother. Later, when already imprisoned by the Spanish, Atahualpa ordered them to also kill Huáscar.

the ruler-arbiter, and the very arbiter himself met transgression of the law with outright, legitimized violence. Violence was arbitrarily used in the form of exclusion both materially, for example by excluding subalterns from their water sources or replacing communities from their territories,⁴¹ and politically, by denying them any say over water control affairs except from local areas of control. Violence was also institutionalized through irrigation regulations; the 1610 regulation of the Peruvian Taime system is a common example. Users, for stealing water or destroying canal sections to illegally increase their flow, “if they are Spanish, the ditch shall be repaired at their expense [...] and if they are Indian, they shall be sheared and whipped publicly with 200 strokes the first time, and the second time his ears shall be cut off ...” (Bruning 1923:174). The binary functioning of vertical power – inclusion or exclusion, rights or prohibition – based on a system of natural inequality, was fundamental to governing water affairs, among others.

... *based on formal rights, institutionalized structures and laws.* Since power mechanisms are top-down, hierarchic and vested in the rulers, officialdom and institutionalization renders them their functionality. Law, State institutes and institutions present power as a ‘right’ which each actor, in differing portions, is able to *possess, transfer or pass on* (as a commodity). For example, from the Inca, Spanish Crown or Republican State hierarchy, or as a mita transaction by the hacendado, water rights are ‘conceded’ by the rulers to the dominated, reinforcing the status quo. Law is a principal mode for representation of power. Arguedas rightly observed: “The servant’s land belongs to the hacienda, and therefore the servant also belongs to the hacienda, their life and their death. In times of the Spanish king, the land belonged to the Spanish king, and one’s life did, too, at least on the books. Since the Republic, each hacienda owner was a Spanish king. They issued laws and the law would be enforced only according to the boss’ will” (1980(1964):33). Thus, power is based on the word (speech-act) or the sword (coercion) of the authority; legal transactions or outright force (whenever ‘the contract does not work’) are the basic means to acquire and control water property, and the legality that ‘radiates’ from rulers is supposed to work homogeneously, in all places and at all levels. These centrifugal laws do not just give rights but also and especially exclude from rights. Republican constitutions in the 19th century, for example, although preaching “liberty, equality, independence and justice according to the desires and needs of the peoples”, exclude women, indigenous, illiterates, non-Catholics and all those who do not own sufficient private property, outright, from being ‘citizens’ (Ecuadorian Constitution – 1830). The ‘non-citizens’ are placed under guardianship. For example, Article 68 states: “the venerable parish priests are the guardians and natural parents of the indigenous, charged with charitably ministering to this innocent, abject, impoverished class”.

... *paternalistic and personalized.* Following from the above, traditional power relations were

41 Not only the Spaniards and hacendados but also the Incas used water as a violent weapon for geopolitical control. For example, when conquering the immense capital, Chan-Chan, of the powerful Chimú Empire on Peru’s coast, they took advantage of that fortress-city’s dependence on water. The Chimús’ ancient culture developed right in the desert, by bringing Andes rivers under control with ditches, aqueducts and tunnels. Desert lands only had value when irrigated, the ones who controlled the water wielded the power. As Von Hagen (1965, 1977) describes, in 1461, during the reign of Topa Inca, the Incas took over the intakes and aqueducts, deviated the watercourse and dried up the Chimús’ empire. They had no choice but to surrender. Similarly, they conquered the Ccolla people, in Puno, Peru, by manipulating not the quantity but the quality of their water (see Cáceres 2002:96-97). The Ccollano people resisted and stopped the Incan empire’s military advance, so the Incas built a stone deposit and released its poisoned water into the river. This resulted in a massacre. “All the people died, poisoned by drinking the river water, and the stench of rotting bodies could be smelled many kilometers away”. That is the origin of the river’s current name, Ayaviri: Aya Wayra, dead people’s wind (Ibid).

based on personalized relationships involving intermittently paternalistic protection and fatherly punishment. Exploitative *compadrazgo* relations among hacendados and indigenous peasantry are very common examples, but also the relations among Incas and kurakas, kurakas and runa, Spanish Crown and nobility, priests and *priostes*, master and servants, etc., all testify the power of such personalized bonds. In *Todas las Sangres*, Don Bruno, the brother and opposite of Don Fermín, feudally-paternalistically identifies with *his* Indians and they identify with him in a profoundly unequal relationship. Because of his *compadrazgo* relationships and lifelong immersion in the local environment, culture and beliefs, Don Bruno even becomes ‘indigenized’: he combines a demand for total obedience from Indians, through brutal oppression, with ‘deep love’ for his Indians, “*whose souls depend on mine*”. Paternalistically, Don Bruno speaks of “happy humility” among the Indians under his wing: “They are happier than I am. You should have seen them work! What damned worker makes such an effort, like worker ants.” Bruno rejects modern egalitarian discourse and hates change. “They must never be rich! They must never learn the ambition that turns them into misers, furiously trying to scratch out each other’s eyes. No ambition – just humility and obedience to Jesus! They are pure! I will rot for them: sin is concentrated in me. *I bear the responsibility for them*” (Arguedas 1980:112). Forced reciprocity pacts among unequal power groups, involving relationships of both charitable donation and unequal exchange, tend to play a fundamental role, and are common practice in water control. Consequently, in terms of human energy, much investment is needed to uphold power relations and thus, vertical power is relatively ‘inefficient’ and certainly ‘discontinuous’, which is reflected in the following:

... *linked to territory but incidental and not omnipresent*. Since power is vested in the ruler and fixed to (water) authority structures, it is directly linked to that specific, demarcated territory or water command area this authority covers. But even within this territory, although certainly limited, local water use communities and families had their own ‘protective boundaries’ within which they were able to establish and exercise their own water authority, traditions and water control rules. Governors and elites at higher hierarchical levels could not reach and control all domains of commoners’ social life – in and outside the field of water management – since the diversity of these local norms, cultures, water rights and property systems was an active impediment to their top-down intrusion. The State’s presumed omnipotence and absolute rule could be functional only on the basis of other, largely pre-existing power relations. Thus, the above elaborated indirect rule of Inca imperial and Spanish colonial empires on local communities and irrigation systems was not born just out of political philosophy but also out of the opportunistic need to somehow control local variety. On those occasions when they did see the need to take over local control (e.g. for reasons of controlling rebels or direct productive control) it was commonly done by means of violently destroying local water property systems as in the *mitimaes* or mining *mita* practice.

... *generating (localized) scarcity on the basis of outright usurpation of property*: Incas, the Crown, the Church, *encomenderos*, hacendados, all engaged in the struggle for appropriating the material wealth and resource bases of the dominated groups, and Andean water history is a telling manifestation of this phenomenon. In itself, this Marxist lesson regarding the struggle for water as a contested resource among unequal power groups transcends time (historic materialism) and remains powerfully significant, but unlike modern times, scarcity was basically defined by absolute needs of (expropriated) user groups, and not by universalized standards of rational water needs and efficient use (see chapter 10).

Thus, vertical, coercive power was the common mechanism for subjugation (and the object of classic analysis). Gradually, however, not just the subordinated but also the rulers understood the problems of segregation, the apartheid system generated resistance and was inefficient. Next, the notion took hold in Andean governors and scholars that the solution to ‘under-development’ and ‘backwardness’ of the indios was not outright exclusion. Unlike earlier ‘social-Darwinist’ racism, the first messages of ‘*mestizaje*’ proponents – mixing the races and create ‘mestizo society’ modeled on white modernity – were more ‘inclusive’, although still openly racist. For example, for Mariscal Ramón Castilla, a national hero for the military, who organized Peruvian public administration in the Republican period, biological whitening of society was the way to escape Andean darkness and backwardness and lead the way to progress. The solution was a large in-migration project of Europeans, of “robust, hard-working, moral men, who will improve our breed by crossing us with their noble strain” (cited by Flores Galindo 1988:276). Such racial homogenization was seen not just as a matter of improving national productivity and mental intelligence but also politically and militarily needed; for example, the traumatic defeat of Peru and Bolivia by the Chileans, according to many, was a direct consequence of the inferiority of the indios: “Chile beat us because they had fewer Indians and more Europeans than Peru” (Ibid:278).

However, as observed in my previous analysis of the *mita*, a more participatory discourse penetrated Andean society, and the effort was increasingly oriented at incorporating and containing peasant and indigenous peoples and cultures in the project of modernity.

Capillary, inclusive, disciplining power

Thus, an apparent change took place that clearly differentiates ‘modern’ power mechanisms from their Inca and Spanish colonial predecessors: there is a move from real exclusion to an imagined ‘inclusion’ of indigenous peoples and peasant communities, from a discourse of racial (and thus ‘natural’ social) differentiation to a discourse of *equality*. The road to progress was not biological *mestizaje* but the extension of the norms, forms and values of modern liberal society to those who were not yet full beneficiaries.⁴² Thus, several academic schools of thought and scientifically grounded legislative and policy reform projects have attempted to ‘include’ the campesino and indígena population and the Andean community as ‘citizens in undivided nation-States’. Commonly, these schools of thought had Western roots, such as the liberal humanistic currents or those that promoted a transition from ‘indigenous’ to ‘revolutionary’ definitions (see chapter 4). Still other legislative proposals and indigenist movements have tried to generate and include the ‘modern Indian’, rooted in ancestral indigenous myths and symbols of pan-Andean discourse, to encourage and justify ethno-nationalism.⁴³ Water policy and development were important instruments for these endeavors to include the indigenous peasantry in modern society, since water management and especially irrigation, in most cultures, is associated with Culture and Civilization. This has involved,

42 Or as Baud (2006) observed, the ‘Indian problem’ turned from a problem in which colonial elites searched for a solution to the existence of ‘the different other’, into a puzzle of how to ‘incorporate them’ but not lose control. Also, Lemaire (1986, 1988), Baud (1997, 2003) and Flores Galindo (1988), among others, show how utopian, moralistic, and even radical, egalitarian thought concerning this ‘Indian problem’ go well with the project of universalistic modernization (see also chapter 4). It was therefore not just the racist elites and dominant class but also many ‘indigenist’ (and later ‘Indianist’) schools and Marxist thinkers and activists fighting against racial discrimination and racial oppression, who contributed to the great *mestizaje* project.

43 It was also to promote a regionalist pride legitimizing their own political and ethnic positions (ironically often non-indigenous).

for example, introduction of modern irrigation technology and administration (chapter 7), special legislation (chapter 8), water market development (chapter 9) and the introduction of new, integrated water development policies for Andean communities (chapter 10), nowadays including equality-based gender discourses (chapter 11).

In this way, through various schools, Andean-ness, Indian-ness and peasant community became, and still are, the topic of continuous debate, not so much anymore to just establish fixed binary categories but to become dynamic instruments in political projects, sustained by scientifically based policies.⁴⁴ Modern equality was the driver, and the power mechanisms for this 'equalization' were participatory and inclusive. Equalization was not just a symbolic and political affair. The new, modern concepts of equality are expansive; they contain the possibility of expanding the idea of 'equality' increasingly into any thinkable area of life. It is a result of, among others, the break-down of traditional hierarchies and top-down power concepts, in philosophy, State theory and societal practice.⁴⁵ Equalizing expansionism (or 'philanthropic imperialism') is not based on conquest and occupation, but on universal justice, freedom and equality. Fundamentally, the idea is that everybody is potentially equal, has the right to be equal, and *should be* equal. Acceptance of this idea gradually came to be seen as unquestionable (see chapter 9). The contents of the equality concept and the 'right to be equal' include material, socio-economic equality (in terms of the standards people should strive for) and fundamentally refer to the realm of rationality, culture, values (in terms of the standards people should obey, appropriate behavior and thought).⁴⁶

As Foucault expounded, *norms* are the instruments of this modern power; they shape the equalizing model (chapter 1).⁴⁷ Normality, therefore, is not a fixed condition but the forceful desire to belong to the model's mirror community and resemble its image: not to be excluded but to be included (see also Fanon 1963, 1967; Illich 1971, 1979). Consequently, in the regime of modern, inclusive power, the art of correcting 'abnormal and undesired' thought and behavior is not based on outright oppression. In the words of Foucault, "it brings five quite distinct operations into play: it refers individual actions to a whole that is at once a field of comparison, a space of differentiation, and the principle of a rule to be followed. It differentiates individuals from one another, in terms of following the overall rule.... It measures in quantitative terms and ranks (in terms of value) the abilities, level, and 'nature' of individuals. It introduces, through this 'value-giving' measure, the constraint of conformity that must be achieved. Lastly, it traces the limit that will define difference in relation to all other differences, the external frontier of the abnormal...." (1995[1975]:183). Paradoxically, in this process of normalization or 'dressage' the above homogenization goes neatly together with the process of individualization. Individuals become the subjects and objects of these modern mechanisms of power, since the masses are split up endlessly in order to enable comparison, judgment and correction.

In Inca and Spanish colonial society, individuality was still strongly connected to the higher echelons of power – the Inca, the King, the encomendero, the hacendado, the priest, the regidor and

44 See, for example, Assies et al. 1998, Baud 2006; Boelens 2003; Gelles 2006; Degregori 2000; Lemaire 1986; Salman and Zoomers 2003; Salomon 2002; Stavenhagen 1994; Stavenhagen & Iturralde 1990; Van Cott 2000.

45 See also Achterhuis 1988; Baud 2006; Fanon 1967; Lauderdale 1998; Oliverio 1998.

46 Despite this pressure to equalize, as I will show later, distinct cultures (portrayed as even petrified) may be accepted as long as they are 'manageable' and fit in with universal rationality (chapter 8).

47 Norms are shaped by the (Foucauldian) process of truth production intertwined with power and knowledge generation, described in chapter 1. No longer is there a fixed divide between normal and abnormal; 'abnormal' is relative, part of a continuum that can be classified, i.e. categorized according to the seriousness of its deviation, and can be 'corrected'. People are *potentially equal*.

the kuraka, for example. The more one possessed power or privilege, the more one was marked as an individual, by rituals, songs, written accounts, statues, or other visual representations. Foucault calls this ‘ascending individualization’. In former days, indios and huasipungueros in the Andes were not considered to be individuals but seen as belonging to the collective masses, with few individual properties that were worth looking at. In modern society, on the contrary, individualization is ‘descending’, “as power becomes more anonymous and more functional, those on whom it is exercised tend to be more strongly individualized”. This individualization is realized by establishing comparative measures that have ‘the norm’ as reference rather than ancestral lineages or legal force; by ‘gaps’ to meet ‘equality’ rather than by heroic deeds (Foucault 1995[1975]:192-193). For example, governmental agencies and NGOs nowadays fiercely promote ‘functional irrigation organizations’ based on measurement rationality according to scientific management norms. Therefore, in the last decades, in many irrigation systems ‘functional agents’ for water management have replaced traditional water leaders’ positions that were based on respect, status and memorability. State agencies aimed for positioning official water distributors who could deliver ‘more rational, scientifically calculable results’, to substitute the traditional water mayor, the Yacu Alcalde, who based his individuality on his historic-ritual function in controlling water and his place in the community (e.g. Boelens & Dávila 1998; Gelles 2000).

Visualization, individualization and (self)correction ‘of all’ was necessary to order and control society. It was realized that to govern water users and their systems (politically and productively), indirect formal rule as in Inca and Spanish empires was insufficient and direct hacienda oppressive strategies were too cost-ineffective in terms of human energy and resistances provoked. Instead, to govern it was necessary to *know* the user, to know his water control customs, and to let the user know him or herself, particularly in relation to the need for comparison and self-correction. The ‘inversion of visibility’ assures the exercise of modern power: not the powerful authorities and landlords, but the peasant and indigenous water users and the common people are made visible and brought to the fore (see chapter 11). Contrary to vertical power mechanisms that needed a spectacular manifestation of violent force over the subjected groups, whose total destruction or visual repression would strengthen the truth of their powerlessness and distinctiveness (and so reinforce their obedience to the King, encomendero or hacendado), modern power mechanisms make all subjects and their behavior and thought visible while the dominant groups that benefit from this power (and the mechanisms of subordination) remain invisible.

Where vertical power was centralistic, personalized and localized and thus could not penetrate into all areas of communal life, livelihood, water management and production systems, this anonymous power functions because it penetrates people and society as a whole. Therefore, in line with Foucault’s ideas and outlined in the first chapter, I refer to this mode and mechanism as ‘*capillary power*’. It is not an externally working force but develops ‘from within’, in practice, in actual relationships, it is present in everyday water control interactions and manifests and reproduces or transforms itself in water users’ meetings, irrigator families and other organizational settings of everyday water distribution and control. Consequently, it is heterogeneous and surpasses the forces of national water and agrarian regulation or the State water bureaucracy, it circulates through both water users’ and water overseers’ spheres, and is not restricted to class relations only. As such, it is not exercised only by the State or dominant classes, but also enforced by the dominated themselves. As Foucault argued:

“This power is exercised rather than possessed; it is not a ‘privilege’, acquired or preserved, of the dominant class, but the overall effect of its strategic positions – an effect that is manifested and sometimes extended by the position of those who are dominated. Furthermore, this power is not exercised simply as an obligation or a prohibition on those who ‘do not have it’; it invests them, is transmitted by them and through them, it exerts pressure upon them, just as they themselves, in their struggle against it, resist the grip it has on them. This means that these relations go right down into the depths of society, that they are not localized in the relations between the State and its citizens or on the frontier between classes, and that they do not merely reproduce, at the level of individuals, bodies, gestures and behavior, the general form of the law of government” (1995[1975]:27).

Thus we see, for example, that in the Andes as elsewhere, most irrigation technicians and development professionals introduce virtually the same irrigation techniques, knowledge, and norms (developed in Western research centers and development enterprises, now fiercely promoted by the prestigious La Molina University and virtually all provincial technical universities in Peru and Ecuador). But they are not ‘imposed’ top-down: in many instances, it is the indigenous peasants and water use communities themselves who ask for this same technology, in order to ‘progress’ and leave behind their traditional ‘backward’ technology; in order to become like the Western-oriented, modern farmers, in order to gain economic and rational parity (Boelens 1998a; Escobar 1995; Van der Ploeg and Long 1994). Capillary power, thus, generates an (ever expanding) scarcity on the basis of mutual comparison: it is based on the desire to become equal, ‘*mimetic desire*’ (Achterhuis 1988, Girard 1986). Scarcity gets an increasingly relative definition: lack of both material and immaterial properties is not measured according to ‘objective’ or ‘absolute’ standards but in accordance with what *others* value. It is fundamentally mediated by the norm-providing model, i.e., by what others are and desire (Cf. Fanon 1967, Galeano 1995, Lukes 2005).⁴⁸

Legislators, engineers, water distributors, water users, indigenous, campesinos, all are effects and vehicles of this power that produces and constitutes them as ‘subjects’; they are (often unconscious) targets and elements of its articulation. The more all want to join in the values, knowledge and benefits of modern water management and equalize according to the permanently adapted FAO, IWMI or Utah University water management performance standards, the more this normalizing power is productive, considered beneficial, positive, and very efficient, since people place themselves under mutual scrutiny and self-surveillance.⁴⁹ Far from preventing new water management knowledge among engineers and users alike, capillary power constantly produces new irrigation standards, management techniques, legal and administrative measures, research codes, etc.⁵⁰ Mod-

48 Girard (1996) and Achterhuis (1988) elaborate on how, in ‘pre-modernist’ times, this mutual comparison was restricted by all sorts of social hierarchies and cultural barriers. The model for comparison, norm-giving and rivalry (‘mediation’) was primarily situated within one’s *own* class or cultural boundaries, thereby (often also coercively) limiting the working of the ‘equalization mechanism’: ideologies of colonialism, inequality and natural hierarchy prevented comparison amongst all. A powerful illustration is, for instance, Orwell’s novel *Burmese Days* (1934). See also the literature on inter-ethnic, colonial relationships and hacienda-bondage in the Andes.

49 The fact that there is not a top-down source or ‘principle’ from which all power derives (as in classic power mechanisms) does not deny the existence of hierarchy, on the contrary, but its ‘summit’ and all lower ‘building elements’ *mutually reinforce* these relationships of domination. This *depersonalization* of power reinforces class relations (and other structures of domination) rather than weakening them. So, power ‘structures’ do not disappear or lose force, but get a new, more powerful ‘driver’.

50 Moreover, far from being ‘just ideology’, normalizing power is strongly materially and technologically based (see chapter 7) and as such tightly suits the frames of reference of irrigation professionalism.

ern water management norms and normalization include and correct anomalies and seek to refine the standards of normality, unlike ancient power that negated and excluded ‘the different’, based on vertically imposed law or violent force that reflected the will of the king or hacendado. It generates compliance instead of resistance against abusive mita exploitation, a sense of belonging to ‘modern water culture’ instead of the feeling to have to accept established privileges of water lords.

In short, power in modern nation-states seeks for the inclusion, rather than the exclusion, of Andean communities, indigenous peasants and other oppressed classes. At the same time this ‘equality imperative’ makes it easy to measure and make them ‘cases’ according to the ways that they do or do not fit the model.⁵¹ Previously excluded indigenous and peasant groups feel the *obligation and need to participate* in this game that sets new rules for their lives, communities, irrigation systems, households, etc. Yet, the less privileged social groups, who think they can take equal advantage of the universal standards, interiorize and reinforce these norms but do not derive the expected benefit. Their participation often results in disappointment, in their being defined as ‘permanently backward people’, due to the constant self-measurement in relation to a constantly refined and inaccessible norm, the impossibility of actually matching up to standards for becoming equal. Illich characterized this as the promised (white) heaven that permanently moves further away when marginalized people appear to have come closer. Orwell phrased it as “All animals are equal, but some are more equal than others”. In the words of Fanon, this modern discourse “which is the proclamation of an essential equality between men, manages to appear logical in its own eyes by inviting the sub-men to become human, and to take as their prototype Western humanity as incarnated in the Western bourgeoisie. [...] Though fundamentally racist, most often it manages to mask this racism by a multiplicity of nuances which allow it to preserve intact its proclamation of mankind’s outstanding dignity” (Fanon 1963:163).

As we have seen, throughout history, labeling politics in the Andean region closely followed the interests of the dominant groups and names were given to indicate their place in society. Terms such as *yanaconas*, *yanaperos*, *huasipungueros*, *pongos*, etc., fundamentally all refer to the same people in differing contexts and with differing shades of ‘red-ness’, to indicate their natural role as servants or serfs of the rulers. In the 1970s reformist military governments in Peru and Ecuador abolished the derogatory term ‘indios’ and the same people were now labeled and included in society as ‘*campesinos*’, which was to indicate their peasant class-background instead of their ethnic descent. State policy behind the new nomenclature was, however, not just a populist strategy to counteract ethnic discrimination but also to deny the indigenous peoples their diverse cultural roots and life ways, so that ‘as (almost) equals’ they could transform from backward peasants into modern farmers.

These days, the potentially equal people are given a new norm to equalize: as the categorical ‘poor’ who reside below the universal ‘poverty lines’ they – constituting the great majority of rural inhabitants in the Andes – are to progress and cross the line and get out of the poverty map. In developmentalist language ‘the poor’ fundamentally do not ‘have’ but ‘lack’ and their multiple management forms, plural identities, diverse capacities, and contextual needs and strategies are wiped out or standardized. I have critiqued approaches that romanticize the precarious economic situation of most Andean peasant households and argued that cultural relativist views that glorify those who were separated from most of their means of production are reprehensible, but the generalized

51 While the Universal Declaration of Human Rights states that “All humans are born free and equal...”, Illich argued that, rather, they were not born equal but *made* equal.

categorization of ‘poor who just lack’ is to be questioned with similar distrust. As if poverty were not the outcome of a political process but just an almost natural attribute of (lethargic or incapable) indigenous and peasant households, the new label legitimizes many of the development, State and market interventions that compare peasant livelihoods with urban consumer group standards in order to transform, equalize and integrate them into national and international consumer society.

In this section, so far, I have presented a rather ‘rigid chronological’ analysis of ancient coercive and modern capillary power mechanisms in the water, politics and identity game, which would result in their functional separation. But is this correct? An example:

In the above quote, Frantz Fanon penetrated the profound, hidden and subtle racism of modernity. It is not based on a Toledo-type formal, legal separation of two Republics, the Spanish and Indian, standing in binary opposition. It is based on the norm of the white model, molded in practice, in actual relations among blancos, mestizos and indios, and in the manifold subcategories that in Andean localities provide subtle shades to the color of skin. Already in the very early colonial times, although indios were legally defined as tribute payers, this was not just an legal-political (coercive power) issue of rigidly combining ‘biological’ indicators with ‘economic’ measures, but also a matter of including the subjugated in a dominant rationality, and of the subjugated themselves trying to escape formal segregation. Indios tended to falsify their indigenous origin in order to escape tax payment, trying to strategically incorporate themselves into ‘criollo’ society. Or women went into illegality so that their children would not become tribute-paying indios (Harris 1995, Mayer 2002). But normalizing power went deeper: centuries before the proclamation of official ‘mestizaje policies’, mestizaje was already a powerful, capillary phenomenon. José María Arguedas talks about this demoralizing, humiliating and devastating objective to try to “powerlessly blend into the socially dominant group, which ends up peeling away all traditional values and behavioral norms without managing to assimilate those of the dominant groups” (Arguedas 1976:254). In the Andean countries, in fluid scales, the higher one is on the social ladder, the whiter he or she appears to be, and the lower, the darker his or her skin and attributed ratio (Fuenzalida 1971, Gelles 2006). Eduardo Galeano (1986a:144-115) gives a narrative, situated in the early colonial days of 1538 in Santo Domingo, tellingly entitled ‘The Mirror’ (Cf. Achterhuis 1991). It could have been Andean as well:

“[...] Amidst the rush and shouting, an Indian girl looks around for her master. Her skin is covered with blisters. Each step is a triumph and what little clothes she is wearing tear at her burned skin. All night and till noon today, this girl has suffered, scream by scream, the acid burns. She herself roasted the guao roots and rubbed them between her palms to turn them into paste. She rubbed the guao all over her whole body, from the roots of her hair down to her toes, because the guao roasts the color out of skin, and this turns Indians and blacks into white Spanish ladies.

- Do you recognize me, sir?

Oviedo pushes her away, but the girl insists, with a thin little voice, sticking to her master like a shadow, while Oviedo runs around shouting orders to the foremen.

- Do you know who I am?

The girl falls on the ground and, from the ground, keeps asking:

- Master, master – I’ll bet you don’t know who I am?”

In analogy with Fanon (1967), the effort is not just to put on a white criollo mask to show how well

one is integrated in modern society, and how one has cut off the roots with Andean indigenou-ness and identity (Don Fermin: ‘the darkness of a strange past’), but also to psychologically ‘whiten the red skin’ *and* be recognized as such by the dominant who mirror the normal, who constitute modernity, rationality, progress. The ones who are marginalized by the norm want to *show* that they are entirely white, and so strengthen the power of this (unreachable) norm. Galeano’s narrative reveals ‘modern power in classical times’.

Indeed, although the separation of the two power mechanisms provides clarity for analytical purposes –the two forms of power are important tools to analyze water rights power games in the Andean countries – a space- and time-located transformation from the coercive power regime into a participatory, capillary power regime, the one ‘replacing’ the other, denies Andean history and, as I argue, masks the current functioning of power in Andean water control.⁵² Below I elaborate three examples of three different Andean eras to get a more accurate idea of the interaction between these ‘ancient’ and ‘modern’ power mechanisms.

6.4. Modern power in ancient times, ancient power in modern times: the hydro-politics of identity

a. The Hydraulic Hypothesis revised (yesterday’s modern politics)

Although his ‘hydraulic hypothesis’ is no standard reference anymore these days, one of the most influential water-power thinkers of the 1960s and 1970s was Karl Wittfogel, particularly known for his book ‘*Oriental Despotism. A Comparative Study of Total Power*’ (1957). It examines the origins and power bases of ancient, complex societies. Wittfogel’s well-known thesis asserted that irrigation water management was a central tool for domination and necessarily leads to social differentiation and centralization of power. ‘Hydraulic societies’, such as ancient Egypt, Mesopotamia, India, China, Mexico and Peruvian Tawantinsuyu, were based on large-scale irrigation systems and involved enormous costs and human energy for construction, maintenance and operation efforts. This originated despotism, since it required a society with a centralized political structure and authority that was able to coordinate, discipline and coercively extract labor from its members or other subjugated groups. Therefore, in water-scarce regions where irrigation demanded organizational hierarchy and centralized control, authorities monopolized power and also dominated the other facets of economy and social life, and consequently established an absolutist managerial state. Power was then self-sustaining since, as Wittfogel asserted, classes who are in command of the hydraulic network are able to exercise supreme might and societal control.

Many have refuted Wittfogel’s thesis, because of its (overly ecological) determinism, the static nature of the hydro-political model, the lack of archeological evidence, the fact that water control

⁵² A close reading of Foucault, philosopher of the two power regimes, will not provide answers. First, Foucault analyzed French history, not the Andean one. In these locations the interaction of the two power regimes clearly has different dimensions. One reason is different political trajectories. For example, the interests of dominant capitalist sectors and subordinated subsistence producers are less clearly ‘articulated’ in the Andes (European elites and entrepreneurs had greater interest in ‘including’ the working class in ‘modern society’, since they were also the clients of their products). Moreover, feudal-type practices in many Andean places prevailed till very recently, and still continue in some places. Second, even in Europe the divide between the ancient and modern power regime, basically taking place in the Enlightenment era, was never so strict as portrayed in some of Foucault’s texts (Achterhuis 1998, De Folter 1987, Karskens 1986). Third, he himself is ambivalent in his work: he argues that the one regime replaces the other; that the two are complementary; that capillary power ‘invests’ and reinforces the structures of formal or coercive power; and that the two ‘mix’ together.

may support consolidating political control but cannot establish it, or that social structure and culture determine water control and not vice versa.⁵³ Moreover, as Andean research has shown, the Inca Empire was not based on large-scale irrigation systems; the great majority of systems were too small and localized to account for State despotism (Mitchell 1976:40). There is no indication that there was a hydraulic bureaucracy that formed the power base of the Inca state. “Fundamentally, the power to control administration of water was a responsibility of the authorities of each ayllu” (Sherbondy 1987:143). There was no such thing as a hydraulic-technological mega structure that controlled the subjugated throughout the empire. Incas came to colonize, for which they build roads, not irrigation systems.

Being a member of the Frankfurter Schule, Wittfogel combined the ideas of Marx concerning power, historical materialism and class relations and those of Weber regarding relationships among bureaucracy, power and thought. Not surprisingly, much of his power analysis resembles the properties of what above has been described as ‘coercive power’. He recognized the importance of religion in a hydraulic society but did not go beyond the classic Marxist idea of the (secondary) superstructure.⁵⁴ The critique that even in China, where Wittfogel originally made his case, archeological evidence reveals that the rise of political authority needs to be understood not in terms of water control but in terms of art, myth, ritual, and shamanism and the ways these were controlled by dynastic families (Chang 1983, cited in Gelles 2000:7), is supported by many authors.⁵⁵ Nevertheless, I argue that this conclusion can be challenged for the Andean case, since Chang’s argument mechanically separates water control and metaphysics. I argue that the Incas *did* base a large part of their power on water control, but not in the way Wittfogel analyzed it. Had Wittfogel linked the control of the *water metaphysical domain* more closely to the elites’ attempts to normalize and control society, and *in this way build a water control society*, then his theory would have been much more accurate. While I do not deny the technological-material base of water-power structures (see, for instance, chapter 7), my extensive analysis in chapter 3 shows that the aim to include subjects under imperial control was not based on water physics but particularly on water meta-physics.⁵⁶

Small or large-scale infrastructure then becomes less relevant, since the rulers hydro-cosmologically linked all small-scale systems. Indeed, in chapter 3 I have analyzed how local practices and beliefs of water control, in both the technical, operational, and cultural sense, were connected to imperial ‘identification and normalization policies’.⁵⁷ The empire connected basic beliefs and day-to-day water practices to its cosmological order, and constructed a usable past to establish its legitimacy and extend its rule throughout the Andes (see Boelens & Gelles 2005; Sherbondy 1998). This symbolic incorporation of all local water sources and beliefs into one metaphysical and hydrological presentation was a potent tool for ‘subjectification’ and subjugation,⁵⁸ sustaining political

53 See, e.g., Gelles 1986, 2000; Hunt & Hunt 1976; Kelly 1983; Mitchel 1976; Mitchell and Guillet 1994; Sherbondy 1987. See also chapter 4.

54 “The professional clergy of the dominant religion, especially under the simplest conditions, also acted as government employees. [...] the dominant religion remained tied to the absolutist government, which often appointed priests and administered their properties” (Wittfogel 1973:33).

55 See also the multiple ‘Andean’ critiques to the Wittfogel thesis in chapter 4.

56 See also Arguedas 1956, Boelens & Gelles 2005; Nieto 1998; Sherbondy 1982, 1998; Zuidema & Urton 1976.

57 Tawantinsuyu’s impressive road and tambo storage house system – together with detailed ‘kiphu’ registration [a classification and calculation system of knotted strings attached to a main cord]– formed the physical and administrative backbone of their power apparatus and facilitated military and tribute-paying obedience.

58 This was supported by the mitimaes system that caused the change and even obliteration of local traditions and beliefs. Violence itself, however, cannot have been the only cause. E.g. the Incas governed Ecuador during a period of *only 40 years* and installed a belief and normative system (and till now the Quechua language) with enormous impact, so the influence of ‘modern power techniques’ and internalization of, among others, water ideology, cannot be under-estimated.

and military occupation: the Incas sought to dominate bodies and souls, labor and thought of their subjects. Patterson argued that the Tawantinsuyu Empire attempted “to saturate and homogenize certain aspects of consciousness; it sought to establish the substance and limits of common sense, to constitute and bound socially experienced reality in ways that made it difficult or impossible for subject peoples to construct alternative understandings” (1997:70), a characterization that neatly suits modern-times ‘Foucauldian’ disciplining and dressage. Apparently, elements of ‘coercive’ and ‘capillary’ power were already combined in Inca times.

All-inclusive, self-correcting metaphysical control was a fundamental instrument for the Inca State to try to establish an elusive power base and to regulate both the production and the reproduction of its subject communities.⁵⁹ The dominant classes in Inca society certainly were unable to install a homogenous culture and consciousness accepted by all subjugated communities, but their supernatural strategy functioned to safeguard class and State interests and, at the same time, was a powerful tool to prevent subordinated communities from developing counter-discourses and cultures (Patterson 1997).⁶⁰ The State cult was a fabric woven and continuously re-woven by the Inca emperors, “the mysterious force of Nature had to be interpreted by priests, who were simultaneously the ruler’s kin and agents of the State” (Ibid:67). The imperial cosmology absorbed local customs and water rights, rituals and distribution practices, and offered a rational explanation for existing plurality and its submission to Inca governance. As Patterson (1991) observed, the Inca rulers’ inclusion-oriented rationality – the quest for orderliness, logical explanation, and calculability – involved both the creation of knowledge and its control. Their cosmology was “a self-serving guide for structuring social relations and actions at the expense of emotion or traditional views and forms of everyday life” (Ibid, 1997:84). Modern-like truth production based on imperial efforts to compose a Latourian socio-technical actor-network, activated by a Foucauldian power-knowledge regime?

b. Metaphysical techniques of water governance (today’s ancient politics?)

“A little Indian or peasant child, preferably an infant, runs sobbing out of the house to get away from his parents’ abuse. He comes to the nearest spring and bends down to wash his injuries. His eyes are still full of tears. Then, a brilliant glow makes everything golden. A refined voice, in pure Spanish, soothes him and promises him better days. The humble child turns his eyes, to see Mary, revealing herself to her people” (*El Comercio*, Quito, 4 August 2002).

Since Spanish conquest the pattern has remained almost the same, with the virgin of Guadalupe in Mexico, Fátima in Portugal, Lourdes in France, Las Lajas in Colombia, El Huayco in Ecuador, just as thousands of other local appearances by Mary wherever in the Andean region. Not surprisingly, these all take place at the water sources where local communities practice water ceremonies and rituals worshipping pre-Columbian Andean deities (*huacas*), particularly Pachamama and the Apus. Mary commonly asks the local villager to build a Christian temple at that same place. Thus, superimposing the Catholic beliefs on top of Andean beliefs is powerfully connected but not limited to the cultural-metaphysical water rights domain, political and material-technical water control

59 Even though State political control was largely indirect, its religious control (besides inducing proper behavior and legitimizing the order of submission) established a self-correcting calendar that prescribed contents, times and frequencies of rituals and agricultural practices, through which the dominant classes sought to control the production process and continuously reminded the subjugated of the ‘natural order’ (see Patterson 1997).

60 ‘Participatory consent politics’ and expanding the concept of ‘reciprocity’ were also crucial here.

significantly joins the scenery.⁶¹ In Peru, worship of our Lord of Q'oyllur Riti is a well-known case. For ages, local villagers have cut huge ice-blocks from the powerful Apu of the Ausangate mountain and brought them on their backs to their home town; during their travel back home the melting water drops symbolically fertilize Pachamama (see chapter 3). Christ appeared on the same sacred spot, and now a huge Catholic temple is built and transformed the meaning of the water cult and pilgrimage. Although some 'innocent' rituals were incorporated as folk elements, commonly the Andean huacas, symbols of the sacred, were converted into demons, labeled as idolatry and expelled from the array of images.

Many cases in other chapters illustrate that, despite participatory techniques, contemporary water control in the Andes is full of oppressive and top-down encroachment practices. But the power game is complex, most of all when going beyond the physics. Both Spanish colonial and current Catholic metaphysical water-power strategies show remarkable resemblance with those of the Incas. As in Inca metaphysical strategy, most of the colonial effort, although commonly portrayed as just 'repressive and violent', was to also organize and represent a system of norms, identities and ways of interpreting reality that pretended to serve everyone's interests while in fact serving the controlling interests of the State and its religious apparatus (Patterson 1997:70). And in contemporary Andean society this mixture of 'ancient verticality' and 'modern capillarity' powerfully continues, and goes much further than just dominating abstract or ideological spheres. Since the symbolic and day-to-day empirical matters are often closely interwoven in water control technology in the Andes, water cultures and hydraulic identities offer significant entrance points for 'metaphysical power plays' to dominate the empirical world, and the struggle to conquer imagination is fierce: who establishes which rights and norms, and how are these legitimized, not just by human schemes of representation but also supported by supernatural power relations?

Sometimes the above 'water belief replacement strategies' are based on coercive power or on relatively 'simple' tactics. For instance, in many communities described in this book, Christian crosses were placed on those mountain peaks where ancient Apu cults were or are practiced.⁶² Similarly, nowadays, all Andean communities have their Patron Saint installed as part of their community identity. Most often, however, finer tactics were and are deployed to control beliefs and production, souls and bodies. The influencing of ontologies, then and now, is one example. Arguedas observed how the local language was penetrated since it is a powerful source to interpret all forms of suffering and shame⁶³ – a subtle break-in from below.⁶⁴ Further, besides manipulating local beliefs, norms

61 "Juan Diego had a vision of the Virgin Mary, who asked him to build a temple on this site. Why just there? Why right at the place where the people worshipped the Aztec goddess, Tonantzin, the mother of all gods? ... In Huayco, Ecuador, the revelation happened at a water spring with its respective ceremonial stone. That was where little Indian girl, Luz Chela, cried until Mary appeared for her" (El Comercio 4-8-2002, p. C8).

62 E.g., as a Peruvian comunero related: Despite the priest's 'exorcizing of idolatry', the comuneros continued to believe in the Apu and the stars. "But I have seen, in Vilcas Huamán, the priest saying: 'Why are these foolish Indians praying to the Apu Orcco, to the mountain that is nothing; you should pray to God, to the cross'. And he put a cross on the mountain, so that when the Indians prayed they would be worshipping the cross and not the mountain" (in: Urbano & Macera, 1992:160).

63 In particular the priests, masterfully, managed to lay the foundations of outright fear for wrongdoing (and thus offending God) in the consciousness of subjugated indigenous communities (Arguedas 1968:342). See also the narratives of Inés Chapi and Rosa Guamán (chapters 6, 7 and 13) and our film "The Right to be Different".

64 This process started early. The very impressive, detailed descriptions of Andean myths by Francisco de Avila (1987(1598)), all in Quechua, among which there are multiple myths of water and the Great Flood, were not recorded for their intrinsic value or cultural interest. On the contrary, recording, analyzing and thoroughly understanding these myths made it possible to convey Catholic doctrine more subtly and deeply into Indians' minds. Copying, penetrating and disseminating was done in order to assure that metaphysical control would remain in the hands of the correct, dominant religion.

and symbols, rulers added new ones that continue to be effective up to now. Many of these beliefs performed the function of increasing their control over water and people, psychologically and physically, and having community members play the roles pre-established by commanding groups. They aimed to get people to accept and identify with their position, then and now:

One day, with my colleague, an Ecuadorian agronomist, we went on a field trip to observe the irrigation system in Chambo, Ecuador. The system has a large number of ‘high-tech’ tunnels to conduct water through the hills. When we wanted to enter one of them, which is several kilometers long and under construction, the manager and workers stopped us. They were very proud to show me (the male) the work progress inside the tunnel. But it was inconceivable for my female colleague to accompany us. “Women can’t go into the tunnels, especially when they are under construction, because this would endanger the lives of many workers inside”. My colleague accepted this straight away, without any further explanation. She assumed this behavioral norm – that women cannot go into construction tunnels (and thus, also making it difficult for them to enter this branch of civil engineering) – as a completely *normal* part of daily life. When asked why, the workers would not give any further information. But upon insistence, the manager explained, “... This is the local superstition. When a woman goes in the tunnel, the Tío [Uncle]⁶⁵ gets angry. Sometimes he causes cave-ins, or flooding in the tunnel, or he will simply not let the water go through in the future”.

As other anecdotes in this book also manifest, local myths and beliefs embody not only supernatural ideologies but also interact with other water control domains. In this case, for instance, there is a direct, strategic interaction between the powers attributed to the mythical diabolical figure – a transformation of pre-colonial mythology (metaphysical domain) – the construction of certain irrigation infrastructure (technological domain), organization of work to carry out this work (organizational domain), norms and rules to successfully construct and manage facilities (socio-legal domain) and the politics of identification and distribution of command (political-economic domain).⁶⁶ Obviously, this is not a ‘neutral’, much less ‘idyllic’ local belief, but one that is tightly interwoven with the ideologies of machismo and gender discrimination in society at large, and particularly prevalent in the masculine professions of irrigation and hydraulic or civil engineering. Internalization of these norms by the parties affected, both male and female, and consequent self-identification, reinforce these ‘governance techniques’.⁶⁷

While not all Andean waters are perceived as ‘sacred’, the examples show the power of water worship and ideology, up to the present day, in both ‘traditional-ecclesiastical’ and ‘modern high-tech’ settings. Interestingly, it has strong similarities to capillary, normalizing power since it inserts itself in actual social relationships – often ‘from within and from below’, works through practices, and self-corrects and ‘subjectifies’ subjects. But unlike modern power this correction is not mediated by ‘all others’ or the ‘equalizing model’ – rather, it organizes into strict *hierarchical* categories. Next, different from modern power, it is relatively static, it does not continually produce new truths but is conservative. It is strongly attached to hierarchic structures of command, and may work to ex-

65 Tío: a diabolical figure (re)created by the Spaniards, a demon who often inhabited caves and tunnels. Compare to the stories of the Uncle in the gold and silver mines, which the Spaniards introduced to control the conduct (above all, to prevent rebellion) regarding indigenous miners during centuries of colonization.

66 Latour (1994) would argue that modern rationality never existed and that ‘natural’, ‘cultural’ and ‘supernatural’, now and in history, always and intrinsically have belonged to objects and subjects, as inseparable.

67 Such cases show how mistaken the (influential) currents are that want to distill a ‘native, pure, Andean vision of water’ in contemporary communities. The hybridization of practices, myths and beliefs, and manipulation and strategic use of local norms by commanding sectors, have had and continue to have a major impact on ‘water ideology’ and self-identification by users.

clude, not include (e.g. women). Although it seems to be anonymous, it is (often visibly and always ritually) vested in top-down, centralized divinity of god(s) and religious leaders, in (e.g. Church) laws, institutions and relatively fixed norms. Further, current Mary appearances or Tío beliefs, by definition, do not claim to be based on modern reason or scientific disciplines but on eternal truths, and particularly concentrate on shaping the soul, generally through prohibition.

Indeed, in the contemporary game of controlling water and society, ‘irrational’ elements of ‘classic power’ continue to play an important role, even when most ‘modern-rational’ actors would not admit that these are part of their own, scientifically de-sacralized repertoire. Next, I have shown that the two kinds of power are useful as analytical notions but cannot be separated dichotomously; they overlap and share properties (e.g., metaphysical techniques of governance – like in all other domains – may show properties of both coercive and capillary modes of power). Neither do the two pretend to be ‘complete’ – other mechanisms of power certainly play a fundamental role, Arendt’s notion of collectively shared power being an important one (see chapter 1, 12 and 13. See also Foucault’s power of the Self⁶⁸). In the forthcoming chapters I use the analytical elements of the above power mechanisms to comprehend the complex exercise of power in contemporary water control: as non-binary, non-chronological and compound but distinct mechanisms that not only work simultaneously but also, as I will show in the next section, interact strategically.

c. Ancient and modern power: Janus-faced strategic continuity

“Honestly, the Tunshi hacienda produced almost nothing. You may agree that the land was abandoned, full of crabgrass and weeds. What it did have was 30 or 40 head of cattle, a small number of meadows and nothing else. Sometimes they would broadcast vetch, but it wouldn’t take; they would sow wheat, and it wouldn’t produce; they would plant barley and it yielded nothing – so that’s how the land was”.

Antonio Laso, a leader of the Tunshi San Nicolás community, and an inter-community leader in Licto, told me the story of the struggle for land and water in ‘los Tunshis’, a group of communities who now irrigate with water from the Chambo system.⁶⁹ When I first visited these communities in 1992, their situation was truly horrible: a tremendous hacienda with so much good, flat land that the owner didn’t have any idea how to use it productively, located directly alongside some indigenous peasant communities who suffered from profound poverty, with small pieces of sloping and totally eroded land. Extensive fertile but totally unproductive, almost abandoned land for one to waste, along with bad, over-exploited land, for the desperate survival of many. Flagrant injustice, and a typical case of what I have called ‘the rationality underlying irrationally inverted agro-ecology’. What makes the situation even more bitter is that this land used to belong to the communities, but was invaded by the haciendas.

68 Foucault also saw himself confronted with his own analytical platypus. Critiquing (top-down) Weberian power, he first studied subject-formation by scientific Disciplines, later by the power of the Norm, and then ‘*by the Self*’ (1979, 1982a, 1988a): more than the ‘techniques of domination’, this power would relate to ‘techniques of the self’, as a self-styling force: “I became more and more aware that in all societies there is another type of technique: techniques that enable individuals to effect, by their own means, a certain number of operations on their own bodies, their own souls, their own thoughts, their own conduct, and this in a manner so as to transform themselves, modify themselves, and to attain a certain state of perfection, happiness, purity, supernatural power” (Foucault & Sennett 1981:5). His famous phrase summarizes this: “... couldn’t everyone’s life become a work of art?” (in Rabinow 1984:350)

69 This interview with Antonio Laso was conducted in August 2002. Our in-field collaboration was throughout the period 1992 – 1997.

But now the situation has changed completely.⁷⁰ The meadows of the ex-hacienda, now worked under community control, are quite productive – as Antonio recounts: “Now we have sent all the landlords away. Now, thanks to our struggles, to people’s unity, the land is ours ... Water is so vital for people, for animals, and for crops, so land with water is hope to produce. If this were a little land without water, we would not have insisted, but water is water, for our livelihoods and for life ... We have new crops, all cultivated and nothing abandoned. Practically 180 hectares that were abandoned, producing nothing, now thanks to our struggles it is almost all producing. We do the production ourselves, with our own hands.”

The pathway to the current situation has been tough. “Speaking of the history of our community, we were invaded by haciendas, and had only a tiny lot left for our own crops. Where there were haciendas, our parents had to work, with everyone else, because our parents had very little land, so they unavoidably had to work for the owner. For our parents, our grandparents, there was tremendous discrimination and exploitation. They worked from 2 or 3 in the morning until 11 or 12 at night. They could sleep for a couple of hours, but then they had to get right back up to milk the cattle, move them around, cut grass and so on. Nevertheless, often the whole family would work for free, not just the father or mother, but the whole family. Moreover, we were forbidden to gather firewood, cut forage, or walk along a road or cross land of the owners. If they caught any of our animals, or caught some person trespassing, they would not release them until a week or two, or even a month of work was done as a fine – the discrimination was terrible!”

Unlike former authorities, however, the provincial and national government made it clear that the time of oppression and exclusion of the indigenous communities belonged to the past. Quite to the contrary, these communities had to be incorporated in the provincial and national effort to modernize agriculture and increase production output. The haciendas, located in the central part of the Chambo system – one of the country’s largest highland irrigation schemes – held back progress with their extensive, outdated production systems. The Tunshi communities were located at the margins of the irrigation system but could not make productive use of it. The objective of the National Institute for Agrarian Development (INDA) was, therefore, to realize the controlled, orderly inclusion of Chimborazo peasants in the irrigation and market system. Participation, production and positive action were key words, on the condition that economic progress would be based on ‘rational thought and strategies’ and thus, that all class and ethnic sensitivities – obstacles to hydro-technological modernization – would be set aside, along with history-based land and water rights claims.

INDA reached an agreement with the hacienda, and since the neoliberal 1994 Agrarian Law restricted possibilities for expropriating abandoned hacienda lands, a considerable price had to be paid by the communities, provided by the State as a loan: “we had to pay 100% to the landowner, for all goods, animals, machinery, the old house, the land, everything”. The communities agreed, since they arranged financial support through the indigenous party in Congress, Pachakutik. But at the same time, the European Community launched a large development project in the Chambo region, and they planned their water and market development strategy, not encumbered by any knowledge of local history, power relations, existing agreements, or land and water rights claims – obviously with the ZOPP tools of rational development and participation in their suitcase.⁷¹ Their first action

⁷⁰ In later visits, in 2004 and 2007, I could witness that the production changes were even more impressive.

⁷¹ ZOPP (*Zielorientierte Projektplanung*, or *GOPP- Goal Oriented Project Planning*), originally invented by the USA military as a strategic planning tool, is used by most international (and nowadays also local) development institutes to ‘rationally plan development’. Its ‘logical project framework’ is a fundamental output and tool, also made a prerequisite by most agencies to receive donor funds.

was to buy the neighboring hacienda's lands for a price far above the INDA-Tunshi agreement. Not surprisingly, the Tunshi hacienda reacted immediately, broke the agreement, and asked for the same price per hectare. The communities were desperate, after so many years of suffering and in urgent need of the land and the water. They decided to take peaceful action:

“Our community and our people were cornered, on land invaded by the hacienda owners, on eroded land, with small lots, so as our families grew we saw the primary need to gain access to land. This was the pressure we applied, taking over the land, taking over the hacienda to exert pressure, so authorities would listen to us ... In 1994 we started organizing internally, through disguised action, without the authorities' knowledge, behind the owner's back, and then we began to surface and agitating for the Tunshi hacienda ... To take over the land, in the community of Tunshi San Nicolás we organized a small group of 80 persons, in the first time in 1994. Then the landlord never suspected that he was going to lose and therefore he pulled political strings and got the police authorities and army to intimidate us and try to make the association members afraid. But we honestly were not frightened – on the contrary, our wives and children protested in front of them.”

First off, the hacienda reacted subtly: “The hacienda's strategy was first to win over their workers, who had been there for a long time. The strategy was to offer them land, animals, and money; then, with those collaborators, they would spread the word to the communities that it was not true that the San Nicolás association would succeed in taking away the land, that it was not true that the boss would give in. Rather, they would have to manipulate and encourage the indigenous people to defend the boss. That was the strategy, and also to buy off the authorities. The owner never imagined that he would have to give up the hacienda, rather, he manipulated neighboring communities, and our friends working there, to fight against us, to confront us, saying that he was the owner of everything, and could do anything. ‘San Nicolás, the indigenous, are just them, but I am the owner of everything, so how could they get rid of me’ he would say. He hired people, went out with liquor, with wine, with his employees to lie, to ask them not to be on our side.”

However, when that was unsuccessful, the hacienda's gentler strategies were soon replaced by coercion: “The hacienda owner was very powerful. Powerful in wealth, powerful in politics, powerful in buying off authorities, powerful because his attorney was the best in the province. The owner called for the military and police to come here to Riobamba, to abuse us so that we would definitely desist from our organization out of fear of the military and police.” Indeed, the participatory, inclusive face of the government authorities suddenly disappeared. Instead of the foreseen ‘controlled and contained inclusion’ now the communities were including themselves on their own terms, and this was not acceptable. Moral conviction gave way to moral panic since the peasants left the enlightened path of rationality. They challenged liberal law, planned development, the country's social contract, and the nation's unity. No longer were they the equal citizens that deserved participation but backward and irrational indios that deserved violent punishment. “When we took over the land, first the military came, and stayed at the hacienda for a month. The police also came and also lived on the hacienda”. The police and military tried to discipline the rebellious families through heavy repression, with the police even throwing bombs.⁷² “We have confronted over 80 civil and criminal

72 The police and the army in Peru and Ecuador tend to be powerful systems for equalizing and disciplining the diverse, according to the model and messages of the dominant group. The uniform is a symbol of non-indigenous homogenization, as Peruvian comunero Gregorio Condori Mamani makes clear when expressing his army experience (documented by Valderrama & Escalante 1998:50-52): “... those fellow soldiers of mine were all Indian *runas*, just like me, because there weren't any *mistis*.” They changed particularly when they got promoted, “... they were just like God himself. ... their feet no longer touched the ground. They'd look down on the common soldier as if he were a dog. ... They say that nowadays, whoever enters the army unable to see, comes out with their eyes open and knowing how to read. And those

lawsuits, and several friends and I had to go to jail. The military were present, the police were present, this struggle was a ‘way of the cross’ ... The sacrificial process was harsh, so difficult that it took a total of seven years. Over seven years’ time we managed to conquer the land, some people were almost killed, and there were many confrontations”. Even so, the community strategy of hiding and avoiding confrontations kept the conflict from becoming a bloodbath: “The police or the army would arrive, and we were calm, in our streets, in our pathways, in our homes, and when they left, we would take over again, we would go back in. It was a strategy not to confront but rather to respect each other. They would stay there for several weeks, and then leave, then we would go back in. Our struggle during the takeover was to sleep in the trees, behind the boulders, there outside in the fields, in the bushes – we slept there every night. To make sure that no one went in, because the owner brought in hired people to intimidate us, and if possible to kill us leaders, and other members, for that reason we slept in different strategic places.”

Antonio makes a clear distinction between the two apparently opposing – but strategically linked – faces of the authorities and dominant groups: intermittently, sometimes they talk of equality, participation, mutual respect, reciprocity, a nation for all of us, and sometimes they use a strategy of oppression, racism, and coercive control. “I think there is injustice, discrimination against organizations, against indigenous people, because if agrarian reform were real, we would meet all the requirements. Why the police, why the military – they were accomplices in confrontations, accomplices in so many civil and criminal lawsuits, accomplices in making indigenous people confront each other. We see the two faces of the government, so I think they play both sides ... ”

‘We have always been modern...’

The gap between ‘modernity’ and ‘the distant past’ is less wide than modern water control and social and natural science often tend to present.⁷³ ‘Ancient power’ has never disappeared, ‘modern power elements’ were already at work in ancient times. The cases challenge a presumed historical break: the coercive, exclusive and the capillary, inclusive or participatory power mechanisms as elaborated by Foucault, in time and space, may show a gradually changing balance but are not rigidly separated nor do they imply discontinuity. It is not just, as some of my illustrations (out of a continuum) have shown, that analytical elements of ‘modern’ power were already effective in ancient empires, or that the elements of ‘ancient’ power continue and exercise great force in current days, but also that the two form many kinds of hybrid combinations in day-to-day practice. What’s more, the two strategically combine and ‘interact’ in a Janus-faced continuity.

Certainly, as I will show more profoundly in the following chapters, water control modernization strategies and neoliberal water policies – espoused in rational, universally applicable, scientifically endorsed techniques and discourses – are part of an increasingly important symbology of power that

unable to speak also come out with Spanish flowing off their tongues. There in the army, those lieutenants and captains didn’t want us speaking the runa tongue. They’d say: ‘Dammit, Indians! Spanish!’.”

73 The section’s heading is a wink at Bruno Latour’s work *We have never been modern* (1994). He rightly argues that the divide labeled as ‘modern’ between, on the one hand, society and culture, and on the other, nature and science – values versus facts, humans versus things – is based on an illusion of discontinuity (and thus, ‘progress’). Rather than stressing that traditional societies did not make that distinction whereas modern societies do neatly separate the two spheres, it is necessary to see the continuity of how acting humans and things compose actor networks, networks that intertwine ‘culture’ and ‘nature’. My paraphrasing, however, refers to and challenges another presumed discontinuity, that of two power regimes. But although not the object of my analysis here, my case examples also show the illusion of such modernist separation. In both modern and ancient times, societies aimed to compose sociotechnical, physical-metaphysical, Latourian ‘actor-networks’; in both there was never a strict divide among ‘culture’ and ‘nature’.

aims to ‘include’, not to ‘exclude’ (Boelens & Gelles 2005); but that generally combines with classic mechanisms (e.g. physical violence, State structures, law, top-down imposition, discontinuous and negative force, visible oppression, etc.) in order to jointly extend State control and the economic and cultural orientations of national and international elites. Moreover, as we have seen in the above sections, modern-like discourses and ideologies that aim to productively, rationally, ‘positively’ include and (self-)discipline local communities are not at all new to the Andean region. With differing degrees of subtlety, identities have been created and self-affirmed that subjugate water users and communities to the interests of dominant groups, naturalizing and normalizing the extraction of their labor and other resources, disciplining their water cultures with rationally crafted, certified knowledge and truths, confirming and conforming them to their ascribed positions. Don Fermín may lack the subtlety, but clearly expresses the felt need of dominant groups to include the ‘indios’ as individuals in modernity: “*We have to inject ambition and knowledge into them, but not so much that they will gobble us up, just so that they will develop to serve us, that is, to serve the nation*” (1980:52).

Inclusive and exclusive power strategies are the two, changing sides of the same coin, one that sometimes shows its subtle, soft, participatory face while at other times appearing as an outright oppressive, top-down strategy. It is not surprising that, through both power mechanisms and often under the banner of ‘pacts of reciprocity’, much effort was put into functionalizing the collective labor parties to the productive and extractive interests of the dominant classes, since these are key to sustaining irrigated production systems, the creation and re-creation of water rights, and the formation and re-affirmation of locally particular (‘abnormal’) and potentially disobedient ‘hydraulic identities’. Consent and Coercion, or Co-optation and Compulsion, are the two contrasting but contracting power mechanisms in Andean water-power plays. Hand in hand they are exercised, often intermittently, to generate obedience and stabilize subjugation in water control. In the last chapters of this book I will analyze how local water user collectives prepare to face these Janus-faced power regimes, since they do not always agree to have their water souls molded by dominant norms – they challenge both the coercive and the participatory strategies that police the boundaries between ‘normal’ and ‘abnormal’ water control.

chapter 7

PANOPTIC POWER AND THE MORALIZATION OF WATER CONTROL TECHNOLOGY

“Government is the right disposition of things. ... [It is not] a matter of opposing things to men, but rather of showing that what government has to do with is not territory but rather a sort of complex composed of men and things. The things with which in this sense government is to be concerned are in fact men, but men in their relations, their links, their imbrication with those other things which are wealth, resources, means of substance, the territory with its specific qualities, climate, irrigation, fertility, etc.; men in their relation to that other kind of things, customs, habits, ways of acting and thinking, etc....”
(*Governmentality*, Michel Foucault 1991(1978): 93).

Can ‘the complex composed of men and things’ generate obedience and strengthen the power of the water rulers over the water dominated? As elsewhere, ‘*modernization*’ of irrigation systems in the Andes typically consists of technological, political-administrative packages. The underlying objective is to generate, through hydro-productive and socio-legal engineering, ideal-type ‘dream schemes’ to which all human and nonhuman components will align. In the ever more subtle power game of water governance, the installation of ‘efficient water scheduling’ and ‘rational land and water use’ is as important as the engineering of ‘functional water rights’, ‘manageable unit organizations’ and ‘self-correcting, disciplined water users’. Not surprisingly, the question of ‘panoptical control’, as laid down in Bentham’s prison design and Foucault’s analysis, comes to the fore. Therefore, in this chapter, illustrated by the Licto system, I will scrutinize parallels by examining the techniques of water governance, technology embedded scripts and the institutionalization of unquestioned ‘water rights black-boxes’. Apparently, the quest for reinforcing morality and political control (to enforce ‘right-doing’ and prevent ‘wrong-doing’) is fostered by a strategic interaction – conscious or unconscious - among ‘moral scripts’, ‘moral urgency’ and ‘moral bombing’, to induce this water control ‘regime change’. Self-control and remote control rather than surveillance by the agency’s water guards are to take up the overseeing and monitoring tasks.

Although the actual materialization of this ‘modernistic illusion’ is contested and even unrealistic, the set of techniques applied to realize the dream scheme powerfully influences day-to-day water control practice. Here, the political interests of dominant groups to control and the moral mission of water sector modernists to break and make local water users society are fundamental.

Question: How does the interweaving of sociotechnical networks for irrigation water control by the state agency - aligning the social and the material to conform a dominant, moralizing set of forces of a strategic nature – order local water society, enforce productive and disciplined behavior by subject families and communities, and normalize their water rules and rights?

7.1. The panoptic dream and the hydro-political dream scheme

“I FLATTER myself there can now be little doubt of the plan’s possessing the fundamental advantages I have been attributing to it: I mean, the *apparent omnipresence* of the inspector (if divines will allow me the expression) combined with the extreme facility of his *real presence* [...] Its great excellence consists in the great strength it is capable of giving to *any* institution it may be thought proper to apply it to.”
(Bentham 1995(1787-1791), “*Panopticon, or the Inspection-house*”).

In order to illustrate the functioning of modern, disciplinary or normalizing power and technology’s strategic role, Foucault selects the 18th century design of the panoptic prison by humanistic utilitarian philosopher Jeremy Bentham. This ‘enlightened’ design became a leading model for construction of prisons (and other public spaces) all around the globe because of its socio-architectural capacity to maximize control over humans – their bodies, norms, thought and behavior – while minimizing control efforts and energy. It also served as an archetype for disciplinary technology, in which power operates through a socio-technical design defining the organization of space, time and vision, with human beings obediently taking their orderly positions. Unlike the ancient, gloomy, mostly underground dungeons that aimed to exclude the subjected, repress common people’s deviant behavior and put them away to the dirty, dark margins of society, Bentham’s architectural composition envisions a new inclusive, productive, positive perspective toward confinement and punishment. The principle of the dungeon is reversed. Negation and oppression give way to participatory correction and, most of all, to subjects’ self-examination and self-control, to auto-adopt the norms of ‘normality’ and become ‘normal humans’.

“We know the principle on which it was based: at the periphery, an annular ring-shaped building; at the centre, a tower; this tower is pierced with wide windows that open onto the inner side of the ring; the peripheral building is divided into cells, each of which extends the whole width of the building; they have two windows, one on the inside, corresponding to the windows of the tower; the other, on the outside, allows the light to cross the cell from one end to the other. All that is needed, then, is to place a supervisor in a central tower and to shut up in each cell a madman, a patient, a condemned man, a worker or a schoolboy. By the effect of backlighting, one can observe from the tower, standing out precisely against the light, the small captive shadows in the cells of the periphery. They are like so many cages, so many small theaters, in which each actor is alone, perfectly individualized and constantly visible.” (Foucault 1995 (1975): 200).

Indeed, as Foucault observes, the panoptic mechanism is organized into spatial-technical units, enabling constant overseeing. Instead of putting people out of sight they are brought into the light and made visible – not as an obscure, compact mass but as clearly distinct, recognizable *individuals*. As an individual, each person is confined to a cell “from which he is seen from the front by the supervisor; but the side walls prevent him from coming into contact with his companions. He is seen, but he does not see; he is the object of information, never a subject in communication.” (Ibid:200). To guarantee order and obedience, the design of his cell forces him to be visible to the central tower

while being spatially and visibly separated from the others.¹ Thus, in Bentham's engineering, collectives are split up into differentiated, individualized units. The crowd, "a locus of multiple exchanges, individualities merging together, a collective effect, is abolished and replaced by a collection of separated individualities". From the point of view of the guardian, it is replaced by a multiplicity that can be numbered and supervised; from the point of view of the inmates, by a sequestered, observed solitude" (Ibid:201).

The panoptic dream

Bentham's objective was to generate a facility that, *by its socio-technical composition*, would automatically create and reinforce social order. It would, in the words of Foucault, induce in the prisoner 'a state of conscious, constant visibility assuring the automatic functioning of power.' Power would be visibly detached from particular (mighty) persons or classes (see chapter 6), the mechanism of control could even be disconnected from the very presence of elites, governors or supervisors and still continue its force. In a Latourian sense, things and persons, nonhumans and humans, were thus arranged and connected so that a powerful chain, a bond of allies, would emerge. "So to arrange things that the surveillance is constant in its effects, even if discontinuous in its action; that the perfection of power should tend to render its actual exercise unnecessary; that this architectural apparatus should be a machine for creating and sustaining a power relationship independent of the person who exercises it; in short, that the inmates should be caught up in a power situation of which they are themselves the bearers" (Foucault 1995:201).

In this chapter, my analytical interest in the Bentham/Foucault architecture is that material and social issues combine in an orderly and strategic manner, driven by a logic of controlling power and at the same time reinforcing this power: a power that aligns the technology subjects and objects in accordance with 'the norm'. Unlike his earlier work, Foucault's analysis no longer concentrates on the discourse as a set of words and expressions in just 'epistemes', as 'disciplinary language' producing truth, but on discourse ("the said as much as the unsaid") as a truth creating and reinforcing conjunction of knowledge and power that is *based on* the strategic positioning of actors, techniques, and tools, in a concrete field with concrete practices and concrete rules. *Discourses strategically connect and position material and social affairs*, institutions, humans, artifacts, techniques, regulatory decisions, administrative measures, scientific statements, moral propositions, etc., in order to form a dominant set of strategic forces. Foucault argued that they sustain and shape 'apparatuses' ('*dispositifs*' or 'technologies of power') that are typically fabricated by and operate through technical-rational planned organization and production, intrinsically related to a particular field of knowledge and a set of corresponding truths.

Returning to the panoptic dream: Bentham imagined a system of invisible, unverifiable power, in which the technology-affected would constantly see and be reminded of this power's working: the profile of the central tower, from which they are watched, is constantly right in front of them. They must be sure that they may *always* be looked at, but they must *never* know whether or not they actu-

1 "If the inmates are convicts, there is no danger of a plot, an attempt at collective escape, the planning of new crimes for the future, bad influences on each other; if they are patients, there is no danger of contagion; if they are madmen there is no risk of their committing violence upon one another; if they are schoolchildren, there is no copying, no noise, no chatter, no waste of time; if they are workers, there are no disorders, no theft, no coalitions, none of those distractions that slow down the rate of work, make it less perfect or cause accidents" (Foucault 1980:200-201)

ally are. Here, technical details are of the greatest importance to Bentham.² In multiple senses, power becomes anonymous, and the more anonymous it is, the more forceful its working:

“The Panopticon is a machine for dissociating the see/being-seen dyad: in the peripheral ring, one is totally seen, without ever seeing; in the central tower, one sees everything without ever being seen. It is an important mechanism, for it automates and de-individualizes power. Power has its principle not so much in a person as in a certain concerted distribution of bodies, surfaces, lights, gazes; in an arrangement where internal mechanisms produce the relationship holding individuals. The ceremonies, the rituals, the marks by which the sovereign’s surplus power was manifested are useless. There is a machinery assuring dissymmetry, disequilibrium, difference. Consequently, it does not matter who exercises power. Any individual, taken almost at random, can operate the machine: in the absence of the director, his family, his friends, his visitors, even his servants (Bentham, 45). Similarly, it does not matter what motive animates him: the curiosity of the indiscreet, the malice of a child, the thirst for knowledge of a philosopher who wishes to visit this museum of human nature, or the perversity of those who take pleasure in spying and punishing. The more numerous those anonymous temporary observers are, the greater the risk for the inmate of being surprised and the greater his anxious awareness of being observed. The Panopticon is a marvelous machine which, whatever use one may wish to put it to, produces homogeneous effects of power” (Foucault 1995:201-202).

The great challenge and dream of irrigation engineers, natural resource planners and water policy makers: how to make water users rational, obedient users of the system? How to induce disciplined behavior in water distribution, water use, fee payment, and labor provision, and avoid ‘free riding’? How to allocate people to their plots and allocate land, water, irrigation artifacts, crops and other inputs to the system in order to generate efficiency, productivity and social order? And most of all: how to align material and social affairs in such a way that water users *themselves* internalize policy objectives, normative frameworks and system responsibilities, and assume water rules, rights and norms as if they were their own? How, through an all-inclusive, positive, productive web of allied humans and nonhumans, to subject water users to a game of visibility and self-control, make users produce and productive, and shape water use behavior and outcome? Water users need to make the rational system norms and rules play impulsively upon themselves. *Instead of being forced, they need to fit themselves into power relationships in which they concurrently assume the positions of obedient water users and ‘vigilante’ supervisors.* As Foucault would argue, they become the principle of their own subjection.

Indeed, there is a forceful quest in modern water management for engineering a socio-technical web of all-involving, participatory, omnipresent power, a panoptic technology that takes water users as *objects* of normalization, that *subjects* and simultaneously *subjectifies* them (see chapter 1 and 6). In such effort, it is no longer the Inca emperor, Spanish *encomendero* or feudal landlord who needs to coercively induct water users into appropriate norms and behavior, since alignment with the system makes them subjects and they make themselves into subjects.

2 To render the presence or absence of the guard unverifiable for inmates, Bentham designed detailed artifacts such as Venetian blinds on the windows of the observation hall, partitions that intersected the hall, and not doors but zigzag openings “for the slightest noise, a gleam of light, a brightness in a half-opened door would betray the presence of the guardian.” (Foucault 1980:2001). Bentham also describes the technical light and audio system in the Panopticon in the smallest details (Bentham 1995; Achterhuis 1998. See also chapter 11).

If normalization can be achieved, it no longer matters if outside control is fictitious or real.³ If the guardian leaves the central tower, or the water system supervisors leave their post, the power apparatus still operates effectively as long as the norms of power are internalized and the technology is in place. As in Bentham's Panopticon, "it is not necessary to use force to constrain the convict to good behavior ... Bentham was surprised that panoptic institutions could be so light: there were no more bars, no more chains, no more heavy locks; all that was needed was that the separations should be clear and the openings well arranged. The heaviness of the old 'houses of security', with their fortress-like architecture, could be replaced by the simple, economic geometry of a 'house of certainty'. The efficiency of power, its constraining force, has in a sense passed over to the other side – to the side of its surface of application" (Foucault 1995:202).

Modern water science and water policies give high importance to, first of all, controlled experimentation, to be able to replicate the experiment and its formulas, to reproduce the findings and to universalize the outcomes. Next, the key principle of modern water management is to seek control over the variability of Nature (particularly climate, hydrology and agroecology) and the capriciousness of Humans (particularly water users but also overseers and other interest groups). To master both forms of unpredictability – securing observation and experimentation and controlling and correcting Nature and Humans, even at levels 'outside' the local water system – the Panopticon composition is highly interesting since it includes a system for observing and controlling the controllers. 'Everyone is caught, those who exercise this power as well as those who are subjected to it':

"The Panopticon is a privileged place for experiments on men, and for analyzing with complete certainty the transformations that may be obtained from them. The Panopticon may even provide an apparatus for supervising its own mechanisms. In this central tower, the director may spy on all the employees that he has under his orders: nurses, doctors, foremen, teachers, warders; he will be able to judge them continuously, alter their behavior, impose upon them the methods he thinks best; and it will even be possible to observe the director himself. An inspector arriving unexpectedly at the centre of the Panopticon will be able to judge at a glance, without anything being concealed from him, how the entire establishment is functioning. And, in any case, enclosed as he is in the middle of this architectural mechanism, is not the director's own fate entirely bound up with it? The incompetent physician who has allowed contagion to spread, the incompetent prison governor or workshop manager will be the first victims of an epidemic or a revolt. 'By every tie I could devise', said the master of the Panopticon, 'my own fate had been bound up by me with theirs' (Bentham, 177). The Panopticon functions as a kind of laboratory of power. Thanks to its mechanisms of observation, it gains in efficiency and in the ability to penetrate into men's behavior; knowledge follows the advances of power, discovering new objects of knowledge over all the surfaces on which power is exercised" (Ibid 1995:204).

Panoptic mechanisms and technologies are very common to most utopian dreams and dystopian nightmares, narrated for example in Thomas More's *Utopia* (1516), Tommaso Campanella's *The City of the Sun* (1602/1623), Francis Bacon's *The New Atlantis* (1627), or Aldous Huxley's *Brave New World* (1931) and George Orwell's *1984* (1949).⁴ Bentham's objective was to perfect the socio-

3 More accurately, as I will elaborate in chapter 11: the more fictitious this presence, the stronger the functioning of power.

4 For a broad overview, see Achterhuis (1998). Unlike most European utopian writings (that often take imagined (South)

technical power mechanism and, most of all, as a progressive utilitarian, utopian thinker, show its productive force and feasibility in practice. As Foucault states, if Bentham's project provoked strong attention, this was because it presented a *modus operandi* relevant and applicable to many areas of society, "the formula of power through transparency, subjection by illumination" (1980:154). Though Bentham, just as the 'early Foucault', deterministically overestimated the feasibility and 'hegemonic properties' of panoptic technology, their socio-technical argumentation remains to be relevant. Nowadays such technologies, designed to solve the problem of surveillance and control, are increasingly made reality and (often silently) introduced.⁵

Indeed, acceptance of and 'natural need' for control seem to be growing: Similar to the 'times of terror' we appear to live in nowadays, 'times of crises' induce societal insecurity and legitimize groups in command (particularly governments and intelligence services) to control and screen citizens. The proclaimed worldwide Water Crisis is no exception to this. The Water Crisis powerfully enlarges the faculties of State control – if necessary through public arrangements with the private market sector, legitimizes international policy norms, morals and techniques, and limits local subjects' privacy and local community arrangements. The normalization of ('water spoiling and irrationally behaving') abnormal receives strong impetus and support. *Locality and privacy are the hiding place of evil*,⁶ and the step from protecting people's rights to controlling the people themselves is easily taken. Transparency and visibility of all common people and their conduct – being *potential* transgressors – becomes the key issue (see chapter 11) and the stronger the discursive threat, the less effort is needed to justify what is euphemistically called 'public control'. Moreover, for effective exercise of power, the idea of people's self-control strongly emerges. Unlike the recent regimes of military terror in the Andean countries⁷, discursive constructions of 'crisis' are based not on 'violence to control the evils of privacy and locality' but on 'participatorily combating the evils of locality to halt the crisis for the common good'. In both ('coercive' and 'capillary power') cases, nevertheless, disciplining and self-disciplining to *prevent wrongdoing and enforce conformity with standard norms* is at the heart of the power game.

The imagined irrigation system or hydro-political dream scheme

Indeed, a technology of normalizing or even panoptic-like forces would be most welcome to Andean water governors since water and irrigation involve great power and interests. Hunt & Hunt (1976:389) observe that irrigation is "a resource of unusual social power", and Wittfogel (1957:27) even asserted that "those who control the irrigation network are uniquely prepared to wield supreme political power". But does such a 'panoptic' technological power irrigation system actually exist and

America as its reference), Andean utopian writings and traditions go back to the presumed paradise that historically existed: Tawantinsuyu. Andean utopian currents are also strongly related to the projects of mestizaje, indigenism, and modernization (see chapters 6 and 9; Almeida 1998; Baud 2003, 2006; Degregori 2000; Flores Galindo 1988).

- 5 For example, in the field of world-wide intelligence systems, airport biometric scanning devices, 'crowd control systems', customer control in shopping centers and crime vigilance in cities. In itself, however, this is not proof of having established Gramscian hegemony.
- 6 The words of the Amsterdam head of police, who legitimized affecting citizens' fundamental privacy rights not just when investigating acts of crime but especially by *routine surveillance of all* and by allowing for control and punishment of all kinds of minor transgressions 'in the name of safety'. For his corps *privacy itself* had become the central problem (Volkskrant 28-01-2006).
- 7 In recent periods of dictatorial control in the Andean countries, more than through direct State intervention "the forms of continuity most affected were those connected with people's way of relating to each other... people did not get together anymore, not even to play cards or to talk about football on a street corner ... it was a society that patrolled itself" (Mata et al. 1988, cited by Rowe 1992:1-2).

can it exist? Some Andean evidence and reflections:

First, exercising political control through a technology of water governance that spatially (re)organizes subject people, organizes their labor, imposes the norms, and commands their behavior is not at all new to the Andes. Gelles (1995, 1998, 2000), for example, shows how the Incas included pre-Inca technological, organizational and cultural frameworks, to naturalize State control, domesticate local peoples and control their water resources (cf. chapters 3 and 6). The *saya* division was an elementary principle of ancient cosmology but equally a spatial-political and socio-technical design (Gelles 2000) used by the Inca and Spanish States to organize and normalize the political geography, from local irrigation systems up to the Empire itself. It was "... a means to legitimize its power (by using an existing symbolic and ritual resource, that is, dualism), productively organize subject peoples and nations (they and their resources were divided along dual lines), and to extract surplus production (taxation was organized along dual lines, that is, through two ethnic chieftains assigned to each conquered group). Indeed, the dual spatial divisions, that is, opposed halves or moieties (*anansaya/urinsaya* or upper/lower moiety) found in many Andean communities [and irrigation systems] today, are a legacy of Inka and Spanish domination."⁸ Subjection, subjectification, normalization: yes, but through socio-technical panopticism? Was there a meticulous, homogenous power mechanism at work that made people auto-correct themselves?

Second, a reflection on the spatial scales of technological control. In the preceding chapter I have reflected on Wittfogel's thesis about irrigation water control inducing hierarchical states and bureaucratic despotism. As I argued, unlike most authors who refuted his propositions, ancient Andean hierarchical control was indeed significantly sustained by (among others) the 'power of water' but not in the Wittfogelian sense of the need to build, operate and control large-scale *physical* irrigation infrastructure. Instead, he should have scrutinized the ancient *metaphysical* water domain. His misconception, however, does not mean that irrigation infrastructural design is *not* related to the issues of power and societal control. There certainly is a close relationship. The broad critique that Wittfogel's thesis would not apply to the Andean region since archaeological evidence actually shows that systems were far too small to account for a system of State governance (e.g. Mitchell 1976) denies the *possibility* that also smaller socio-technical water systems can be highly interesting for establishing or reinforcing bureaucratic or national elites' power. Contemporary Andean reality, at least, clearly shows this interest; enormous programs have been launched to put local organizations and systems under State control.⁹

Although Foucault's panoptic reflection on Bentham's invention is usually seen as a metaphor representing a nation-wide system of surveillance and intelligence, he also opens the possibility of

8 Boelens & Gelles (2005:313). As Gelles (1995, 1998) observes, commonly, the populace was divided into endogamous halves, in many respects two separate entities joined by a dividing line, and the natural resources of the surrounding area were also apportioned in accordance with this dual division. "While it structures the spatial and ritual organization of many productive activities, the *saya* division often finds its most explicit expression in local models of irrigation, in which water distribution is done primarily according to the distinguished moieties. ... The *anansaya/urinsaya* model embodied a 'symbolology of power' that was used to spatially, socially, and productively organize subject peoples and nations... These cultural orientations were active agents in the development and organization of centralized political authority under the Inka" (Gelles & Boelens 2003:127. Cf. Gelles 2000, 2006).

9 See e.g. Lynch 1988a; Gelles 1998; Oré 1998; Boelens 2002. Worster makes a point when criticizing anthropology as a discipline (although there are important exceptions) for largely concentrating on ancient hydraulic societies and not broadening their research to current hydraulic societies. "One of the most serious weaknesses [of ecological anthropological literature]... is that the modern experience with irrigation hardly appears in it. Nowhere do the ecological anthropologists - nor does Wittfogel, for that matter - seem to realize that the link between water control and social power might occur in places other than the archaic cradles of civilization nor that the past hundred years have seen more irrigation development than all of previous history." (Worster 1985:30).

small-scale systems connected to the broader control network, through socio-technical, practice-based discourses, similar to the model foreseen by State water agencies in Peru and Ecuador. “The Panoptic system was not so much confiscated by the State apparatuses, rather it was these apparatuses which rested on the basis of small-scale, regional, dispersed Panopticism. In consequence, one cannot confine oneself to analyzing the State apparatus alone if one wants to grasp the mechanisms of power in their detail and complexity” (Foucault 1980:72). Small-scale irrigation systems, in former days connected to each other by representations stemming from the Inca-controlled metaphysical domain (chapter 3, 6), that now make up for a supra-local network of dominance? But the metaphysical domain (despite its continued presence in Andean water affairs) has lost its prominence these days. Here it is useful to return to Levi-Strauss’ observation (1963:204, see chapter 3): there is a strong resemblance between ancient mythical thinking and current political discourses. In Andean water control, modern discourses on progress (‘modernization’) and nation-State building seem to have effectively taken over the role of Inca mythical water control. Indeed, a powerful basis is the administrative and political interconnectedness of irrigation systems that together resemble the image of the State apparatus. But: is it a panopticon-like machinery that assures the meticulous control of human and nonhuman operations, the constant subjection of water users and operators alike, and does it impose upon them a relation of docility-utility?

A third case focuses on the above modern societies and their hydrocracy. In Peru the 1969 Agrarian Reform by the Armed Forces Revolutionary Government attempted to uproot longstanding feudal power (see chapter 5), but the ‘revolutionary’ goal (“*land for the person working on it*”) was by no means to grant power to indigenous peasants. Flores Galindo concluded that the reform, “... undertaken by the State, and blocking any possibility of autonomous mobilization by small farmers, was to supplant the enfeebled power of hacienda owners by the power of government officials” (1988:369). So, it proposed a geo-spatial policy to devise farms of optimally controllable, planable scale, for maximum productivity. “The Reform business model encouraged large properties: haciendas should maintain their dimensions, if not expand, by joining with others or at the cost of community land under dispute” (Ibid:369). By the sociotechnical formation of the new ‘Agrarian Production Cooperatives’ and ‘Agricultural Corporations for Social Interest’, as well as State irrigation systems, the government sought to standardize and domesticate the multiple array of existing stakeholders, norms and organizational forms.

A key strategy was to supposedly match rural peoples’ frustrations, perceptions and goals with those of the new government, in order to move peasants to take part in their own political and productive self-domestication. Through cooperatives, credit programs and development of externally controlled technologies (dependence on material and financial inputs, know-how and monitoring from elsewhere), particularly for irrigation systems, the massive threat of the rural movement’s force was neutralized, by individualizing their actions and putting them under the wing of government officials and supervisors. The power of large landowners, openly oppressive and based on exclusion, was replaced by inclusive power:¹⁰ the ‘invisible’ power typical of both socialist and liberal discourses, proclaiming equality and therefore ‘participation by all’. Rather than depending on brutal submission,¹¹ the rulers’ power was to be upheld by the self-perceived need of the

10 At the same time, as explained in chapter 1, in practice this inclusive power excluded the majority from the benefits of ‘inclusion’; the model even critically needed these ‘not yet equalized communities’ as a deterrent mirror of those who ‘fail to comply and therefore get poorer’ (see also the model’s self-fulfilling prophecies in chapters 1 and 9).

11 Obviously, with the appearance of the subtle, ‘participatory’ strategy, brutal, violent power has not been banished. Major massacres by the military government in towns such as Huanta, Ayacucho, are macabre illustrations. Repression during

campesinos, to be included in the ‘new welfare society’ and to meet its standards of modernity: failing in this would entail being classed and self-labeled as ‘irrational and backward’. Instead of ‘oppression’ and ‘exploitation’ the key words are ‘development’, ‘equality’ and ‘progress’. Under the banner of liberation and emancipation – ‘*Campesino, the boss will no longer eat his fill of your poverty*’ – a tremendous project of social and legal engineering was oriented toward dissolving collective norms and organizations, both in communities and in locally existing irrigation systems. As observed by Van der Ploeg (2006), the aim was to atomize the rural population into dependent customers. So, for ideological leadership, in the words of the head of SINAMOS, “the idea was born of creating a *participation institute*, oriented toward developing a new political consciousness, to faithfully express the goals of Peru’s Revolution” (2006:312). SINAMOS means ‘National System for Social Mobilization’ but its architects also referred to the *disappearance of groups and centers of power*: ‘Sin-amos’ (Spanish for ‘Without masters’), a perfect illustration of the dreamed-of panoptic, participatory self-correction without the need for central tower guards. It aims for the subjects’ self-regulated behavior induced by “invisible authorities” - as powerfully illustrated in the works of Kafka (e.g., 1963, 1977) or, in the words of Hannah Arendt, it reflects how the anonymous power of the administrators builds a tyranny without a tyrant (1969).¹²

This refined, ingenious process of inclusion has clear norms of thinking and behaving, framed in the ontology and policy of self-control. As Van der Ploeg observes: “Substantial ‘participation’ depended, above all, on changing workers’ aspirations, needs and definitions in accordance with the ‘cooperative reality’. The notion of progress had to be changed into individual progress. Wage increases had to be, rather than a right, a function of cooperative development. Strikes were things of the past: ‘the workers themselves are the owners’. If the old problems cropped up again, they could no longer be interpreted the same as before, ‘because *there are no more bosses*’ ” (2006:264, my italics). The panoptic aims are clear, but again, could they be materialized?

Before returning to my above questions on actually existing water control panopticism, let me first reflect on some important properties of modern water policies, designs and visions. As I will show in chapters 9, 10 and 11, in the last decades the controlling and correcting power mechanism in water management has become more and more invisible. The engineer situated at the head-gate, overseeing ‘his’ command-area, with socio-technical bifurcations at all levels, in part has made room for the invisible forces of the market (economically efficient control) and, in Andean practice, to an even greater extent to the invisible moral norms of ‘technically good control’. The classic irrigation settlement schemes, with central control over property relations, water distribution, production planning, buying of inputs, product marketing, and even over livelihoods, have made room for governance-at-a-distance systems where the central tower guards watch but ‘most probably have disappeared’. Modern irrigation discourses – the world over – often classify irrigation systems in the categories of ‘technical, semi-technical and simple systems’; the distinction is based on the degree to which components of a system can be measured, regulated and controlled (Roth 2003, Zwarteveen 2006). The technically most advanced systems have the greatest possibilities for measuring, regulating and correcting humans and nonhumans that make up the socio-technical water network: the political

the terms of following government administrations also reveals these two facets of power.

12 Arendt: “In a fully developed bureaucracy there is nobody left with whom one could argue [...] Bureaucracy is the form of government in which everybody is deprived of political freedom, of the power to act; for the rule by Nobody is not no-rule, and where all are equally powerless we have a tyranny without a tyrant” (1969:31)

anatomy of irrigation systems. Indeed, irrigators have to be produced.¹³

Here, the broader philosophical discussion on technological rationality and control provides food for thought. Where Wittfogel related ancient hydraulic empires, such as the Inca Sun Kingdom, to neat socio-technical control and water-based centralized power, authors as Lewis Mumford revert to the metaphor of the all-governing, all-overseeing Sun Kings' empires to understand how in *modern* times 'great societal machines' have been created with comparable features. These equally combine properties such as strong labor division; routine-ized tasks; exploitation of the lower classes; hierarchical control; division of manual and brain-workers; standardization of products and labor tasks; as well as the full expropriation of individuals' means, knowledge, skills and action frameworks for the benefit of large, externally controlled mega-projects (Mumford 1971. Cf. Achterhuis 1992; Illich 1979; Ullrich 1984). The similarity with modern water projects is evident. Their effort is to powerfully introduce mechanical thought and rationality in human and thus power relationships. As nearly all science, irrigation also aims to transform existing ecological and human nature into controllable phenomena, from 'Nature' to 'Culture'. Scientists, social and technical engineers are the priests of the modern kingdom. Mumford argues that, in the mindset of the 'new god', all complex phenomena need to be reduced to measurable, repeatable, foreseeable, calculable, and ultimately controllable terms.¹⁴ Indeed, as Latour (1987) observes, a machine is in the first place a '*machination*', an ingenious 'trick' or 'arrangement' to control deviant conduct and connect and align a universe of human and nonhuman allies.

Still, Mumford explicitly talks about the *myth* of the machine. He actively questions the ability to reshape society-in-practice as an omnipresent and omni-functional, mechanical technology of power. Similarly, panoptical water control designs presume not only calculability and plan-ability, but also complete unity and coherence within the chain of (not necessarily consciously) controlling actors, disciplined subjects, artifacts and their normative and political frameworks. In contingent practice, and particularly in Andean irrigation systems, this is never the case. Moreover, it denies human agency. Despite all uniform water policies and irrigation designing practices, the Andean region is still powerfully characterized by a varied range of local water systems and rights. Foucault (and other 'dystopian' grand-theory thinkers) rightly has been criticized for the idea that automatic or automated human (self) control by panoptic societal machines would be feasible. But, although his own writings (and especially interviews) sometimes fuel the idea of socio-technical determinism, a technological design that triggers the automatic functioning of power is certainly not Foucault's quest – it was Bentham's. Foucault may have been misinterpreted, I would argue, because of neglecting his (later) writings on opportunities for resistance (although ambivalent), over-emphasizing the totalitarian picture while ignoring his analysis of the 'microphysics of power' and, most interestingly, overlooking his own reactions to the accusation: as Foucault argued, it is the theoretical and practical *quest* for such 'power technology' by enlightened thinkers and architects - the idea that such a form of power is possible and desirable - that is the object of his analysis. It is the *illusion* of humanists, Marxists, modernization and other progress thinkers and policymakers, that it is feasible

13 "The proper scientific functioning of the irrigation system not only *required* a 'unitary' irrigator, it also actively produced it." (Zwarteveen 2006:95). In order to produce 'modern irrigators' who are rational in terms of their irrigation (political, economic, cultural) behavior, they need to be trained, monitored, examined and corrected.

14 Ullrich (1984), Illich (1979), Mumford (1971) and Achterhuis (1998) point out how most classic utopias laid the mental groundwork for mechanical thought to discipline and control society. Automated, standardized relationships and principles are reified; individual or local autonomy is sacrificed to the benefit of overall mechanical and standardized progress; deviants are disciplined and visibility of the common people and their conduct is fundamental. These 'visions of future' prepared the ground for scientific and technological development, as much as for despotic, totalitarian societies.

(and morally ‘good’) to gain *full* control by delegating surveillance and morals to and through socio-technical design and implementation.¹⁵ Therefore, my argument:

First, the construction of totalizing, disciplinary, socio-technically automated water control societies is a myth; but the fact that the neat construction of a plan-able water society according to ‘rational designs’ and ‘best water rules and practices’ is an illusion *does not deny its actual power and its capacity to shape contradictions in practice*. Quite to the contrary: even though it is a *mission impossible* for rationalizers, the network is strong and pervasive and the moral ideology requires that efforts to *implement the impossible* continue, simply because it’s ‘the best for all’.¹⁶

Second, in water control analysis, rather than focusing on the (feasibility of) existence of a panoptic irrigation overseer in the form of intentional Big Brother-like techniques or persons, a more fruitful focus is on the (often unintentional) normalizing effects that modern water control discourses and models provoke. The fact that even in 1984 the Orwellian Big Brother (most probably) never existed did not weaken but reinforce the psychological, self-correcting power mechanism. His actual appearance would directly unmask him and his ‘policy discourse’.

Third, even when the Panopticon remains a utilitarian, unrealizable dream for ‘water crisis managers’ and social engineers (or, conversely, a nightmare for the subjected water user population), many aspects of Bentham’s disciplinary and correcting techniques of governance actually do have great importance in water governance practice (the ‘microphysics of power’). As Foucault rightly observes, Bentham “describes, in the utopian form of a general system, particular mechanisms which really exist” (Foucault 1980:164). Together, I argue, it is the *imagination and desirability* of a panoptic-like irrigation system (at local and supra-local levels) that exerts strong power in modern water policy thought and system design.

In short, I suggest seeing and theorizing the panoptical dream of modern water policy makers (and social and technical engineers) as a *hydro-political dream scheme*, or an *imagined irrigation system*, in a sense comparable to Benedict Anderson’s concept of a nation-State being an ‘imagined community’ (1983). The modernist irrigation system is imagined, since the meticulous configuration of actors and non-actors, humans and non-humans, rules, rights and prescriptions, that all work towards a coherent, predictable, ‘rationally optimal’ and ‘morally best’ water control system¹⁷ is an illusion. Nevertheless, despite it being an illusion it certainly is real, since it is perceived as *the* model that is strived for and that *should be* realized in practice. The imagined irrigation system, in which the “actors are ‘acted’ by the network that holds them in place” (Callon 1991:154), has properties that are experienced as real in both the water discipline’s manuals and legislators’ laws *and* in the minds and tongue of water designers and decision-makers.¹⁸ It is the image and imagination of a cultural-political, technological and organizational construct in which and to which everything and everyone should align, which claims to be morally best, politically neutral and technically natural,

15 Achterhuis (1998:269-273) elaborates on Bentham’s consideration that in modern times religious and social control, both guardians of ‘morality’, were undermined (by the dissolving of Church and community structures through urbanization, industrial revolution, etc.). Therefore, a material, architectural support of morality was needed: “utopian utilitarianism as materialized in the Panopticon indeed had the pretension to construct its own god who - embodied in a technical design - was to replace the God of religious narratives” (Achterhuis 1998:270). See also chapter 11.

16 Latour phrased it this way: “Unicorns, bald kings of France, black holes, flying saucers, appearances of the Virgin, chromosomes, atoms, Roger Rabbit, and utopian technological projects all possess, without excess or residue, the degree of realism delineated by their networks” (1991:128).

17 An imagined irrigation system, therefore, also is comparable to a black-box: “When a network is strongly convergent and made irreversible, it can be assimilated to a black box whose behavior is known and predicted independently of its context” (Callon 1991:152).

18 In chapters 11-13 I will discuss the struggle for counter-images of water control systems.

but which in fact (intentionally or not) reflects the interest of a powerful minority,¹⁹ that is presented as *the* model.

How does the development and management of irrigation system technology – the strategic composition and alignment of social and material aspects – function as a powerful instrument to control subject families and communities and normalize their rules, rights and conduct? Let us analyze the case of Licto in Ecuador.

7.2. Modules and tertiary canals: the canalization of power

The case of Licto: a story of oppression and conflicts

Licto, the name of a highland area in the Chimborazo province of Ecuador, encompasses 28 indigenous rural communities; it is also the name of the main town. In these communities, located between 2700 to 3600 meters above sea level, families live from *minifundio* agriculture, with their plots extremely small and scattered.²⁰ A family will commonly own some 10 to 30 plots, generally eroded and steeply sloping, totaling no more than a hectare.²¹ The lack of water and land of sufficient quality, in combination with the demographic pressure, has rapidly degenerated natural resources and yields are ever lower. Therefore, subsistence agriculture in Licto, where women do most of the farming chores, cannot cover a rural household's basic needs. Families try to complement their production by earning wages through intermittent migrant work. Especially the male population leaves to look for jobs in the cities or tries to get temporary work in the areas of intensive agricultural production.

The total population of Licto is 13,000, some 90% of whom would identify themselves as indigenous and 10% as *mestizo*. The latter, many of whom traditionally constitute the local elite, mostly live in the town of Licto. As elsewhere in the Andes, there has been a long history of white-mestizo landowners and other local elites subordinating the indigenous communities.²² They were the owners of the stores and the shops, controlled the local market place, and forced the indigenous peoples to sell their produce to them, sometimes for very low prices, sometimes by using extra-economic force, simply taking away the animals and harvest of the indigenous who came down to town. They resold the products to other markets, or to the indigenous communities in times of scarcity, for far higher prices or in exchange for their properties. The situation has been characterized by discrimina-

19 In Ecuador and Peru, a minority of powerful families dominates State policies, just as a minority of non-indigenous engineers and male, upper-class professionals dominate irrigation bureaucracy. This does not mean that the State is a unified source of intention and power. It is a non-monolithic set of social and material institutions; it is a battle ground; and it is an ideological system that is imagined and sustained by discourses and practices (see the parallel with the imagined irrigation system).

20 My fieldwork and action-research with the Licto communities was done throughout the years from 1992 to 1997. This chapter's interviews were held in 1996, 2000, 2002, 2004 and 2007.

21 In 20 years, landholding has dropped from an average of three hectares per household to just one. Moreover, this average does not reflect the unequal distribution of land, and most families own no more than half a hectare, with only rain-fed production.

22 Relations of political dependence and exploitation among white-mestizo district villages and the surrounding indigenous communities in Peru and Ecuador are well documented, as is the often outright oppression of 'lower-class mestizos' by the village ruling class (*blanco-mestizos*, *mistis* or *criollos*). See, e.g., Arguedas 1956, 1975; Degregori 2000; Flores Galindo 1988; Gelles 2000; Guevara 1993; Guillet 1992; Haro 1977; Mayer 1988, 2002; Murra 2002; Orlove 1977; Salman and Zoomers 2003; Salomon 2002; Sánchez-Parga 1986; Skar 1997; Valderrama and Escalante 1998; Van der Ploeg 2006.

tion and exploitative trade; so, too, collective labor was until recently expropriated by the landlords to serve their private economic goals. Many are the stories of recent oppression:

“I saw so many injustices here in the community, especially since the hacienda owner lived here. The landlord came one time, and since a boy had hit one of their children, they hanged him in the hall. There were so many injustices then. Since then, I had this dream, someday this situation must change, yes, since I was a little girl... When the landlord died, this land began subdividing up. A large group of the wealthiest began to get more land. And the poorer ones, beginning with the women, who were widows, who gathered grass, were being left practically powerless, that is, without even a little piece of land.” (Ana Taday, community of Molobog).

During much of their history, Licto has been dominated by ‘the holy trinity’: the priest, the hacienda owners, and town’s governors. Communities were subordinated through *huasipungo* and *yanapa* structures (see chapter 4). *Patrón*-Indian bondage in Licto dates back to very recent years, but is rooted in centuries-old power structures and based on fixed categorization into superior and inferior races. The penetration of the master into the servants’ livelihoods and lives was direct, strong, top-down, and very much personalized, often coined in terms of ‘protection and reciprocal counter services’. In Licto, *indios* and ‘*cutos*’ (lower-class mestizos serving the ‘*blanco-mestizos*’) were captured in permanent exploitative bondage, and ties were reinforced through *compadrazgo* relationships among the white-mestizo patrons and the Indians. This linked an affective element to a relationship of blatant abuse and profound racism, making struggle against this exploitation even more difficult.²³ Besides hacienda bondage, to keep indigenous people in straits, comuneros were subject to imposed Church obligations such as fulfilling the post of ‘*prioste*’, who pays for festival expenses. As Edith Hernández (community of Cuelloloma) relates:

“In Licto there were too many festivals, almost every community would celebrate the ‘reyes’ weekends, coming down to Licto parish on Sundays, or Saturdays, and going back home on Tuesday – tremendous parties. This meant lots of money for the priests, who would charge for holding mass whatever they felt like, so the poor people had to go into debt, selling their land to finance these celebrations [...] The priest would appoint the *prioste* who had to pay for the festivities, so since the priest was the Second God on earth, they could never refuse – if they did the priest would excommunicate them. When they died, the priest would not hold a mass for them and without those prayers they would go to hell, so they were afraid and had to hold the parties. They had to pay for the ‘royalty’ costumes, they had to pay for the horses, they had to pay the priest, they had to make plenty of food for all the partiers, to feed those who played the royal roles, almost a week of partying. The husbands would have to emigrate, to work abroad to pay for the festival expenses, and if they couldn’t cover all they owed, they would have to sell more land, mortgage their land to the *chicha* makers to cater the celebration, and if they couldn’t pay what they owed, their land would be auctioned off. There was too much exploitation”.

23 Credit and share-cropping arrangements further strengthened the subordinate ties among the white-mestizo power group in town and the indigenous communities. Of particular importance was the fact that collective labor investment arrangements, to upkeep the common good in the Licto communities, were powerfully expropriated by the landlords and served their private economic goals (see chapter 6).

Until a few years ago, any activity to change the indigenous communities' marginalized situation would be attacked by the powerful blanco-mestizos, furious about every threat to their hegemony (see chapters 6 and 13). Over the last three decades, however, the country's socio-political context has changed; from feudal exploitation to capitalist, market-based marginalization. The hacienda system was also fiercely challenged by an increasingly organized indigenous peasantry and the State had to react to both the resistance of haciendas against 'modern production relations' and the social unrest, revolts and '*tomas de tierra*' ('land takeovers' as in the Tunshi case, chapter 6) by peasant and indigenous communities. The democratic period, since 1979, has opened up new political opportunities for the oppressed people and since their massive 1990 national uprising the indigenous peasantry, under class and ethnic banners, have increasingly achieved recognition as a major social and political factor in Ecuador. Particularly in the 'indigenous province', Chimborazo, the poorest and hardest-hit by hacienda oppression, local struggles were fierce, as was government reaction to 'bring development' and re-install control.

In the Licto zone, although the forms of exploitation have shifted, ethnic and class-based discrimination endured. Large-scale rural development programs have attempted to foster 'progress' and repair State control, while hidden agendas have been closely linked to cultural assimilation. In Licto, because of liberal policies and attempts to 'capitalize the countryside' and with extreme poverty as the backdrop – which provides fertile ground for politicians' schemes and projects of charity institutions – there have been countless promises from outsiders, and just as many hoaxes and disappointments. Therefore, when the indigenous Corporation of Peasant Organizations of Licto (CODOCAL) was invited, in 1989, to take part in an ambitious irrigation project in the zone, many local indigenous residents were wary. This Integrated Rural Development project aimed to build and implement the Guarguallá Irrigation System. Hesitancy was stronger yet because it was precisely the mestizo people living in Licto town who had promoted this project through their contacts with the Ecuadorian Institute of Water Resources (INERHI), at that time the State irrigation agency. Moreover, the many delays and few tangible results of activities to set up the irrigation system had already dragged on for some 20 years. Nevertheless, seeing it as the way to escape poverty, for strategic reasons ('water is power'), and swallowing the participatory discourse, CODOCAL joined the project. In 1990 the agreement was signed among INERHI, CODOCAL, the Swiss Agency for Development and Cooperation (SDC, the donor), and an NGO, the Ecuadorian Agricultural Service Agency (CESA).

The 'final design' and the legislative recipe

INERHI had been working on the studies, designs and construction of the main canal and head facilities since 1974. Despite claims of public participation, it was a classic example of a vertical design and implementation process; it completely excluded the rural population from any decision-making. As Lauro Sislema (community of Chumug San Francisco) observed:

“When they first told us how the irrigation system was going to be, we didn't understand, because we had not been involved in any of the studies. They simply told us they needed some people for the *minga* work parties, to clear some trails so the topography team could continue their survey, but the INERHI people never told us what we were going to do. We were unaware of the work they were doing. Only INERHI made the designs, doing the work in their Quito offices, not even in [nearby] Riobamba.”

Indeed, designs were prescribed from the offices in Quito, by technical staff unfamiliar with the rural reality, who had contact only with the white-mestizo elite in Licto town. All plans and drawings had been prepared in detail on the basis of pre-established, physical-technical criteria. Studies as the property census mapping were prepared on the basis of aerial photos and sometimes quick field checking without involving residents who, anyway, mostly refused to collaborate in such rapid studies ‘meant to make us pay taxes or to take away our lands’. Therefore, findings were quite unlike actual reality and in general, even in the technical realm, the designers had only vague notions of the actual field data indispensable for making an apt designs. Nevertheless, the designs - that closely resembled *all other* State systems in the country and closely followed the national manuals and designing standards -, were presented and accepted under the 1990 agreement as ‘the final designs’.

The design of the system, for which part of the main canal had already been built in previous years, planned to irrigate 1340 hectares with a flow rate of 1100 liters per second (later adapted to 1700 hectares and 1200 l/s, see chapter 13). For this purpose, several tunnels and inverted siphons were to be built, among them one siphon with 300 meters of pressure, 1500 meters long. The main canal is 26 kilometers long and secondary canals continue, carrying the water to the downstream command area communities.

In the agreement INERHI was made responsible for finishing construction of the main system infrastructure, and CESA and CODOCAL would implement the Integrated Rural Development project, with components of forestation, agricultural productivity, soil conservation and a ‘women and health’ program. Moreover, they would have to establish the users’ organization, train future irrigators and implement INERHI’s tertiary canal designs. But during project implementation, there was a wide divergence regarding objectives, capacities, and work approaches between the NGO and the government agency, with many conflictive encounters. CODOCAL, on the other hand, did not have any power to make proposals or to present objections. These facts fostered a marked separation between the design/construction of the physical facilities, on the one hand, and the organizational capacity-building proces, on the other. To implement the irrigation facilities according to its designs (done wholly by deskwork), INERHI hired in private enterprises through so-called public contracting procedures. These contractors’ lack of commitment to the system, together with their technical ineptitude, not only led to acts of corruption, to explosive cost overrun, to delays and poor-quality canals, but also made it impossible for future users to become involved in decision-making about system design and implementation.

The technical choices made by INERHI were remarkable: they were entirely based on expert’s high-tech knowledge, capital-intensive facilities and unnecessarily large-scale solutions. From the outset it could have been clear that the many-kilometers-long conveyance tunnels, the huge inverted siphons to cross gullies and river valleys, and the enormous biophysical works needed to protect the main canal cut in extremely unstable slopes, would never be economically profitable, and that the task of making the system technically and organizationally sustainable would be enormous. This high-tech, capital-intensive bias in Ecuadorian State irrigation systems has to do both with the professional background of agency engineers, who were all trained in Western hydraulic engineering technology for large, flat irrigation areas (applicable only in the coastal area of Ecuador), but also with the ‘revenue-seeking’ culture of the agency and the private companies it worked with.²⁴ Many

24 ‘Revenue-seeking’ refers to actors (politicians, private enterprises, agency employees, etc.) who seek illegitimate benefits and try to shape public policy and the direction of public funds to their own advantage (Moore 1989). INERHI was notorious for it, which was an important motivation for neo-liberal bankers and policy-makers to promote its dismantling in the 1990’s and privatize most of its functions. They reasoned that such illegitimate activities prevent the free market from

cases were reported where original designs had been reframed to become far more expensive, under pressure of private construction companies who had paid illegitimate ‘bonuses’ to the agency to get the contract. They now could blackmail and claim ‘the benefits they were entitled to’. For contractors, the more the designs were over-dimensioned the more they could tap public and local farmers’ resources.²⁵ The public agency employees in charge of monitoring quality of works constructed by private enterprises were unable to present reliable reports since they were forced by their bosses to accept extremely poor works – the latter having received illegitimate payments from private companies or being threatened with public scandals about initial corruption.²⁶ In Licto, as in other public irrigation systems in Ecuador, the nowadays universally promoted Public-Private Partnerships in water development proved to be a strong hindrance to cost-effectiveness, timely delivery of irrigation works, good infrastructure quality, and most of all, to constructing a technological system that would fit the needs, demands and capacities of the user population.²⁷

Where INERHI almost exclusively focused on design and construction of infrastructure, by contrast, CESA and the CODOCAL ignored the irrigation system’s ‘technical aspects’ during the first two years of the agreement. That was not their mandate, they concentrated on the ‘social processes’ and thought that it was beyond their capacity to analyze the design and construction of infrastructure. During these first few years, the CESA team did not have a thorough grasp of the great impact – negative or positive – that technical irrigation designs have on social organization, labor processes (e.g. day-to-day water scheduling), authority structures, and the future distribution of benefits and burdens within the production process. CESA and CODOCAL concentrated on many ‘training and organization’ activities, but did not get seriously involved in what would become the nexus of power in the zone: the water itself.

Not surprisingly, the technical standards, organizational norms, cultural assumptions, and political structures of command, of both INERHI designers and their white-mestizo allies in Licto, were firmly imprinted on the technological design. Through technical decisions and socio-political scripts embedded in the final design, it subtly reflected class, ethnicity and gender differentiated biases and interests:

- According to the plans, the main canal would first benefit the town’s mestizos, some 500 ha. at the head-end of the system. This would yet again undermine the situation of the indigenous communities, located at the system’s tail-end, and reinforce prevailing power structures and dependence on water delivery by the upstream sector (see figure 7.1.).

functioning well in the irrigation construction and management field. The WALIR program demonstrated that although rent-seeking was indeed an enormous problem for State irrigation, the neo-liberal solution to brusquely privatize the sector had induced devastating consequences, particularly for the poorer groups. The remedy was worse than the disease (Hendriks et al. 2003, Cremers et al. 2005, Boelens 2006f).

- 25 Such practices not only led to the waste of sizable public financial resources, but also made the project drain far more user family resources. For example, the exaggerated dimensions of platforms (sarcastically called ‘airplane runways’ by the local farmers) for locating the main canals led to the outright expropriation of far more small-holders’ fields than necessary (Boelens 2008).
- 26 For private contractors, moreover, the mode of contracting implied that actively causing time delays in works execution was financially very favorable, since the interest earned by putting advance payments in a bank account or investing it in other business activities was much higher than the financial penalties they faced for these delays.
- 27 Such interactions among State agencies, multiple private companies, diverse water user interest groups and a number of NGOs in the Licto irrigation development process show the need to look beyond dichotomous representations of ‘State versus water users’ relationships.

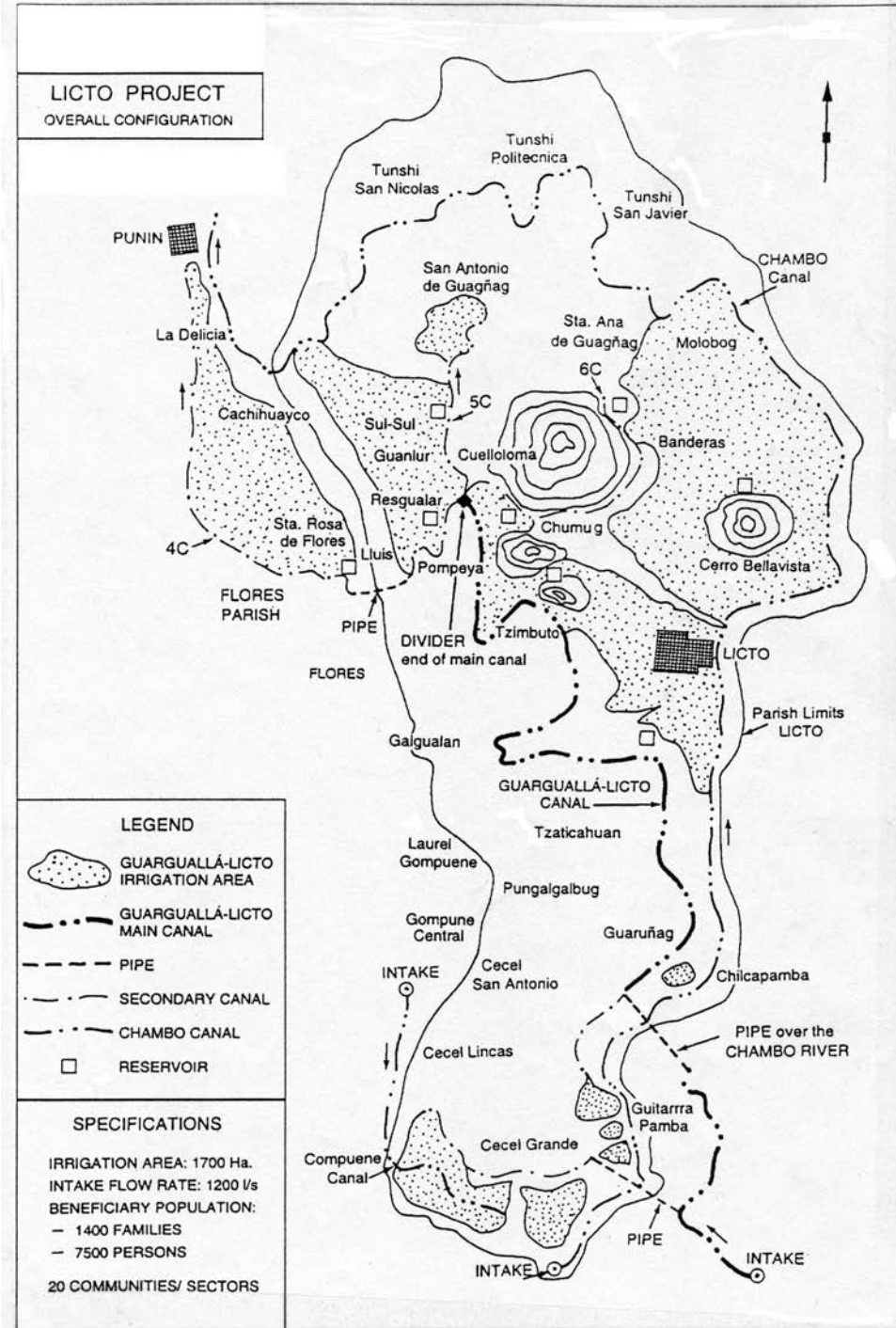


Figure 7.1. Map of the Licto-Guarguallá Irrigation System
Source: Boelens 2002 / CESA

- The design would distribute water to irrigators according to the size of their holdings, regardless of the local norms that water rights acquisition foremost depends on active participation and labor investment in building the system.
- The canal layout excluded various communities and rural groups of the Licto parish²⁸ who belonged to the CODOCAL and who – in local terms: as active ‘water rights creators’ – had always considered themselves part of the future system and identified with Licto hydraulic culture and property relations.
- At the same time, aside from the Licto parish, the INERHI system included the parishes of Flores and Punín, with communities and inter-community organizations that historically had never joined Licto communities’ water control efforts and its overall, hydraulic property creating community. This way, for either geo-political ‘divide-and-rule’ reasons or unconscious side-effects of ‘rational design’, the INERHI design artificially generated water scarcity, induced struggle among communities, and entirely undermined the local logic and power of property creation.
- For ecological reasons water was distributed with a relatively large flow to irrigate forests and brush in the gullies. This generated additional scarcity in a context where needs for irrigation water in *minifundio* agriculture were great.
- The technical design would provide water around the clock and did not include night reservoirs, thus mandating nocturnal irrigation. However, this script implied severe problems for humans and nonhumans alike. It would induce the rapid degeneration of the already widely eroded land in the indigenous communities, with steep slopes, shallow topsoils and impermeable subsoil layers. (Not surprisingly, the white-mestizo lands were relatively flat, big, and with deep soils). Further, because of the heavy male out-migration, most future irrigators in the indigenous communities would be women, many of whom would have great problems *exercising* their water rights: at night, women cannot go out, either because the husband or mother-in-law refuses to grant them permission, or because they have to take care of their children, or because of the zone’s dangers of sexual violence. Another obstacle for them is the fact that they already have a huge work overload – their land is so scattered that, in case of a 24-hour irrigation schedule, they would have to be constantly walking, day and night, from one plot to the other. The elderly would also have serious problems concretely using their water rights at night.
- The design included very large hydraulic blocks (tertiary units, in Ecuador called ‘irrigation modules’)²⁹ and, as a result, large field flows, apt to irrigate the large fields and deep soils of the wealthy but generating severe problems for the above-mentioned small, shallow, steeply-sloped minifundio plots.
- The INERHI design included a prescription of the agro-productive system in order to calculate water requirements and thus water schedules and canal dimensions, to establish (cash) cropping patterns that would render the system economically feasible, and to achieve the objective of incorporating users, communities and their production into the (inter)national market system.
- Finally, the canals and hydraulic sectors were designed purely on the basis of technical and geographical criteria, thus ignoring community boundaries. The drawing and implementation of

²⁸ A parish is a geo-administrative zone in Ecuador, often corresponding with the territory of intercommunity organizations as the CODOCAL.

²⁹ Water scheduling in large blocks is easy to coordinate among just a few large owners, but tends to create water distribution chaos when hundreds of small plots are included in a single block. **It would thwart future self-managed water distribution.**

hydraulic blocks, according to INERHI norms,³⁰ ignored outright the locations of existing communities, and the fact that the modules would cross socio-organizational and cultural borders.

This blueprint design was bolstered by an organizational and legal design, grounded in national law and uniformly enforced nation-wide. The latter reinforced the above technical scripts, thus supporting the socio-political consequences to emerge – some intentionally, others not. Together, the technical and social designs provide a picture of the imagined irrigation system and its embedding in national water control policies.

For example, INERHI's Regulations for Administration of Irrigation Systems (MAG-INERHI 1992) established that each irrigation module should appoint five officers (president, vice president, etc.). Considering that Licto would have some 120 irrigation modules, this would entail appointing some 600 new leaders, *parallel to the existing community leadership structures*. These modules would disregard community boundaries, and would be headed by a General Board. As individualized members, irrigators would have to obey new authorities and norms in control over one of the most powerful resources in this arid region. So, a set of additional organizational structures would be created that, being in control of water, would be very powerful. This would surely interfere with, dismantle and supplant the community (non-modular) structures that ensure collective survival. It would imply that not only the leadership of the communities, but also the assemblies, meetings and community work efforts would have to be artificially reorganized, literally 're-modeled', according to the new modular subdivision. The power of the State agency and local elites would exert an even stronger influence on daily running of the irrigation system, intensifying their domination over local livelihoods and subsistence strategies.

Authority and lines of command and obedience are clearly set by INERHI's unitary framework.³¹ Users' rights are restricted to just watering their fields (Art. 8.a.), decision-making on minor issues whenever in line with the norms established by INERHI, and receiving support from INERHI to make "adequate and rational use of the water" (Art. 8d). Water rights, indeed, refer particularly to operational rights and responsibilities and not to the bundle of decision-making rights (see Table 2.1, chapter 2). But collective choice rights are certainly not entirely forbidden or negated, rather, they are reformulated in terms of the hydro-political dream scheme that forms part of public (not local) control. Obligations, on the contrary, are multiple.³² Moreover, Regulations set a single blanket fee that everyone would pay for water service, in this way ignoring user labor and organizational contributions, as well as the broad, national diversity in system productivity and profitability.

Clearly, the tone of the legal-administrative framework is overwhelmingly paternalistic. As I will elaborate below, however, this paternalism and the restrictive rules ('coercive', chapter 6), characteristic of the époque of the bureaucratic irrigation tradition (chapter 5), are already thoroughly mixed with capillary power mechanisms that aim to include users in the imagined irrigation system based on self-monitoring and -surveillance. To do so, INERHI's target was to simultaneously replace existing

30 "A module is the given flow rate assigned to irrigate a given land area, which will be established by INERHI, according to the corresponding climate, soil, crop, water and irrigation method studies." (MAG-INERHI 1992, Article 5).

31 For instance: "It is INERHI's responsibility to design the canals up to the head of each irrigator's farm (Article 20); INERHI will have the power to administer, operate, oversee and maintain hydraulic structures and drainage works of the system (Article 33.a.); INERHI irrigation system infrastructure, except for canals inside irrigators' land, shall be operated exclusively by INERHI personnel (Article 31)", etc.

32 For example: to pay, on a timely basis, the amounts owed to INERHI for rental or any other reason related to system water service (Art. 9.a.); to be accountable to INERHI for any damage caused to facilities it has constructed and pay the costs of repair thereof (Art. 9.c.); to use solely and exclusively the allocated flow rates, during the established schedules (Art. 9.d); to immediately report to INERHI in writing about the transfer of ownership over the property to third parties (Art. 9.h.); etc.

rules, rights and organizational arrangements with new legal principles; deploy artifacts and techniques to construct and sustain new social and economic alliances; and use the modern irrigation system as a vehicle for inducing a new political culture based on government rationality, national order and modernizing progress.

Techniques of governance: a political anatomy of Licto water control disciplining

In ‘Crafting Institutions for Self-governing Irrigation Systems’, Ostrom defines a ‘design principle’ as “an element or condition that helps account for the success of institutions in sustaining the physical works and *gaining the compliance of generations of users to the rules-in-use*” (1992:68, my italics). But unlike what is suggested, this is not at all a design principle limited to the art of local community governance, it equally applies to all techniques of governance that shape the art of ‘external’ or State control. The latter, obviously, would define ‘success of institutions’ and ‘rules-in-use’ in different terms and are concerned with how to introduce the most efficient and effective way of managing individuals in an irrigation system so that each fulfills the rules put forward by the State administration and national policy goals. How to introduce economic priorities, social order, and forge a water users population that is non-resistant, productive, that can be used, transformed and improved through standardization of actions, and sustain physical and social (net)works over time. Here, ‘gaining compliance’ (or in other words, alignment) is fundamental to improve power efficiency and effectiveness. Not surprisingly, as in the Panopticon, the latest (neoliberal) strive of the dream scheme policy-makers is to have local irrigation systems *self-governing* and ‘autonomous’ – obviously, as long as there is compliance with the national or international policy objectives: *‘autonomy’ as the ultimate objective of disciplinary control.*

Despite the fact that irrigation water practice is much more stubborn than irrigation system imagination³³ the INERHI design clearly has a ‘coherent vision’ on how to structure reality. It would be erroneous to consider the fact that the system is largely un-adapted to the local context as a simple proof of the agency’s incapacity. The State’s aim is not to adapt but to transform and control. It is the *users universe* that is to be adapted. In the socio-technical design, the way of organizing human labor links up several functions: a productive function (it drives water users to produce more); a symbolic function (it clarifies the structures of command and authority), and a normalizing function (users, as individuals, are overseen and oversee, in order to (self-)correct and fit in with the system’s objectives, norms and command structures). The INERHI approach includes techniques based on drills and legal and technical training to foster obedience, but not in isolation; more powerfully are the mechanisms based on the standardization of actions and procedures. Together with designs that aim to get external control of local production (e.g. the agricultural cropping pattern), local space (e.g. the contested command area of the Licto system, or the splitting up of communities) and local time and labor (e.g. water scheduling) they constitute a powerful set of techniques of governance.

In the governance game, the State and its agencies, just as development institutions, ontologically and socio-technically construct their subjects. For this purpose, they “naturalize distinctions that have little or no basis in nature” (Kearney 1996:49). This is not just a cognitive or abstract affair. Through its techniques of water governance (for example, water user registers and irrigation schedules, land titling, or the ‘standard application’ for water use rights), the State essentializes and constitutes its politically dependent categories of water users, both in terms of what it labels water

³³ I will analyze challenges to the Licto water control illusion in chapters 12 and 13.

control objects (command areas, modular units, individual plots, etc.) and in terms of the subjects it aims to govern (e.g. individual user, Junta de Regantes, Consejo, Directorio). Below I will review some of these governance techniques:

a. The Command Area: The definition, design and installation of a Command Area (the irrigation term, from military discipline, is revealing) delimits the boundaries of direct State control over water, water users and their landed properties. Particularly the construction of a new large water intake that is able to cover a new area including several existing systems (previously irrigated by other down-stream water sources) creates a very powerful tool for government control. From the source down to the lowest units, local water rights and regulations are brought under government control. Legislation and organizational designs incorporate local water leaders into the new, formal structures of command.

Often such intervention may initially be requested by the people who come to reside under this new form of control, since the focus is on ‘extra water’ and ‘development’ while the process of political-organizational disciplining and the normalization procedures are hidden companions of ‘command area development’. In Licto, local spatial-organizational rationality was entirely overruled. Strategically, INERHI waited for many years to publicize the map: only *after* the phase of ‘final design’. As observed earlier, some local water user communities were excluded, other non-participating parishes were included. Since Spanish times, and particularly in the last decades, the Licto region was seen as a ‘rebel area’ and irrigation development could (consciously or not) serve as instrument for the extension and intensification of State powers of surveillance and territorial control. Demarcating the users in their scientifically (not vernacularly) defined territory and controlling the areas geo-politically goes further than direct water territory governance. The active embedding in a network of control, where national level legislation, administrative institutions, and water agencies link to provincial level institutes, which in turn connect to district systems and user organizations, that again control local communities, farms, irrigation plots, etc., reinforces an extensive ‘command structure’.

b. The Individual Water User: Water users are solely and exclusively those persons “who have title to their property and approval of their Standard Irrigation Service Application by INERHI” (Article 4). In order to naturalize and at the same time conceal control of individual water users, techniques bind them as State subjects capable of being monitored, sanctioned and normalized in a time- and cost-efficient way. The Standard Application (‘*Solicitud Única*’) can be considered as what Callon et al. (1986) called an ‘obligatory point of passage’: in order to get water rights, users who are not registered in the State system *have* to pass through this technical-administrative point of passage, i.e. register all their data and properties, pay the fees and taxes, and fulfill the corresponding obligations. Thus, the State’s control can be concentrated on such points in a ‘power-efficient’ manner.³⁴ Authority over and legitimacy of these central junctions in the socio-technical structure are key to water control and constitute foci of contestation whenever its so-called ‘natural character’ is grasped and challenged by the users.

Through its water rights system the State (in both the bureaucratic and neoliberal tradition, see chapters 8 and 9) denies locality and particularity – since it focuses on creating a nation-wide, standard-

34 Vos (2006) provides similar examples for the Peruvian public administration system: voting is mandatory; registration as a voter can take place only after paying taxes; escaping from voting means societal exclusion since without the proof of your voting you have no rights to any services (credits, property registration, business opportunities, etc.). Irrigation regulations in Peru and Ecuador construct similar points of mandatory passage.

ized water control playing-field – and individualizes water users and water management. The rights-and-control structure in State systems explicitly relates to *individual* water users, and actively neglects existing forms of collective water use in the command area.³⁵ Many individualizing techniques join the water power game. A forceful instrument is the program for individual land titling that often accompanies State irrigation development; the shaping of place-fixated subjects and objects is not just for water design and scheduling purposes but also for levying taxes, introducing market transfers, etc.³⁶

In creating its subjects, the individual's attributes are also an important design parameter. Irrigation agencies in Ecuador and Peru, as a seemingly neutral, administrative issue, devise the category of 'water user' as the family's representative. A first consequence is that it is not the family or household that obtains the right to use and decide about water (as is common in many local systems), or that either person within a household can occupy posts in the water users organization, but only the individual, 'head-of-household' (see chapter 11). As a purely legal category this abstract notion, water user, is gender neutral. In practice, however, the junction of these legal categories with (masculine) officials' and water professionals' own legal interpretations, male-biased flyers and letters, male-oriented training, strongly normative irrigation manuals, women-unfriendly time schedules, or the non-accessible capacity-building techniques for most women (just to name a few common features of water agencies and NGOs), manifest how the right-holding water user is masculinized. The individuality and preferred gender-ness of the water right-holder are subtly constituted and intertwined with the 'natural' lines of obedience (in-house and externally) and the 'rational' mode of water management.

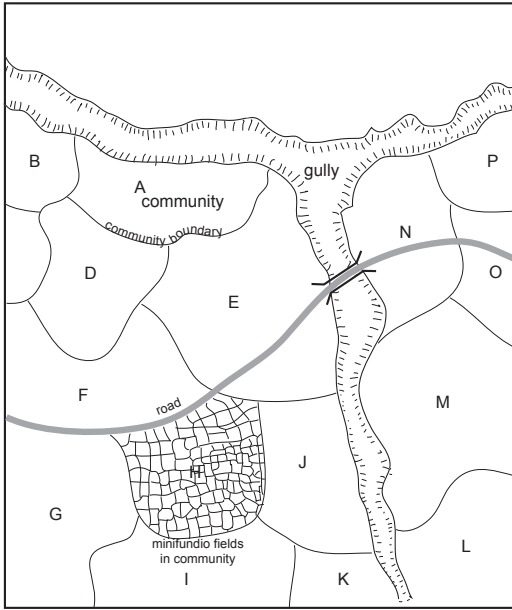
c. Infrastructural design and modular mapping: The foregoing section showed how the norms embedded in system and artifact design closely correspond to the prevailing power structures. Intentionally or not, the shared class and ethnic background of INERHI designers and power groups in Licto town fostered the inscription of distributive and control norms in the canal layout design, benefiting the elites located at the head-end and reinforcing their power over indigenous tail-enders. Also, by the non-inclusion of night-reservoirs and the nocturnal irrigation plan they clearly added their gender norms to the design. Secondary canal dimensions, moreover, were too small to include reservoirs or allow for water scheduling alternatives. Expensive, complex siphons and irrigation facilities inscribed user dependency to State engineers and the market of artifact and high-tech knowledge providers, etc.

The modular mapping and design of hydraulic blocks is one of the most fundamental control techniques applied by the State agency, and neatly merges technical, organizational, legal, and political aspects. After having constructed the subject – individual right-holders – modular blocks 'subject these subjects' in a broader category that fits the State authority structures. Individual irrigators are spatially organized and classified into arbitrary hydraulic blocks (that is, blocks defined not by existing social structures but by technically and scientifically determined criteria. Figure 7.2.b). Existing, and in the eyes of the agency 'ungovernable' communities and social networks (Figure 7.2.a), are to be *contained*, ideologically (through a discourse emphasizing 'efficient, rational water use and modern organization'), legally (official prescriptions for modular and supra modular user or-

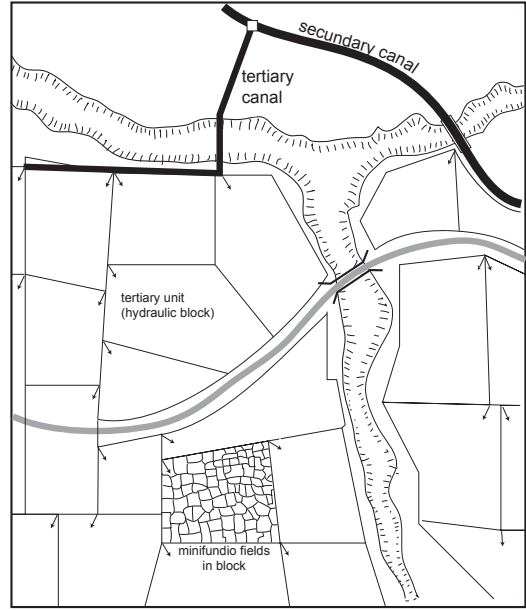
35 In Ecuador, a 'collective water right' may be allocated to non-State, 'private systems'; in Peru all water titling relates to individual users.

36 By contrast, Andean communities have their own ways of relating water allocations to either communal lands or to the highly dynamic and parceled individual properties within their communities.

ganization) and technically (in, for example, the modular canal layout laid down in agency designs). The grid of these spatial units permits supervision and disciplining. Technical-organizational details facilitate efficient production, control, and self-correction: area-based modular flows, rotational delivery, module-specific cropping patterns, formal administrative procedures, standard election and representation procedures, module-based authorities and unit organization, etc.



1. Existing community boundaries



2. Hydraulic blocks



3. Disintegration and displacement

Units, reformulated in terms of rational water distribution and government control, cut across community boundaries and existing socio-cultural structures, undermining the collective's authorities and collaborative arrangements that ensure endurance of the community and its parts.

Figure 7.2.: Community disarticulation by State's hydraulic-political-administrative blocks
Source: own elaboration

Indeed, governance designs in Licto envisage control of water flows, of the production system and economic flows, and of the political organization. In other words: ‘to put Licto water users and water affairs in their place’. The strategies, or at least their effects, are also subtly (and probably unintentionally) directed at *displacing* existing families and communities. Physically this displacement reallocates them in a new geographical space determined by the boundaries of the ‘technically optimal’ tertiary water control unit; politically and normatively it displaces them out of the community socio-legal and organizational framework and reallocates them in a new command structure (Figure 7.2.c and the below section e.). Together, this displacement also seeks to fundamentally alter their identification with ‘*the community*’ and consequently, it aims to align water user families according to new, officially defined identity categories and hierarchies.

The powerful divide-and-rule moduling technique is common to all State systems and has survived, as a fundamental tenet of Ecuadorian water governance, even throughout the era of privatization, State downsizing and management transfer. Van den Dries writes in his Píllaro system report that despite the users’ strong arguments and insistence to design the modules in line with existing community boundaries and organizations, “the CORSICEN engineer in charge of irrigation design and implementation stated, at a meeting with Píllaro project representatives, that users would have to adapt to his blueprint because CORSICEN cannot and does not want to change its plans. Along these same lines, Irrigation Boards in each community will be unnecessary and must be replaced by each module’s Irrigation Boards” (2005:3).

d. Water allocation rules and scheduling arrangements: Modes of water scheduling significantly determine day-to-day organization, collaboration and production opportunities and restrictions, and the way benefits and burdens or water shortages are distributed (e.g. to the tail or the head-end). Local Andean systems apply a great variety of scheduling criteria and techniques, as a materialization of their water rights frameworks (see Boelens & Dávila 1998). Typically, water schedules order people, time, space, and natural resources according to locally negotiated equity criteria and the historical and agroecological context. Not surprisingly, from an agency perspective, it is also a powerful technique for establishing social order and productive rationality, putting users in straits. In Ecuador, moreover, apart from prescribing this watering order, the legal blueprint establishes that irrigation is mandatory, “all land under the canal must be irrigated” (Art. 51). A subsequent norm establishes that: “...distribution of water, the irrigation system, intervals, volumes and times for irrigation, shall be handled on a technical basis”³⁷, and that water allocation is to be established according to plot area.³⁸ Thus: in Licto and other State systems, wealthier families with more land area *have to* receive greater project investment and more water. This makes it legally impossible to consider local criteria of equity, such as a more equal distribution of water among all users in times or systems of scarcity. Moreover, it actively undermines the local rights notions based on hydraulic property creation; people now could get rights without participating in *mingas*, through a ‘modern’, monetary, administrative act of formal acquisition. As such, it destroys the very basis of local system development and upkeep. Inés Chapi explains: “Those who never showed up at collective working parties and user meetings thought that they could just claim water rights and take the water: ‘since water

37 Article 40, Chapter IV, Water Law Regulations.

38 This is similar to laws enacted in the other Andean countries. Gerbrandy (1991) describes how the Bolivian agrarian reform law establishes that water must be used ‘in proportion to crops’ (Cf. Bustamante 2002). On similarities with Peru: Del Castillo 2004; Gelles 2000; Guevara 2006; Hendriks 2006; Oré 2005; Verzijl 2007.

is from the State, the State will have to build the system, and we can simply take the water when it arrives'. They argued that there is no need to work or organize for your water rights".³⁹

e. The legal-organizational design: Since the bureaucratic transition, the State has centered much energy on extending its control to highland irrigation systems by prescribing water user associations and forms of distribution, and including local systems in the national policy framework (Cf. Lynch 1988a; Gelles 2006). In Ecuador the installation of *Juntas de Regantes* and *Directorios de Riego* are key to this effort, as in Peru the *Juntas de Usuarios* and *Comisiones de Regantes*. "The Irrigators Board shall operate under the technical, legal and administrative provisions set forth by INERHI" (Art. 37), and "To be a Board member, one must be on the irrigators roster prepared by INERHI" (Art. 41). The idea is to create new leadership structures that are cut loose from existing relations of community and authority, who do not have the obligations of reciprocity and redistribution that prevail in the locally existing systems. New community-based institutions become an extension of State power.⁴⁰

Contents and tasks of each of the leaders' posts in the system – the Council of the Junta de Regantes consisting of the President, Vice President, Secretary, Treasurer, Administrator – is precisely prescribed. Despite being unpaid, mandatory posts, the model assumes profound loyalty to the State agency and strict collaboration with its objectives, means and methods of control.⁴¹ Interestingly, the State assumes self-control by user representatives *even within the Board*, regarding information that is to be handed over subsequently to the State agency: "The Council of the Irrigators Board must: receive reports from the President, Secretary, Treasurer and Administrator, regarding performance of their duties (Art. 46.j); send the District Chief an annual report with the itemization of work and investments made, as well as performance of the President's duties" (Art. 46.k). Particularly the Administrator has important intelligence tasks for INERHI.⁴² He must also monitor water fee payment and deliver collected fees to the agency (Art. 49).

In the legal structure, local conflict resolution arrangements were formally abolished. Since INERHI's establishment, conflicts were to be settled by INERHI agencies – first by regional agencies, and finally by the central administration in Quito. But although the authority for control, surveillance and sanctioning lies fundamentally with the State, the agency – particularly after the Management Transfer period – increasingly assumes that users themselves will perform these tasks, *maintaining* the prescriptions set by the State normative framework.

f. The water fee payment register: Individual fee payment to the State, even when collection is handled by the user organization, constitutes a powerful technique of governance that goes far deep-

39 Current experiences after the Management Transfer Era indicate that nothing has changed in this regard. Van den Dries (2005) shows how in the Pillaro system (Ambato) the State agency neglects all farmer proposals for distributing water scarcity according to equity criteria, and sticks to rigid legal schedules (compulsory irrigation of the entire area below the canal, irrespective of water availability; i.e., a combined creation of water scarcity *and* social differentiation).

40 Whether this assumption of designing and ordering State power actually follows the planned track is a question I will deal with in chapters 12 and 13.

41 For example, the Board has the duty to: "observe and enforce technical and administrative provisions issued by INERHI (Art. 46.a); enforce provisions of the Water Law, the Regulations and its By-Laws (46.b); collaborate in preparing and updating the irrigators roster (46.d); organize irrigation schedules for fee collection (46.e); require the flow rate for each user to be monitored by devices that make it quantifiable (46.f.); enforce legal penalties on irrigators who default on their obligations (46.i);".

42 He is assumed to: "Keep daily records on aqueduct flow rates and make sure the water is efficiently used and reaches the proper destinations (51.b); denounce to the Council water theft, distribution alterations and destruction (51.c)", etc.

er than just collecting money from users. The radical, activist critique – ‘*water is life and cannot be monetized!*’, or: ‘*poor peasants cannot pay!*’ – entirely misses the crux and is absurd in the light of common local practice: most water users do pay for other agricultural inputs and water fees are minimal compared to these acquisitions; moreover, in the great majority of self-managed systems in the Andes maintenance is paid for (either in kind or cash) and users realize that this is the only way to maintain collective property and sustain local livelihood.⁴³ Thus, a very different governance issue is at stake:

First, paying fees to the outside (State or private) agency, even when minimal, would symbolically and politically make water and infrastructure the *property* of the private or public ‘outsider’. Such payment for water is seen as an alienation of local rights – which legally may pertain to the State but according to local law belong to the community. Moreover, the fees handed over to agencies are not commonly re-invested in the system but enter into the general public treasury (‘the pockets of the engineers’), reinforcing the concept of expropriation.

Second, outside fee payment would administratively and politically recognize the *hierarchy and authority* of rule-making and enforcement established by the State (and/or ‘the market’). This is the reason why governments often emphasize the need to pay official fees, even when these are just symbolic as in the case of all non-State systems in Ecuador (where user groups perform *all* operation and maintenance tasks themselves); and even when actual fee payment in public or co-managed systems by no means covers more than a minimal percentage of operation and maintenance costs.

Third, fee payment to State or outside market players actively links and integrates the individual users and their systems into the broader administrative and cultural-rational framework of ‘mainstream society’ (nation-State building). Water users are increasingly normalized, e.g. through the apparently neutral administrative techniques of measuring individual fee payment, comparing records and comparing users in accordance with the norm, and (self-) enforcing compliance (not uncommonly, it is not the direct stimulus of the agency or law, but of the user organization *itself* that forces its members to comply with the tariff norm). Effects thus reach further than just payments; as Lynch observed: “One mayor justification for irrigation development in the Sierra is political mobilization and integration of potentially disaffected groups. To enforce *cuota* payments or (even worse) to try to charge for water would act counter to these mobilization efforts” (Lynch 1988b:25).

Fourth, fee payment as an instrument of installing government control is not just important for its contents, for *what* it does or aims to do, but even more for what it *replaces*. Outside fee payment actively destroys the driving force of local management: creation and re-creation of hydraulic property (see chapter 2). Also, as a principal, official tool for obtaining and consolidating a water right, it detaches user’s payment obligations from (and substitutes) the far broader obligations in which water rights in Andean communities are embedded. In systems under community control, not just financial payments but particularly organizational, labor and intellectual inputs are crucial to consolidating water rights. Next, in these systems obligations are not just connected to the irrigation system operation, but to the wider concept of ‘belonging to the local community’, and ‘joining in sustaining the community’.

g. Monitoring and evaluation techniques: The rulers, in order to govern efficiently, have a need to *know* the local water users, just as the latter have to know *themselves* (see chapter 6). This knowing refers to water users but in their relations with other actors (officials, providers, etc.), their

43 In most systems it is even common practice to buy and sell water and land rights *within* the community or system.

embedded-ness in their networks of resources, means of production, irrigation artifacts, as well as their links with their territory, and their rights, norms, behavior, and lines of thought. Indeed, the modern governance concept is that individual irrigators, rooted in their irrigation plot, are monitored in qualitative and quantitative terms by the State agency, just as the users organization is assumed to auto-monitor its members for the agency (see above, section c.). Ongoing examination produces and updates data.⁴⁴ This examination goes beyond the objective of punishing non-compliance⁴⁵: it contains implicit moral notions about ‘technical’ and ‘anti-technical’ behavior: “INERHI has the power to temporarily suspend irrigation service to irrigators when secondary, tertiary and distribution canals are under anti-technical conditions for use” (Art. 33.f.). ‘Anti-technical’ is defined by irrigation experts, and the political anatomy of the system has national, universal properties since context (social, political, cultural relations etc.) is omitted. As Zwarteveen (2006) observes, diverse irrigation realities across the world are reduced to ‘key performance indicators’ that can serve as the basis of comparison to patch together a screening process for judging systems. Latour (1994:159) points at the immense operations undertaken by modernizers to make other peoples commensurable, comparable, ‘measurable’, by forcefully introducing (obviously, normative) standard measures that did not exist before in their societies.

Thus, the hydro-political dream scheme assumes water users to be intelligence-collectors, gathering the information that (unconsciously) serves to demarcate, categorize, hierarchically rank, correct deviations, and control, according to scientific-technical, legal and political-administrative framework. Moreover, it assumes submission, self-regulation and identification with INERHI norms not only in the realm of water control and production development, but far beyond that. “Regarding other matters not covered by these Regulations, irrigators shall be subject to the norms, instructions and internal provisions that INERHI shall issue for that purpose” (Art. 55).

These techniques of governance in Licto are a few important illustrations but the list is not exhaustive. Moreover, rather than the canal or module design, the agro-economic plan, the official rights framework, or the organizational blueprint as such, it is the *combination* of such organizational, legal, and technical designs that illustrates the instruments of discipline. Most communities that joined the Licto project did not question the socio-technical designs since these were portrayed as being ‘normal’ (i.e. according to standards), as well as ‘modern and efficient’ (based on expert knowledge). Most water users thus saw their communities’ self-regulation according to these modern norms as a rational, coherent, and even progressive response to the project’s development opportunities. Nevertheless, these uniform, ‘equalizing’ rules would deny local control over decision-making; they would also facilitate extraction and intensify exogenous domination over local livelihoods. System design would thus further the ‘inclusion’ of the indigenous communities in ‘modern’ management and overall State control. As I will show in chapter 13, it was only in a later phase that they came to realize this, and creatively resisted.

44 Such as (INERHI Regulations Art. 34): “name of irrigator; dates of irrigation service contracts; name of land owner; registration number; number of module supplying the plot; module flow rate; total plot area; irrigable area of the plot; number and flow rate of the branch canal supplying the module; irrigation time; irrigation interval; surface occupied by each crop; planting time for each crop; irrigation method used”.

45 E.g. “Failure to pay amounts owed to INERHI in time shall result in coercive legal collection” (Art. 24).

7.3. The moralization of irrigation technology

Undeniably, as the Licto case illustrates, irrigation technology and power structures are intimately inter-related. It is not just a question of a Licto ruling class or the State agency politically and economically dominating the peasant and indigenous communities, but also of these first two projecting their own particular way of seeing and ordering the water world – and its political and cultural relations – as objective, natural, legitimate, and common-sense. Where top-down rule-making is increasingly replaced by the effort to ‘decentralize but control decision-making’,⁴⁶ the main pillars of the bureaucratic tradition remain in place: the preponderance of technocratic ‘expert’ knowledge and the use of ‘modern’ design and management models based on the class, cultural, and gender norms of the designers, not the users (Boelens & Gelles 2005:312; chapter 10).

Despite the existence of ‘downstream-controlled irrigation technologies’ and ‘participatory management’ there is a close affinity between irrigation system management and hierarchical organization, a relationship that apparently intensifies the larger the scale, the number of branches and universe of communities under command. While local Andean systems commonly avoid having more than two managerial levels, apply rotational posts at all levels of the organization, and are relatively disconnected from broader administrative structures, by contrast, State- or co-managed schemes are typically subdivided into main, secondary, tertiary and quaternary canals, each with their corresponding control and authority levels. Moreover, the latter are firmly embedded in a local-provincial-national regulatory and administrative system, connected to international management models and policy institutions. The design and control of management levels and modes, is thus a crucial power issue, as is the question of bringing communal systems under the geophysical and political command of the State.

In fact, in Peru and Ecuador, the overall design of State water resource bureaucracy with its agencies, water legislation and intervention policies, is directly and rationally linked to the designs of individual irrigation systems, user organizations, canal layouts, water allocation procedures, distribution schedules, up to the lower level modular designs, cropping patterns, irrigation artifacts and water application techniques. These again are rationally linked to the design of water service provision entities, training services, and support structures for credit and technical or legal assistance. At least in theory, or better, *at the legal, political and technical design table, they comprise a unit, a system*. Design efforts are powerfully geared toward mechanically and organically linking micro-water control society to meso- and macro scales of technical-legal-political governance. This multi-scale coherence of control that is strived for means that individual systems and irrigation infrastructure, legal and organizational designs should not be seen in isolation from the broader designs of governance.

However, the fact that ‘lower level’ water control designs correspond to ‘higher level’ rationality of control cannot be taken as a proof of all economic, legal and technical designers participating in an intentional *wicked effort* to control and dominate water users. First, as in ‘early’ Licto, water user groups themselves join in strengthening this rationality of water governance, labeled ‘modern’. Second (and again Licto is illustrative), most technicians, lawyers, planners and organizers simply try to do their particular job or discipline in the most appropriate way *for the benefit of* the water users population. Their disciplines’ curricula and professional rules, grounded in Western water

46 In Peru and Ecuador, management transfer projects particularly have focused on State interests to get rid of direct operational control over lower levels but maintaining remote control by keeping (at least decision-making and political) power over higher ones.

resource sciences or legal and economic disciplines, provide them with the manuals and tools to do this most effectively and efficiently.⁴⁷ Most water technicians and social promoters, in government service or in NGOs, see it as their task to support the water users in ‘right-doing’ – and prevent them from ‘wrong-doing’ – according to the (inter)national concepts of ‘*rational, efficient use of water*’. Third, in the design chain, more than the intention to control there is a wish to comply: although the State is not a single monolithic entity and its policies and models are refigured at the local level (Gelles 2000), higher level designers lack knowledge of local context, but also overestimate lower officials’ room for adaptive redesign. A senior INERHI designer of the Licto system told me: “Indeed, this design doesn’t correspond to local reality, but it is a question of perfecting it at lower levels and in the field, where local reality is understood”. But at lower levels, with Kafka-esque logic, all officials, designers and legal promoters know that, to be safe and stay out of trouble, they have to obey the higher-level designs, rules and orders, make the system as planned, even if it does not seem to be ‘adapted’ – a forceful drive to have everybody acting according to their established, disciplinary norms.⁴⁸

Social contents in irrigation technology design

In the current era most ideas on water governance in Peru and Ecuador coincide with the overall thought that ‘in order to govern water users and water uses correctly one should not govern too much’. The instruments of governance, social and technical, instead of provoking resistance as in the time of colonial or hacienda rule, should aim at including everyone and self-sustenance according to an overall framework of water management standards and techniques. Therefore, ‘transferring irrigation technology to users’ is a widely used concept in both development cooperation and State policies.

However, irrigation technology (knowledge and skills⁴⁹) is not *transferred* – as if these qualities were things that could be handed over – because the party that has the technology does not turn over or relinquish its knowledge and skills. It is more accurate to speak of the *reproduction* of technologies: the idea is to reproduce knowledge and skills to build, use and modify the irrigation system, and to reproduce its rules, roles and social arrangements⁵⁰ (see Illich 1979; Mollinga *et al.* 1987; Shah 2003). The impact in the Andes is strong. It is common to see that particularly in multilateral and State irrigation interventions, culture-bound, context-rooted, unique skills and knowledge lose their value and are replaced by reproductions. Only as transferable (or marketable) ‘reproducts’ are irrigation technologies counted as reality and become ‘real’ (Cf. Gunther Anders 1980, 2007a).⁵¹

47 Here, ‘mimetic desire’ and ‘mestizaje’ are indeed powerful mechanisms in constituting the ‘water control Panopticon’: the wish to resemble white, Western, scientific models (see chapters 6 and 10).

48 The *outcome* of this design process does not, however, guarantee coherence. Technicians in the region often do not design the overall irrigation system but concentrate on its elements in relative disciplinary isolation, by following standard manuals which tend to be irrational in the local context. The study by Gutiérrez (2006) in Bolivia shows how in all cases investigated the irrigation designs both lacked ‘functional coherence’ and conditioned unrealizable assumptions regarding local management and ecological context.

49 Irrigation technology is the knowledge and skill applied to generate, operate, modify and sustain socio-technical systems that aim to change dryland agriculture into a production system where the water balance is controlled. The irrigation system, with its facilities, techniques, organizational forms and rules for use, may be analyzed as the *materialization* of a certain irrigation technology. Techniques refer to the artifacts, and instruments that sustain system design, implementation and O&M.

50 Since ‘transferring’ capacity to generate one’s own technology runs against established powers, efforts are often limited to simply ‘delivering’ the capacity to *use* (and maintain) irrigation systems.

51 The very fact that some irrigation technologies (called scientific) can be reproduced makes them more important than

Conventional thought characterizes irrigation technology as morally and politically ‘impartial’ – a tool to be used, a means to a desired end (Cf. Winner 1978).⁵² But the notion of technology reproduction shows the contrary. Problematic effects of a certain irrigation technology do not emerge solely because of the ways that humans (mis)use it, or because of the social relationships in which the technology is used (e.g. exploitative relationships), nor only because of lacking human capacities in the ‘receiving’ society (e.g. educational level, degree of organization).⁵³ The technology *itself* also contains norms. Therefore, it is crucial to analyze the technology design process, which takes place under conditions of social interactions, institutional interests, and political contradictions, guided by extending networks of human and non-human ‘actors’ and the inscription of norms and ‘codes’. As Latour argues, artifacts do not just ‘reflect’ society but importantly construct social order, “they are in large part the stuff of which the social fabric is made” (2000:109).

Indeed, as was argued in chapter 3, irrigation systems design is based on the norms, interests and claims that the people involved (e.g. landlords, farmers, development institutions or government agencies) had and have with respect to system use. Such objectives and norms get materialized in the technical layout of the system, and to a certain extent they become embedded in the artifact’s material appearance. The infrastructure requires specific forms of organization and social control in order to function as intended: the so-called ‘*social requirements for use*’.⁵⁴ Once implemented, the social requirements for use ‘inserted by the designer’ will (forcefully or not) structure the way in which users have to work with the irrigation technology.⁵⁵ To a large extent, the irrigation technology will reflect the norms and practices current among production relations in the *designer’s* social setting (whether the designer is a peasant, an engineer, an assistance agency or a broader ‘network’). They reflect the designer’s assumptions regarding use and impact of the technology: in regard to organization of the labor force, definition of roles and responsibilities (system and household management), distribution of benefits and responsibilities, etc.

Clearly this ‘mission’ of the technology (what it *should* do once it is put into operation) bears a significant moral cargo. Moral design or the moralization of design (see Latour 1991, 1994, 2000; Achterhuis 1998; Winner 1978), the way in which technological systems and artifacts facilitate or enforce ‘right-ness’ and obstruct ‘wrong-ness’ (as seen in the designers’ eyes), in my argumentation relates to three associated aspects:

A first aspect relates to the Latourian idea of **delegating human morals to artifacts and techno-**

those originals that cannot. They must resemble scientific artificiality and listen to the natural science laws that say that experiments only count when they can be reproduced. Only reproducible technologies are able to standardize and ‘rationalize’ water society and thus serve as input for modeling water law (Ch. 8), water policy (Ch. 9) and water intervention strategies (Ch. 10).

52 As Winner typifies this approach: “Whether the end accomplished is wise or unwise, beautiful or hideous, beneficial or harmful, must be determined independently of the instrument employed. ... The new devices, regardless of their size and complexity, are still tools that may be used either well or poorly. [The argument goes:] ‘Science and technology are essentially *amoral* and their uses ambivalent. Their miracle has increased equally the scale of both good and evil’” (1978:27, my emphasis).

53 The assumption, that ‘it is not the technologies that are to blame, but their distribution and the people who (mis) use them’, is shared by Marxist and modernization schools. As Ullrich (1984) observed, socialists have critiqued too little the basic features of productive forces (i.e. technology), thinking that changing just the production relations could bend exploitation (in this case, by transferring the irrigation technology from haves to have-nots). Bentham himself on his Panopticon’s control technology: “If it would ever be used improperly, those who use it in that way are to blame” (quoted by Achterhuis 1998:272). See also Galtung 1979; Winner 1978; Illich 1979; Pfaffenberger 1988.

54 Or: ‘manual d’usage’, ‘technology code’, ‘technological script’. See Winner 1978; Latour 1991; Van der Ploeg 1991; Artifacts 1990; Mollinga 1998.

55 See Bijker *et al.* 1987; Pfaffenberger 1988; Mollinga & Mooij 1989; Van der Ploeg 1991.

logical networks. Morality and social control in our society is largely manifested in the chains of humans and nonhumans, in socio-technical networks. Thus, water control artifacts do not just facilitate or replace human labor but also replace people's textual or verbal instructions to 'manage' the irrigation system 'right', aiming to ensure ethical behavior by water users. Morally loaded messages are inscribed in the devices that aim to create social and political order (Latour 1992, 1994). In the design and construction process, hydraulic engineers, economic planners and irrigation system builders delegate functions, duties, ethics and values to the water management facilities. Moral obedience through irrigation artifacts 'scripts' (Latour 1991), the 'code' (Winner 1978, 1985) or the 'mode d'emploi' (Van der Ploeg 1991) often conceals power relationships and naturalizes the politics of water system design and management (see Winner 1985). We might use the metaphor of 'hardened morality': artifacts that are 'moralized' aim to enforce particular ethical and political behavior. As Callon argued, "engineers transform themselves into sociologists, moralists or political scientists at precisely those moments when they are most caught up in technical questions" (Callon 1991:136). Irrigation system design is a moralization process *par excellence*. In Licto, as in all systems, designers' canal layouts establish where to conduct the water to and who *not* to give water; canal capacities and gate openings establish maximum water flows to be taken; the canals' embedded norms reward top-enders and harm tail-enders; the design of control structures, cross regulators, gates and keys, distribution boxes and anti-robbery locks aim to prevent stealing and to automate proper distribution; hydraulic blocks and schedules require particular forms of organization and distribution, etc. In short, the technology has built-in water rights, management forms and water control norms.

Irrigation technology, indeed, is and fosters a set of normative meanings and political behaviors but modern society has rendered this social facet invisible, as if it were 'just' material tools. The moral messages and social relations from which technology arises, in which it is embedded and which it in turn produces and stabilizes, are hidden behind a veil of neutrality. Since the standards that determine how irrigation systems 'should function rationally' are not based on any existing universal truth but on historically and politically driven morality, clearly, making this technology's moral contents 'natural' and 'invisible' through technological scripts hides and potentially strengthens relations of power and domination.

The imperative of these technological scripts may be strong and thus (in combination with various techniques of governance) carry a powerful force of social obligation ('forcing' users to behave according to the norms embedded in the system) or even, in order to function at all, 'require' that the social and material environment be adapted to the designers' ideas (e.g. on water distribution). But whether the process of moralization emerges depends not just on the 'moral messages', the 'force of the script', but also on existing social relations, the particular environment, and acceptance of the technology discourse when it is put into use: the way it is embedded in a broader sociotechnical network. Water control systems have moral and political force due to their scripts *and* to the normative and political environment or network in which they function.

This brings me to the second aspect of moral designs and the moralization of irrigation technology: the social network that supports materialization of technology's particular moral mission. When in Cabanaconde, Peru, State authorities tried to entirely abolish the informal, non-legal way of operating the irrigation system, they legitimated this as a process of 'moralizing' the system and appealed to users' goodwill to move towards modernity: "To moralize administration in agrarian fields, to escape from the old, steadfast custom of Tiacc and Muycco, and with irrigators' goodwill, local customs have now been done away with" (Gelles 2000:121). This **moral salvation mission**, so com-

mon in many intervention strategies in Andean water use systems, is a driving force that cannot be underestimated (chapter 10). It defines good and bad technology, rational and irrational water rights, modern and archaic forms of organization, just and unjust distribution practices and presents the *moral obligation* of technical and social engineers, State officials or development workers, to make water society rational and modern.

On this moral urgency to modernize irrigation technology, and the need to transform the customs, norms, and rights of ‘traditional water users societies’, the words of modernization theoretician Rostow are telling. As in the first section of this chapter, the illusion that this modernization *can be done and morally should be done* makes it into a powerful program of action, notwithstanding all the rightful critiques against instrumental thinking. Winner wrote:

“The process of change that accompanies technological innovation touches ‘every dimension of society’. All varieties of customs, habits, attitudes, ideas, and social and political institutions are caught up in its flow, altered, and set on a new foundation. Nothing is untouched. W.W. Rostow’s discussion of “The Underlying Process of Modernization” gives a sense of the broad sweep, practical necessity, and moral urgency involved in these adjustments: Psychologically, men must *transform or adapt* the old culture in ways which make it compatible with modern activities and institutions. The face-to-face relations and warm, powerful family ties of a traditional society *must give way*, in degree, to new, more impersonal systems of evaluation in which men are judged by the way they perform specialized functions in society. In their links to the nation, to their professional colleagues, to their political parties, to their labor unions, *men must find* a partial alternative for the family, clan, and region. And new hierarchies, based on function, *must come to replace* those rooted in landownership and tradition” (emphasis by Winner 1978:103)

Winner also cites David Apter who sees technological modernization, despite all the irrationality of users’ interference and resistance, as a Sisyphus plight we have, to serve humanity. “Sisyphus, returning again and again to roll his rock up the hill, may appear absurd. Yet on each occasion he is happy. How odd that seems: And how like our own times. The work of modernization is the burden of this age. It is our rock” (Apter, quoted by Winner 1978:51).

The first and second aspect of moralizing design obviously combine; the moral contents delegated to artifacts are instrumental to this moral-ideological modernization mission that underlies the design process, and to the sociotechnical water society to be put in place. For example, in the Licto system, the designer’s social and institutional setting urges to modernize ‘traditional’ Andean settings and moralizes irrigation technology.⁵⁶

In this process, water users’ own social and material properties are often expropriated. The process is more far-reaching than just economic expropriation: not only the *products* of the irrigation process and the *means of production* are expropriated but also the local definitions of *labor place, labor time and labor rhythm*. Next, locally existing *skills and knowledge* regarding water design and use fall prey to this process of profound expropriation.⁵⁷ Existing norms concerning the organization of labor to operate and maintain the system, and local agreements regarding the distribution of rights

56 Male domination in the design process adds gender norms, irrigation science’s colonial and Western roots add cultural-political norms, and the designers’ class background reinforces the power structures according to which the irrigation inputs, outputs and the means of production are to be distributed.

57 See also Achterhuis 1992; Artifacts 1990; Illich 1979; Ullrich 1984; Van der Ploeg 1991, 2006.

and obligations are commonly challenged. A day-to-day manifestation of this expropriation process is the way how in Licto, as in most governmental and nongovernmental irrigation projects in the Andes, the work to be done is classified into the categories of ‘*unskilled labor*’ (days to be worked by unskilled communities) versus the labor input of engineers, planners, social promoters – ‘skilled labor’ or ‘expertise’.

In Andean practice, the more ‘sophisticated’ the irrigation design and the more precise and ‘technified’ the need to calculate, for example, irrigation requirements to determine day-to-day scheduling or to measure and bifurcate precise discharges, the more there is a ‘natural’ need to involve engineers’ support and government control. Thus, “by appealing to science and objectivity, designs are screened off from questions by ‘non-experts’ and from power and politics” (Zwarteveen 2006:106). State and engineer’s dependence is naturalized, and the irrigation system is politically neutralized. The issue of managerial independence versus ‘outside’ political-operative control is, therefore, not defined just by legal provisions and organizational structures, but also, and often much more powerfully, by the details of technical irrigation design. Compulsory cropping patterns and water scheduling calculations as the *Plan de Cultivos y Riego* in Peru, or the standard *esquemas hidráulicos* in Ecuador induce the need for and acceptance of external control; or, in the ‘best cases’ where the local ‘unskilled’ have been ‘trained in rational, efficient management’, self-examination and disciplining is strengthened.

Modernization urgency also reflects the underlying objectives of institutionalized design processes as in Licto. The (implicit) overall objectives of State irrigation development refer to mobilizing local communities, their human and natural resources, to contribute to national policy goals, and to maintain social order. Such goals are entirely unlike the ones with which Licto communities entered into the water development game. In the Andean region, State interests in ‘moralizing local water affairs’ commonly refer to: a) developing agricultural productive forces to extract a marketable surplus, increase export production and produce food for urban population; b) extracting tribute, fees and taxes; c) regulating water control and extracting water sources needed for cities; d) gaining rural votes and strengthening political ties; e) transforming peasants into subject citizens and modern commodity producers; f) controlling rural upheaval and rebellion; and g) installing a dominant force to avoid the degeneration of natural resources and to rationalize resource management and use. The explicit moral mission of helping and modernizing backward communities, indeed, differs from the implicit one – ensuring that campesinos and indígenas are stabilized in the countryside in an economic and water policy productive mode and in ways that are neither environmentally nor politically unruly – but the two often neatly go together.

The third aspect of moral design relates to this above aspect of domestication, co-opting and expropriation: the installing of a new water control regime requires the subtle (‘capillary’) or less-subtle (‘coercive’) undermining of the existing water control and rights’ institutions: a ‘**moral regime change**’. In my argumentation, the metaphor of (*not*: equation with) ‘*moral bombing*’ is useful. The dreadful, military concept of ‘moral bombing’ refers not to acts of war in the name of a superior morality but to the idea that the (existing) morality of the common people needs to be broken down in order to have them abstain from supporting their own forms of government.⁵⁸ As foregoing chapters manifested, collective irrigation infrastructure construction is a common, primordial rights founda-

58 E.g. in the Second World War the explicit target of the British government was to morally bomb the “human dwelling-places and not the harbors or aircraft industries” of German cities in the hope that people would rise up to resist the Nazi government (Trouw, 7/1/2003).

tion and the factor linking irrigators to each other, their system and its shared management.⁵⁹ Agency-led (re)habilitation of irrigation infrastructure prevents this structural process of building rights and sustainable organization. Moreover, as in Licto, the effort to install the State's overall political, sociotechnical water governance network requires that not just local rights rationality but also technology, community identity, and authority structures are supplanted. Here, Foucault's expression, the 'side-effects' of governmental intervention, may seem euphemistic since 'collateral damage' is often disastrous, and literally envisions breaking down the collective water control morale.

Alfaro et al. (1991), for the Peruvian case of San Pedro de Casta, conclude for example that "community organization has been deeply affected. Community authorities get little respect since the community organization was restructured due to government irrigation administration. The villagers now prefer to cultivate and irrigate individually" (33). Even though State law and regulations did not work as formally foreseen, they made heavy impact, because the weakening of communal structures by State intervention enabled other 'intruders' to develop: market mechanisms and individual rationality, formerly tamed by the users collective, now profoundly penetrate the water control and production system. "It is the breakdown of collective rules by individual initiatives that is increasing in these communities. Profoundly disorderly water distribution, lost traditional authority, and crumbling of local institutions, are all perceived. Water Law organizational bodies have practically disappeared and attempts have been made to return to traditional organization, unsuccessfully" (Ibid:33). Despite the great resilience capacity of most water user communities to counteract this process (see chapters 12 and 13), the (intentional or unintentional) 'moral bombing acts' have important effect on actual social relations.⁶⁰

Galtung has argued that technologies have "cultural or civilizational codes" and he certainly is too deterministic when he states that the transfer of Western technology is "a structural and cultural invasion, an invasion possibly more insidious than colonialism and neo-colonialism, because such an invasion is not always accompanied by a physical Western presence" (1979:286). But despite the fact that Galtung's 'panoptic' presence-without-presence erroneously negates human agency and mediation processes, it is certain that these civilizational, moral codes exercise strong day-to-day influence. And this is not (anymore) restricted to the *Western* moralization mission. Gelles (1998, 2000), among others, powerfully shows how, in the Andean region, local and State models of water distribution embody fundamentally different historical processes, as well as different cultural rationales concerning power, authority, resource management, and ethnic identity.

For example, in local Andean systems, the canal dimensions, regulation artifacts and water division boxes and devices reflect existing norms and equity concepts concerning water organization and rights' allocation. During system use these are reproduced in patterns of water distribution. Problems arise as soon as there is discontinuity between the normative notions of the water users collective, their materialization in infrastructure, and their surfacing during water-management-in-practice. The dynamic unity of and interdependence among water rights, organization and infrastructure (chapter 3) is destroyed and must be re-installed: this is usually done in *asambleas* and

59 Moreover, when local users endogenously develop their technologies (the 'art of the locality') in a historical, cyclical sequence of observing, analyzing, acting and evaluating, this reinforces their autonomy, diversity and adaptation to local circumstances (Van der Ploeg 1991).

60 In several research projects (Boelens & Dávila 1998; Boelens & Hoogendam 2002) we demonstrated the same: the challenging of collective authorities and shared water control structures in those communities with much market and State intervention. See Hendriks 1998, Castro 2002, 2007 (Chile); Gerbrandy and Hoogendam 2002, Gutiérrez 2006 (Bolivia); Lynch 1988b, Gelles 2002, Oré 2005, Van der Ploeg 2006 (Peru); Boelens et al. 2006a, 2006b, Ruf 2006 (Ecuador). Cf. Chapter 10.

guided by local institutions and authorities. However, when irrigation technology is ‘transferred’ – rather, reproduced – from a designers’ environment to a users’ socio-political and agroecological context, the social requirements for use are externalized: users face social requirements and norms defined by others. To make the irrigation technology ‘work’, many of the designer’s key assumptions regarding the use and effect of the technology must be borne out in reality. To a certain degree, the ‘reality expected by the designer must be realized’ if the irrigation is to operate as intended, and it often becomes ‘necessary’ to restructure local organization of labor, definition of roles, prescription of inputs, definition of water rights, distribution of water and generated wealth, etc. As Winner argued: “We speak of requirements that are met beforehand as ‘meeting the preconditions’. The environment is modified to make room for the thing or things demanding that modification; in a certain sense the effects antedate the cause. [...] For Rostow and many other students of modernization, this means that whole cultures must be literally ripped apart and reassembled before the ‘take-off’ of the great airship ‘modernity’ can begin.” (Winner 1978:104).

Similarly, State agencies and many large-scale irrigation projects in the Andean region often tend to consider the ‘target area’ - existing, complex community territories - as a *virgin space*, to be ordered in a rational manner or, to put it less politely, to be raped in the name of modernity. Van der Ploeg provides the illustration of land and water development in Catacaos, Peru, where Agrarian Reform engineers – on the basis of the notorious USA Iowa mission – designed the land and water use system to avoid the use of human force and maximize the use of capital and outsourced mechanized force. The community, by contrast, tried to avoid importing or automating any more than necessary and tried to generate a production system optimizing the use of local available labor, knowledge, natural resources and technology. Where State technicians planned to expel local and collective labor from the agrarian production process, community members fought to achieve a production system that would increase the person/land ratio; reduce unemployment; include local, historically constructed capacity; optimize land and water use; and be based on the rights of the *whole community* (Van der Ploeg 2006).

Another illustration out of a continuum is the proposal for irrigation system development in Illeca, Puno, Peru, described by Hoogendam (1989). Here, similar to the Licto case, the engineer’s design conditioned the social and spatial re-organization of the population and its territory. Moreover, the main system layout entirely missed existing canals, was extremely capital-intensive (for which a change to market crops was made ‘necessary’), and required a labor input far beyond local capacity. Scripts in the distribution canals and division boxes, along with the water scheduling plan, conditioned a water distribution pattern alien to existing arrangements and rights.

I also chose the bizarre concept of ‘moral bombing’ to compare and indicate aspects of moral irrigation design for another reason: it is not just an act of warfare to support ‘regime change’, but also one that literally aims to destroy the buildings of existing society in order to reconstruct a new one on ‘virgin ground’ – the above-mentioned virgin irrigation command area. Similarly, European philosophers such as John Locke (1700(1690)) legitimized destruction and private appropriation of the native Americans’ collective ‘non-rights’ to natural resources as a *moral obligation* of the colonizers (see chapter 9). Achterhuis (1998) characterizes it as one of the main tenets of utopian narratives and modernist theories: radical destruction of the existing arrangements to build the new order on modern, uniform foundations.⁶¹ The Andean highlands bear witness of the fact that the

61 As one of many examples, Achterhuis (1998:69) quotes Descartes who, instead of adaptive engineering, defends the architectural planning wisdom of destroying all ancient buildings and city blocks in order to construct new, uniform cities – as he argues ought to be done in thought systems.

aim to materialize their water governance utopias, from socialist-revolutionary to neoliberal water policy regimes, is tantamount to destroying *existing* water user collectives. They illustrate the words in the prelude to this book: the stronger the moral rightness that is claimed, the greater the ‘design violence’ that is legitimized.

The power of illusion

The reproduction of irrigation technology, its social norms and its vision, however, is not a deterministic one-way process. Irrigation technology is not an autonomous agent that can dictate the patterns of human social and cultural life (Pfaffenberger 1988); and the social relationships present in the designer’s society are not simply transplanted and reproduced in the user’s society. Neither ‘the designers’ nor ‘the users’ are monolithic blocks with standard interests and assumptions, but complex networks often accommodating non-aligned values, norms and visions, divergent interests and non-congruent expectations. Technology designed or imposed by dominant groups is not an omnipotent force. Although it *seeks* to structure new socio-technical relationships and materialize the hydro-political dream scheme, it generally cannot produce direct replication because the technological scripts are mediated by the users’ society. User groups are sometimes opposed to using technology according to the scripts; they also include their own interests and ideas and - often against outside plans - build systems according to their own ways of working and organizing.⁶² As I will show extensively in later chapters, the Licto communities challenge this structuring of their water society by the State. This involves negotiation and struggle, where collective, personal and institutional interests and preferences, as well as contingencies, play a fundamental role.

Notwithstanding their often contradictory objectives, it would be mistaken to suggest that local user organizations, to defend their autonomy, try to avoid interaction with the State or development institutions. Actual practice, the many communities requesting collaboration, proves the contrary. In the cases of Mollepata, Licto and Ceceles, for example, the communities explicitly asked for intervention. And not just the local elites tried to establish bonds of cooperation with the State and development agencies; often the communities – as heterogeneous groups aiming for collective consensus – sent away their leaders to negotiate with agency officials and ‘get the engine running’.⁶³ Indeed, the machine must work, but its composition, function and direction is quite another question. The interaction which both parties consciously seek is often not (or only very partially) based on a common interest. Except for stabilized, ancient irrigation systems, water control in most systems in the Andes involves very high costs in terms of collective labor, cash, construction materials, land acquisition, and managerial inputs. Both the State and the users try to achieve for their purposes the most favorable ratio of investment versus control, where local user groups try to gain more access to State resources and international funding without handing over local normative power. Again the question of power comes to the fore: who controls the activities and resources of whom and how? *Both try to align the other parties and their resources in the network and action program they desire, aiming to forge a chain of compliance that weakens the resistance of the other.* In this process

62 Thus, the irrigation design and implementation process does not boil down to just transferring or reproducing ‘technical artifacts and decision-making structures’. The impacts do not depend on just the scripts, but emerge in concrete usage, under local conditions and power structures (see Achterhuis 1998, Latour 2000, Ton & De Jong 1991, Winner 1985).

63 These negotiation missions commonly receive much support from their communities, materialized in respect for community negotiators and in community gifts or bribes to persuade officials. A Ceceles leader explained: ‘you have to oil the engine to get it running’ (Boelens & Doornbos 1996).

of interaction between entities with confronting interests and a mutual need to capture each other's resources, both parties make use of each other's techniques, norms and rules – though under conditions of unequal clout.

In sum, since irrigation technology is more than a machine-like set of things but also a system of social behaviors and inscribed water rights and morals that *requires* human and nonhuman action (or 'machination') to emerge; outcomes are mediated and challenged. The same technology performs differently when social contexts differ. Script and emerging use are not the same. Hardened morals are not made from reinforced concrete.

But, just as it is important not to assume that water society can be neatly or even panoptically engineered by State and outside agencies, in its reversal, it is fundamental not to equate and confuse the effect of contingencies and users' agency (local mediation of imposed socio-technical water designs) with a smooth process of 'adaptation to local contexts'. INERHI-like intervention agencies or other dominant actors in Andean water society *react* to mediation by user communities, in their eyes seen as disobedience and stubbornness, partly triggered by 'rebel behavior' of the Andean communities but basically caused by the backwardness of those who do not *understand* the dream scheme. *In the eyes of the interveners, the model itself is hardly challenged.* The very illusion of the positivist scientist and irrigation engineer that they can dissolve and abstract from water practice but still continue to ('objectively') observe, analyze, penetrate and judge this same reality (as god-like panoptical overseers), should not only be seen as a kind of objectivistic *error or arrogance* of these 'subject knowers' (priests) vis-à-vis their 'object not-knowers' (the masses). It also is to be analyzed as *an illusion that, when believed and when behavior is guided by it, has strong effect and power in practice.* This power effect increases whenever the water users adopt this belief and share in the project's mission and vision.

In the Andean region, even though water agency engineers have great difficulty leaving behind their classic top-down training methods, modern, 'inclusive' communication skills, are typical of upcoming approaches by the State agencies. After realizing that traditional communication, conceptualized as the sequence of transmitting, receiving, understanding and assimilating messages and changing conduct, does not successfully reproduce the image (the dream scheme): first, reactions should be analyzed (feedback); second, the presentation of the message should be adapted; and fundamentally – as a particular, subtle form of disciplinary power – the receiver must become a participant in the project of the transmitting agency, internalizing its objectives. If necessary the environment, rationality and social context of reception is to be changed in line with the transmitter's model: "Communication can be effective only insofar as physical, mental or emotional experiences are shared by the communicator and listener" (taken from an Ecuadorian Air Force trainee text book, 1999). In other words, alignment is the fundamental objective, "generating a shared space, equivalence and commensurability" (Callon 1991:145). For ruling groups in modern times, aside from the coercive power practices still very common in the Andean region, the more strongly local water user communities challenge their programs, the more they face the need to (consciously or unconsciously) strengthen 'subjectification' strategies towards subject communities, even when panopticism remains an illusion. The hydro-political dream scheme at local and wider levels: full participation, involving normalization, alignment and subjectification of all human and nonhumans in 'the system', ascribing themselves to State agency's program of action, under the euphemistic banner of 'joint system management' or 'public water management'. The network of actors and forces underpinning this imagined system determine whether the dream is powerful enough to become a concrete reality.

chapter 8

EQUALIZATION OF THE UNEQUAL: THE LAWS OF THE STATE AND THE LAWS OF THE HEART

“The laws of the state and the laws of the heart, at last identical...”
(Michel Foucault, *Madness and Civilization: A History of Insanity in the Age of Reason*, 2001[1961])

IN THIS CHAPTER, I will further unravel the intermittent politics of outright exclusion and subtle, capillary inclusion of local water rights, now focusing on ‘law’ and ‘the legal’. I will enter the fascinating smithy where the policies of legal recognition, codification, transformation and confinement are forged. State and market institutions require the welding of a predictable, uniform playing field for the water control game, thus, Andean water rights autonomy and diversity are a primary obstacle for formal rule-makers and planners. Not surprisingly, legislation in the region has tended to deny or contain this ‘water-rights unruliness and disobedience’. But ironically, officialdom cannot afford to entirely neglect local water rights systems, there is a forced engagement: overall State law – threatened to be unmasked as ‘inappropriate’ - bases its survival on the ability of local rights orders to adequately respond to local needs and contexts. Therefore, the State legal smithy has gradually incorporated these local rights systems in its melting-pot, but in ways as to not challenge the legal and power hierarchy. Peruvian, Ecuadorian and Chilean cases illustrate how ‘special laws’ to ‘complement’ official law imply simultaneous recognition *and* negation of local rights diversity. I will examine how recognition policies are not simply responses to demands by subjugated groups for greater autonomy but also facilitate political control by the water bureaucracy, and help neo-liberal sectors incorporate local water users’ rights and organizations into the market system.

Apparently, essentialization of local water rights and identities is not just an error of misunderstanding. I will analyze how *re*-cognition points toward *re*-presentation, thus toward transformation of complex reality to discipline and make users’ water behavior ‘tangible’. To do this, legal blacksmiths differentiate those local water rules that are ‘good’ and ‘rational’ from those that are ‘inefficient’ and ‘not acceptable’. Modern water institutions and policies aim at self-reproduction in communities and I will investigate how they create a water world after their own image. For this, co-option of water user communities in rule-making is crucial; they are invaded from below and absorbed in an all-embracing formal framework, the background for their participation and competition ‘as equals’ in a ‘win-win exercise’, vis-à-vis (trans)national water interest groups. But many communities refuse to accept these policies of recognition and politics of containment.

Question: In what ways have Andean countries’ legal systems dealt with local water rights complexity, and what politics of tangible-ization, containment and disciplining of local rights and identities are inherent in these legal strategies and official policies of recognition?

8.1. Orders of unruliness

“As things stand, the creation of one integrated property system in non-Western nations is impossible. Extralegal property arrangements are dispersed among dozens, sometimes hundreds, of communities; rights and other information are known only to insiders or neighbors. All the separate, loose extralegal property arrangements characteristic of most Third World and former communist nations must be woven into a single system from which general principles of law can be drawn”
(De Soto, *The Mystery of Legal Failure*, 2000:162)

These words of the Peruvian economist Hernando De Soto – the world’s most influential policy advocate on ‘people’s capitalism’ – provide the background against which, in this chapter, I will formulate my analysis and critique of a new policy wave of capillary, subtle power strategies that ‘recognize the local and extralegal’. As his words make clear, local water rights diversity and regulatory independence for Andean water users collectives constitute a fundamental problem for law- and policy-makers, water resource planners, commercial water industries and, in general, the State and the market as institutions that require a unsurprising, uniform playground. Such systems of apparent disorder are not just incomprehensible and unfit in relation to conventional wisdom (labeled ‘rationality’)¹ or standard concepts of justice; they are most of all uncontrollable, intangible and unruly. Some evidence out of a continuum:

Illustration 1. A labyrinth of systems and rights

In the Andean highlands, commonly, the conceptualization of a ‘water use system’ is entirely different from the definitions and descriptions in FAO manuals. Instead of referring fundamentally to a physical-hydraulic system with a water intake, conveyance and distribution canals, a command area, and a functional organization, local perceptions commonly refer to, as Hendriks observes, “a *system of rights, obligations, and (cultural) management regarding one or more water sources, shared among a given pool of users*” (2006:84). Moreover, systems are perceived as intrinsically socio-technical and profoundly intertwine the diverse domains of water control that I have outlined in chapter 3. But not just these ‘disciplinary domains’ entangle and overlap; the systems themselves also mix up and muddle, both physically, organizationally and with regards to their rights concepts and frames: as such, this goes further than the notion of just *legal pluralism* and *interlegality* (Roth et al. 2005; Sousa Santos 1995).

All these systems have had their own historical evolution but at the same time they have strongly inter-related with other systems in the same territory, thereby making the territory ever-denser with many overlapping systems that vie with but also complement each other (Beccar et al. 2002). All together they provide water in a given territory, and a single family may belong to several systems at once. In this territorial complex, irrigation systems are often distinguished by conducting different ‘kinds’ of water in regard to their source, the owners group, or the way the system was made.

1 As I will show, different from his liberal forerunners, socialist opponents and most of his contemporary neoliberal colleagues, De Soto does *not* see local law as ‘irrational’. In that sense, unlike these groups who would simply deny local property constructs, De Soto - with his plea for profoundly ‘knowing’ and ‘understanding’ the manifestations of extralegal complexity - is analytically far more ‘advanced’ and, as I show, politically far more ‘subtle’ and threatening for local collective rights systems in the Andes.

Hendriks (2006) illustrates the complex of ‘co-existing’ systems with the case of Tiquipaya, Cochabamba, Bolivia, where as many as eight irrigation systems have been identified (not counting other water use systems, such as drinking water supply) in a given area. Each is managed through a different normative framework.

The first system, *Machu Mit’a*, dates back before the Incas, with some 830 users and 1030 hectares, distributing 55 collective rights allocations in 13 communities. It comprises the natural flow of the Khora River. Since the 15th century, an allocation structure was set up on the basis of the ayllus and the ‘Royal Villages of Indians’. Now the rights belong to most irrigators in Tiquipaya (Hendriks 2006:85). The second arrangement provides rights to some 450 users with 650 ha., through 48 allocations in nine communities. This *Lagum Mayu System* uses the water dammed in a lake. It was established by haciendas in the late 19th and early 20th centuries. The dam operates by short discharges (*largadas*), 6 or 7 times a season, at 14-28 days intervals (Ibid:85). The third system, the *Sayt’u Kocha System*, was built in the late 19th century and serves groups in southern Tiquipaya. Its water rights correspond to the contribution made by each hacienda owner at that time (Ibid:85). The fourth, the *Chankas System*, consists of 11 lakes adapted in the 1960s by two sub-communities of Tiquipaya. By providing equal contributions to construction, each user has the same water right, regardless of the land area they own (Ibid:85). The fifth system, *El Tajamar*, takes water from the Khora River, and is managed by some 80 families from one sector of Tiquipaya. Water rights are also related to the contribution to construction. The sixth system, *National Irrigation System N° 1*, was commissioned in 1946. Its water comes from a large dam, *La Angostura*, and benefits many properties around Cochabamba (some 530 users from eight communities in the Tiquipaya area, providing some 3 to 6 waterings a season. It is administered by the State (Ibid:86). The seventh group is a *System of Springs*: some 850 families have rights to 40 springs, fed by an aquifer that comes to the surface in central Tiquipaya. Each spring and its pond are tapped by an independent group with its own internal irrigation roster (Ibid:86). And finally, as the eighth system, there are many *Private Wells*, drilled individually and managed autonomously (Ibid:86).

In that same area around Tiquipaya, even on a single farm, and according to the historical origin of these eight irrigation systems, different water rights systems may be distinguished, each with its own ‘overlapping’ normative system. As Hendriks explains, there are water rights originally based on the configuration of Inca *ayllus* and colonial resettlements; rights originating in the 19th and 20th centuries from labor or capital invested by hacienda owners; localized longtime rights to one or more springs; rights originated in reallocation or incorporation of water rights by recent irrigation projects’ implementation; rights based on the drilling of private wells; etc. Alongside these irrigation water rights frameworks, there are other ‘rights systems’ in that zone involving other uses for water. And these same farms and households also deal with government legislation norms and rights. These official laws, rather than being ‘above’ the tangle of local normative repertoires, as positive-law theories would maintain, are actually in ongoing interaction, *immersed* in local systems.

As Hendriks argues, this overlapping of several irrigation systems, applying different concepts of rights and distribution, has generated “a very complex situation regarding successive stages, timing, volumes and areas according to which each irrigator and/or plot receives water cumulatively on each farm, from the different systems. Similarly, a single user belongs to different irrigators’ organizations at once, visible or less visible, structured or less structured. The curious thing is that the different systems use (part of) a single network of canals, so it would be easy to jump to the mistaken conclusion of seeing the local reality as ‘a single system’, if one thought exclusively in terms of infrastructure, in order to define an irrigation system” (2006:87). Just as these multiple

water rights systems differ from each other, they also differ greatly from current water legislation. As explained in chapter 2, differences have to do with contents of rights (privileges, obligations, operating rules, etc.), ways of materializing them in scheduling and distribution, the certainty and variability of rights during irrigation seasons, and legitimate ways to acquire and consolidate them. For any outside agency, this is an almost impenetrable, ungovernable puzzle.

When, in 2003, the Bolivian ambassador to The Netherlands visited Wageningen to inquire about possibilities for supporting water policies in her country, she clearly expressed the government's governance worry: how to standardize and rule this unruly diversity? "Our problem is that every municipality wants to create its own rules for managing the water". Also the reason for wanting more control was clear. Her explanation of the recent 'Water Wars' (see chapter 12) that had moved Bolivia and, in fact, many parts of the world, was simple and stripped of all complexities: "The locals don't want to pay for the water".

Illustration 2. Boundaries to contain diversity

As I have shown for the Licto case in the previous chapter, the creation of 'command areas' in irrigation development is not just a technical-hydraulic and organizational issue but involves a powerful political script. It establishes the boundaries of direct State control over local water affairs, and it also determines the universe of users to be included or excluded from the water use and rights system. For this, apart from technical and production-related feasibility reasons, local user collectives in the Andean highlands want to keep the process of 'boundary definition' firmly in their own hands.

In Patocochoa, Cañar, Ecuador,² for many years, the State agency had refused to agree for the Tucayta indigenous peasant organization that was already there in the zone to handle irrigation water administration, although most irrigators – indigenous families – considered the Tucayta organization as their genuine representative. This organization had also led all the work of future users to construct and implement the irrigation system. The government agency's position is because the indigenous organization was not structured according to the legal regulations, which prescribe a single modality. This official structure for administration is the same for all irrigation systems in Ecuador that have been constructed with governmental involvement (see chapter 7). National regulations impose a structure to which irrigators must adapt, installing new, artificial forms of leadership and rigid organizational structures. As a result, there are no systems where the Regulations operate as intended but in many Andean communities these formal structures and rules, and the policies behind them, do effectively isolate local water management forms from their embedded communal structures: precisely those that enable Andean communities to survive. State engineers and lawyers, however, have reasoned from the perspective that if the Cañaris' system were to elude national regulations, this would directly weaken State control and lead to 'chaos'.

As the examples show, local normative diversity in the Andean region is commonly curtailed, contained and directed by official legislation and water management policies. In the following sections I will review the ways in which official regulation and legal strategies deny or recognize local water rights repertoires, and the 'politics of recognition' that these entail. In the next section, first, some basic features of the diverse local equity perspectives in Andean water control are outlined and confronted with the notions of positivist, legal Justice. Then, the third section scrutinizes the legal-administrative context, which in most Andean countries is centralized in regard to water resource

² Fieldwork 1992-1997.

management. It presents the Ecuadorian Water Law as an illustration. The fourth section gives a brief presentation of the historical background on legal pluralism in the region, highlighting fundamental features of ‘recognition policies’ since colonial times. Next, the chapter analyzes how local rights systems and official legislation are inter-related, and how they shape each other. Institutionalizing this mutual relationship through ‘special laws’, as is common legal practice in the Andes, does not resolve the inherently conflictive relations between official and local laws; this is illustrated with examples of Peru and Chile. The sixth section analyzes how the codification of community norms and water rights repertoires usually transforms their contents, force and functionality, and subordinates them to positivist law while, at the same time, rendering the remaining diversity of water rights ‘illegal’. Apparently, multiculturalism and legal pluralism are recognized but as long as they obey the rules of play set by the State and/or the market. In the last section, I reflect on the subtle politics of recognition and equalization, by analyzing how comprehending and recognizing ‘extralegal’ water rights plays a crucial role in modernist policies, making them tangible and docile, in an effort to discipline ‘unruliness’ and include all water user communities in a uniform framework.

8.2. Under-developing the Rules: Justice versus Equity

Local water rights, organizational norms and operational rules in the Andean region are not only dynamic, extremely diverse, puzzlingly intertwined and even mutually contradictory among the local systems themselves; often they also stand in clear contradiction to national legislation. From a legal point of view this adds to lack of clarity and order. However, from local points of view, the rules of the game are commonly not perceived at all as unclear, unruly, or intangible. Rather, they are viewed as precise, rational ways to adapt to the locally prevailing social and material conditions - their obstacles and opportunities -, and they link water benefits and burdens in particular ways. As I have argued in chapter 1, instead of reflecting general, uniform or universalistic principles of ‘right-ness’ or positivist Justice, they correspond to diverse spheres and layers of social justice as negotiated and constructed over time in local, historical settings and power contexts: the local conceptions of ‘fairness’ or ‘equity’.

Unlike engineering principles of equity that see equitable water rights as the proportional allotment of water according to landholding and corresponding crop water requirements, and unlike the institutionalized, depoliticized notion of equity that is molded by the mainstream development triangle of ‘Equity-Democracy-Sustainability’, equity refers to location-, time-, and group-particular *political constructs and concepts of fairness*. According to the locality, (sub) culture, historical development and position in prevailing power structures, equity perceptions differ enormously. As such they cannot be reified or worse, romanticized (see Boelens 1998a).

For example, in Cotahuasi, Peru, the perceptions of the wealthier ‘mayoristas’ regarding equitable water allocation and distribution relate to their claim to maintain the privileges they have acquired historically (more water rights and less maintenance obligations). The less privileged users (‘minoristas’) tend to agree with this water allocation proportional to land, and despite this inequality in water access even accept equal maintenance obligations for all, but in times of water scarcity they claim that the irrigation of ‘*human crops*’ (family alimentation) must have priority over ‘*animal crops*’.³ Thus, rather than local homogeneity or commonality of water rights and norms, equity

³ Field notes (March 2000), and Meier (2000).

perceptions in water control are (also locally) contested and negotiated.

In the research project ‘Searching for Equity. Concepts of Justice and Equity in Peasant Irrigation’ we have described and analyzed a great variety of equity constellations in water control, both in the Andean region and abroad. In general, the following analytical levels could be distinguished regarding concepts and practices of equity in local systems. They involve the distribution of irrigation benefits and burdens, and not only of the water itself. There are countless illustrations of each level (Boelens & Dávila 1998. Cf. Boelens & Hoogendam 2002; Levine 1998).⁴

- *equitable distribution of the water*: for example, irrigating from the tail-end upwards; allocating water to families rather than awarding it to land areas owned; more time or volume for the last families or user communities; sharing scarcity through equal rights; allocating water with a top limit; allocating water according to agreed users’ investment; allocating the water according to the real economic and productive utility to users, etc.
- *equitable distribution of the services involved in irrigation development*: such as agricultural services and training for users; subsidies for construction and rehabilitation; production loans; support for operation and maintenance, etc.
- *equitable distribution of the added agricultural production under irrigation*: for example, priority for irrigation on community land; reciprocal exchange and sharing of resources among families with and without access to irrigated land; setting up of ‘land banks’ to enable access to irrigated land for all; collective marketing, etc.
- *equitable distribution of obligations, functions and positions*: e.g. rotating leadership positions; differentiated, progressive fee structures; exemption from fee payment for the poorest; (personal) work obligations for everyone able; exemption from labor duties for elderly, pregnant women, etc.
- *equity in the balance between irrigation rights and obligations*: e.g. maintenance contributions proportional to each family’s irrigation area; all contribute equally to obtain equal rights; contributions proportional not to the share of water but to its actual utility, etc.
- *equitable distribution of the rights to participate in the decision-making process*: e.g. everyone has a right to speak and vote independently of the land they possess; anyone can be elected to leadership positions; membership status for both men and women; etc.

The first levels refer, above all, to concepts about rules that lead to *equitable results*. The last level refers to another fundamental aspect of local water rights repertoires: rules that guarantee the *equity of the process* of water control. For example, in a certain season, not everyone can be a water president or judge (which are indivisible functions or rights), but it is considered more important to have a process in which everyone can vote and everyone is eligible for office. Another example: even in situations of scarcity, water might be allocated ‘according to landholding’ rather than ‘by families’ (i.e. less equality if landholding is differential), however, when this decision is not imposed but accepted collectively after a process of discussion and negotiation, families will consider it relatively equitable. The locally particular ‘water collective’s identities’, ‘hydraulic property relations’ and notions of ‘collective contractual reciprocity’ (chapter 4) generally constitute the basis for generat-

4 The concrete contents of these equity constructs differ per system. Even within a single system there can be different concepts, while commonly a certain set of principles and rights is negotiated and prevail as the outcome ‘to work with and develop’. Furthermore, in a single system, rules on equity and distribution may vary considerably during the annual irrigation cycle.

ing and consolidating mutual trust and the required ‘negotiated equity’ and collective action in water control, amidst heterogeneity.

Commonly such local rights agreements, organizational forms and institutional arrangements are obstructed and undermined, if not declared illegal, by official Andean water Justice. Instead of giving balanced attention to multi-dimensional and context-particular water rights notions, mono-legality and forced normative equality and uniformity are fiercely promoted and imposed as embodying ‘development and progress’. Indeed, as this chapter shows, modern irrigation legislation and state policies are often an expression of post-colonial equality discourses.

8.3. Legal centralism in water resource policy and legislation

In most Andean countries it is the State’s exclusive prerogative to make laws and legal procedures, and define and allocate water rights. Similarly, control over enforcement of these laws and penalties generally is considered the monopoly of State institutions and agents. Society is portrayed as a homogenous reality, into which no diversity of rights conceptions could fit. At the same time, the myth of social and legal engineering is powerful, assuming that by simply enacting official laws, the many-faceted reality of water management in the Andes could be molded and homogenized, to create ‘modern’, ‘efficient’, ‘rational’ management.

The modern Andean (i.e. post-colonial) nation-State as ultimate rule-maker and rule-enforcer finds its political-philosophical roots in, among others, the adoption of Hobbesian thought: war and contestation among humans is the natural state of human interaction and needs to be controlled (see Hobbes 1985(1651)). In the region, this ‘uncivilized nature’ or was (and often still is) directly associated with the ‘unruliness’ of *indios*, *comuneros*, and other marginalized groups – in water affairs as in all other societal arenas. To prevent Hobbes’ war of everyone against everyone (or more accurately, in the region’s idiosyncrasy: ‘the rebellion and warfare by indigenous and common peoples against *criollo* and white-*mestizo* rulers’) the political construct of a coercive, unitary State was necessary. State monopoly on violence and on the production of law with ‘universal rationality’ (developed, enacted and sanctioned by the ruling ethnic group and class) was to contain and suppress this ‘natural State’ with its tremendous diversity of ‘unruly rights repertoires and disobedient forms of justice’.⁵

Since the installation of Andean nation-States, water law centralization, as a result, is ideologically based on the following notions: the State enjoys a monopoly on water rule-making, rule-enforcement and dispute-solving and subjugates all other tribunals or rights frameworks; the legal system is built on liberal equality ideology⁶ and emphasizes unity and uniformity (the same water rules and regulations apply to all); it is universalistic (based on standards that are reproducible and predictable in all corners of water society); it is organized hierarchically and bureaucratically (based on a prescribed network of institutes and institutions from the top down to the user, following pre-established, written procedures, ensuring that local rights and obligations correspond to national prescriptions); it separates the legislative, judicial and executive functions in the water rules and rights framework (differentiated institutes, personnel and techniques); and it contains many

⁵ Interestingly, similar civilization arguments would later be used precisely to crumble public water regulation and collective local rights, and to defend the disciplining of unruly water users through neoliberal market policies (see chapter 9).

⁶ See also chapter 6: the unitary nation-State concept went hand in hand with liberal ideology, based on the notion of State-defined ‘equality of all humans’ (in a different way, also inherent to socialist nation-State ideology).

layers and bodies and consequently, legal agents are specialized, full-time professionals, officially endorsed by the State.⁷

A key assumption of positivist modern law is the idea that State, society and the Law are autonomous systems that are mechanically related (Guevara 2006. Cf. Castro 2004). Moreover, society and individuals would respond directly and automatically to the governmental norms that self-referentially justify the honorable 'Right-speak' of the modern State. My amazement was great when in the WALIR course on water rights and legal pluralism (August 2005) my colleague Armando Guevara asked the young professionals: "How fast can the Law travel?" But my astonishment was even greater when a young Ecuadorian lawyer straightforwardly replied: "In Ecuador, 50 kilometers a day". "In Peru", Armando responded, "in former days, the assumption was that legal decrees would reach the borders and be fully active throughout the nation 16 days after they have 'departed' from Lima. But today, with modern transport facilities and mass media, the official standard is that they are active the day after they have left the 'civilized center'. The supposition is that everybody in the 'periphery' not just *knows* the Law but also *wants* to know the Law in order not to be isolated from modernity".

As I will show in greater detail in the fourth section, after the *époque* of colonialism (in which local rights were either replaced to facilitate control and extraction, or were 'respected' under pluralist (dualist) regimes that aimed to divide and rule), Republic-period governments tended to utterly abolish local rights repertoires and import 'Western law' in order to 'bring in progress, modernity and development'. Moreover, historical figures also led the fight against local collective property systems. For example, the great Latin American liberator Simón Bolívar enacted anti-community legislation in 1824, when he wanted to sell State lands and therefore abolish communal property prevailing on part of these lands, in order to fund his military campaigns (Mayer 2002).⁸ Is it a coincidence that one of the main intellectual advisors of Bolívar was precisely utilitarian philosopher Jeremy Bentham (Achterhuis 1998:260), designer of the Panopticon I analyzed in the foregoing chapter?

As the 'grand old man' of utilitarian reforms, Bentham designed the ideal republic to bring the greatest happiness to the greatest number of citizens. Just as Bolívar subordinated the interests of Indians to the (non-indigenous) republican dream, Bentham's societal planning in his work *An Introduction to the Principles of Morals and Legislation* sacrificed the rights and happiness of some individuals if this would enhance the well-being of most others. As in his panoptic designs, mathematically calculated happiness and new, uniform language (he coined such words as *international*, *maximize*, and *codification*)⁹ were fundamental to "establish a system that aims to construct happiness societally by means of reason and law" (Bentham 1988 (1781):1-2, quoted by Achterhuis 1998:261). And since most common people (in the Andean region, the 'indios') were considered not to be rational enough to oversee the interests of all, the State's legal and moral experts were to educate them and defend the uniform, benevolent norms and laws.

Long before Garrett Hardin's notorious work on the *Tragedy of the Commons* (1968), Bentham not just firmly believed in the tragic fate of the commons with their locally diverse institutions but also advocated the need to actively destroy and subdivide them into private properties, to be

7 See also: Assies et al. 1998; Boelens et al. 2006b; Castro 2004; Correas 1994; Galanter 1966; Guevara 2006; Hoekema 2006; Roth et al. 2005.

8 Only lands of (essentialized) indios were excluded, which were to be distributed to them and governed according to Indian rules (Mayer 2002:306).

9 Source: Achterhuis (1998).

defended by a strong liberal State apparatus. “The condition most favorable to agricultural prosperity exists when there are no entails, no unalienable endowments, no common lands, no right of redemptions”.¹⁰ Liberation hero Bolivar certainly followed this path in his effort to liberate the continent from communal institutions and the collective ‘indigenous burden’, seeking more private ownership and, simultaneously, stronger State interventions to support this effort.

Indeed, one of the enduring assumptions of modern post-colonial law-making for water management in the Andean region was that Western rule-making, and standardization of agreements among all, would be for the benefit of all and produce efficient rights, mutually beneficial exchange and rational organization. Cultural differences would evaporate as soon as local communities experienced the rationality of globally valid rights systems, and thus, Western property institutions (Albó 2002; Castro 2004; Gelles 2006; Zwartveen 2006). This universal ethical system of norms governing property and cultural rights is key to the legal modernization thrust. Hernando de Soto explains that the lack of such universal norms in ‘closed’ countries is the main reason they cannot fully enter the world system of capitalism.¹¹ Thus, the civilizing mission of advanced nations and the academic community would be “to help governments in developing countries build formal property systems that *embrace all their people*” (2000:180, my italics). As the next chapter shows, such links between the concepts of civilization, citizenship, capitalism and individuals-as-carriers-of-rights have a long history in European and Andean colonial histories.

Thus, in order to exchange water rights and services and bring prosperity according to De Soto’s ‘people’s capitalism’, a primary condition is to construct a world of uniform values and property relations which, unlike locally diverse rights notions, precisely matches the imagined reality of ‘civilized interaction and exchange’.¹² This would respond to the people’s demand to be released from the mystery and uncertainty of local collective rights and other ‘arbitrary arrangements’. To bring about this uniform values and property framework, until recently, the positivist, liberal legal tradition largely ignored the construction and functioning of law in social action and in existing power relations - illustrated among others in Justice concepts such as Rawls’ well-known ‘veil of ignorance’ (1971). It denied that formal water law, rather than constituting an objective, rational system for designing societal life, is a cultural phenomenon and a political product, developed and enacted by societal groups, classes, and governmental agents who ply their strategies to foster their interests.¹³ In Andean countries, the liberal equality myth, the assumption that modern water society could be legally engineered, and the unitary legalistic notion, have always been very strong. As Galanter observed long ago in another context: “modern law includes techniques for eroding away and suppressing local law by official law... It tolerates no rivals; it dissolves away that which cannot be transformed into modern law and absorbs the remainder” (1966: 163-164).

A case in point is Ecuador, where the 1972 Water Law and its regulations are not compatible with existing local control forms, nor is any authority granted to local systems to establish rules respon-

10 Bentham, quoted in Polanyi 1944:18, in Goldman 1998:24.

11 “Shifting the recognition of ownership from local arrangements into a larger order of economic and social relationships made life and business much easier. Formal property freed them from the time-consuming local arrangements inherent to closed societies” (De Soto 2000: 174-175).

12 “Common standards in one body of law are necessary to create a modern market economy” (De Soto 2000:164).

13 Law not only prescribes and proscribes but also re-creates social reality and is reshaped by this reality (Guevara 2006); in a context of legal plurality, State regulations and norms acquire meaning as they are interpreted, enforced and manipulated in societal settings. See Benda-Beckmann et al. 1998; Boelens & Albó 2007; Castro 2004; Correas 1994; Chambliss 1993; Roth et al. 2005.

sive to context diversity. Instead, very detailed, uniform prescriptions are stipulated. For instance, administration of State irrigation systems over the last few decades has been governed by a single, rigid set of regulations – a blanket version covering systems throughout a country characterized by highly diverse zones (Coast, Highlands and Amazon Region) and an huge variety of irrigated production systems (from large-scale systems and agro-export corporations in the coastal region to small Andean subsistence systems). In the foregoing chapter I have explained how the Law’s technical-distributive prescriptions legally institutionalize social differentiation and leave no room for more equitable local norms that ‘distribute scarce water among all users’. And with respect to obligations of users, the regulations set a single rate for water in all irrigation systems. No distinction is made among different systems and regions regarding the productivity increase, decisive for the ability to pay back investments and make operation and maintenance self-supporting; nor any distinction between systems mainly oriented toward self-supply and systems for agro-export.¹⁴

Other examples refer to the rigidity of regulations that, in uniform detail, establish the organizational structure for system management. In chapter 7, I have provided several examples of how new organization structures and artificial forms of leadership completely override existing organizations: a blueprint for organizational disintegration. In spirit and contents, the legal text attempts to turn users’ organizations into administrative dependencies of the State agency. Official proposals for a new Water Law typically transfer responsibilities to users, but fundamentally maintain decision-making power over water control in the hands of the State. Even after the latest decentralization wave and the 2004 reform of the Water Law these paternalistic, centralizing tenets of the law have remained virtually the same,¹⁵ while State control has become more subtle.

Examples like Ecuador’s Water Law are quite common in the Andes. The ideological basis is that official law is omnipresent and cannot take particular features of existing norms into account.¹⁶ The liberal argument of equality under the law results in a myth in legal practice, as manifested, for instance, in the capacity of hegemonic sectors to legally manipulate conflicts over natural resources and acquire water rights. Indigenous leader Nina Pacari correctly pointed out the fact that:

“Although in Ecuador water is considered national property, and there is an institution that provides water concessions to users, when indigenous people are involved, racism relegates them to the end of the line in user rights. They prefer businesses, such as flower plantations, agro-industrial growers, the big players, over local or small livelihoods. There is a structural problem of power.”¹⁷

While local user groups claim the right to more equal access to resources (‘the right to equality’) and

14 Forced by the scanty recovery (only 4%) of the government’s investment costs, new decrees have granted regional agencies greater autonomy to set the basic irrigation fee (to recover investment) and the volumetric fee (to cover operating and maintenance expenses). However, differentiated or progressive fee collection is not made operational in practice (cf. Hendriks et al. 2003).

15 Another uniform obligation is the proportional contribution – according to each user’s water rights – to maintaining the system, but greater investment by the elites could enable them to claim greater rights to water and decision-making power. Next, the Law establishes that “users of a conduction canal are obliged to accept the incorporation of new volumes in their common water course to serve other beneficiaries. New users will make a single payment to owners for using their facilities” (Ch. IV, Art. 139). This contradicts customs in most communities, which establish that the *creators* of irrigation infrastructure own the water and the facilities, which is fundamental to collective action (chapter 2).

16 Water law and policy history in Bolivia, although sharing the same technocratic, legalistic style, is in many ways an exception, because the State has had little influence in irrigation affairs. The new regime of Evo Morales aims to install a more community-friendly policy, but will face the same challenges and dangers of ‘water rights formalization’.

17 Pers. comm. August 2002. Cf. Pacari 1998.

the rights to practice self-sustained difference with respect to the contents of their water normative frameworks ('the right to be different'), Andean policy *practice* applies the legal equality argument not to foster more equal access, but to deny difference and contain diversity. The ideology of the equality argument de-legitimizes the demands of ethnic and societal groups for genuine recognition of their right to be different. Consequently, it is concluded when problems occur that they were not caused by racism or class oppression, but by the indigenous and peasant communities' *backwardness* and *lack of access to official legislation*, since these population groups are attached to their traditional water management systems and also lack modern inputs and education. Official discourse suggests that they will be 'included' through instruments such as legal training courses, improvement of roads and communications, and institutional access (through rural development). There is an assumed need to educate the 'uneducated', and raise consciousness for the 'unconscious', in order to include the 'excluded'.

8.4. Exclusion and inclusion: a jump into the history of legal recognition politics¹⁸

Andean countries have not always followed this mono-juridical, mono-cultural model. Therefore, to provide a clearer background and before continuing with the contemporary game of recognition politics, this section follows a short side-path through the fascinating history of interlegality in the region:

During the first two centuries after the Spanish Conquest, the legal situation and practice regarding indigenous (water) rights changed frequently and in a complex manner. In some parts of the Andes, the *encomienda* system (chapter 6) entailed a sort of 'indirect government' and tax model to extract local wealth, while maintaining administration by ethnic groups. However, there are also regions and periods in which most indigenous communities' water rights were usurped directly by the *encomenderos*, denying local arrangements to manage their leftover water rights.

Faced with this situation of usurpation and genocide, the Spanish Crown reacted early on by enacting an ambivalent legal model. It responded to a fierce polemic that wavered between segregation of the 'natives' because of their 'natural inferiority', and their legal protection because of being humans who had the capacity to obey 'human and divine laws', and some ability to govern themselves with legitimate authorities.¹⁹ Guevara (1993) shows how the system established as a result of this polemic was discriminatory but designed to protect Indians from other colonial agencies. Indians were 'miserable but human'. Ignorant but descendants of and closer to the natural state of Divine Grace, they deserved not to be enslaved, but to be cared for (see also Arguedas 1975; Baud 1997; Flores Galindo 1988). As Guevara argues, thanks to the teachings of this humanistic, 'inclusive' current, both the Crown and the Papacy finally recognized the human status of the New World's inhabitants (conceptualized as *potentially equals*, see chapter 9). The Laws of Burgos (1512) and the New Laws (1542-43) ordered "that Indians and natives of our Indies be very well treated as our vassals and free

18 This section is based on Boelens, Gentes, Guevara & Urteaga (2005b).

19 This debate is embedded in the broader political-philosophical efforts to construct (neo)colonial images of the 'Indian' and the 'Andean' (chapters 4, 6, 9, 13). The segregationist current was strongly influenced by Sepúlveda (1596 (1550)) who argued that the *indios* had no soul and could not be considered human. Las Casas (1599 (1552)) defended the opposite position and proposed a legal system of guardianship.

persons, which they are”.²⁰

As a consequence, with the issue of their human status straightened out, the system of miserable-ness²¹ was established. For this purpose, a parallel legal system was set up: the ‘Republic of Indians’, complementary to the ‘Republic of Spaniards’ (see chapter 6). This judicial-administrative system was to protect and control Indians’ legal affairs.²² Colonial law was established in paternalistic terms and the indigenous had to operate under both legal systems: juridical plurality was a daily feature in the colonial world, it was certainly exclusive but not dichotomous (Guevara 1993). Water legislation provides clear illustrations. Brown and Ingram observed, for example, that “in Spanish colonial law governing water allocation, relatively objective criteria such as title and prior appropriation were tempered by a number of other, more subjective issues related to fairness. [...] Above all, the rights of the collective community were considered” (1987:35). Indeed, amidst the period of the greatest exploitation and usurpation of indigenous communities’ water rights, their ‘uses and customs’ were also defended by the Laws of the Indies and by Crown decisions. Moreover, colonial legislation ordered the Spaniards themselves (in 1536) to follow the modes of water distribution historically practiced by the ‘natives’.²³ It formalized a sort of norm of turning to the indigenous custom. However, this was gradually abandoned and omitted from subsequent laws.²⁴

Obviously, practice was often different from the law, and there were also many rebellions by *encomenderos* against the ‘protective’ law sent from Spain, since it reduced their capacity to exploit (cf. Patterson 1991). Mariátegui wrote: “The Laws of the Indies were inspired by purposes of protecting the Indians, recognizing their typical organization into ‘communities’. However, in practical terms, Indians remained at the mercy of merciless feudal rule, destroying their traditional society and economy” (1973a(1928): 44). After the starvation of millions of people in the first colonial decades, Viceroy Francisco de Toledo enacted his notorious ordinances to establish the ‘Reductions’, in 1570 (see chapters 4 and 6).²⁵ A few years later, Toledo was obliged to issue the ordinances “to govern waters of the city and the country” in order to prevent the bloody conflicts over land and water resulting from his own policy of reductions.²⁶ In general, access to irrigation water became

20 The papal bull *Sublimis Deus* (1537) also established the rational capacity of the Americas’ natives, affirming their potential conversion to Christianity, and prohibited “depriving them of liberty or property, even when they are outside the Faith of Jesus Christ” (in Haring 1966: 66, quoted by Guevara 1993:93).

21 “‘Miserable’ is the term to denote all those persons whom we naturally feel sorry for, because of their status, quality or work [and we find that these conditions] apply to our Indians because of their humble, servile, defeated situation ... their imbecility, roughness, poverty and cowardice, unceasing labor and service” (Solórzano & Pereyra 1647, *Política Indiana* in Guevara 1993:94-95).

22 An example of conflicting jurisprudence between newcomers and protection for indigenous resources was a 1532 ordinance stating that: “when they have to distribute the land, water, drinking holes and pastures among those who have come to settle, the viceroys or governors with jurisdiction shall make the distribution, [...] taking into consideration that those who have no land or equivalent property shall have preference, and that the Indians shall be left their land, inheritance, and pastures, so that they [...] shall have all possible relief and comforts to support their home and families” (Compilation of Laws from the Kingdoms of the Indies, 1681: Book IV, Title XII, Law V).

23 In the Laws of the Indies, Carlos V ordered: “We further command that the order which said natives had in dividing their lands and waters shall be kept and practiced hereinafter just as it is, among the Spaniards among whom they are distributed and allocated, according to the natives who previously were in charge thereof, to irrigate the land according to their criteria, giving the water successively to one after the other...” (General Archives of the Indies, Audience of Lima 1536: File 565, Book 2, Section 239).

24 Even so, till today ‘indigenous’ rights may be defended on the basis of these historical rights. See, e.g., the case of Urcuquí, analyzed by Apollin et al. (1998).

25 Artificial towns in which the indigenous survivors were concentrated to make sure of their political subordination and economic exploitation (ch. 4 and 6). Reductions had their own, segregated jurisdiction and authorities, although only to deal with minor conflicts (Yrigoyen 1998).

26 These ordinances refer to the lack of action by the water judges “... by which the natives were very much mistreated, during the night and even by day, and there were quarrels and knifings and affronts and deaths and many conflicts, ...”

a fundamental motive for conflict between the Spaniards and those Indians groups who attempted to keep water to irrigate the land that they could still control (Dominguez 1988).²⁷ Soon after, the land composition process (1594) followed, which consolidated hacienda rights to reallocated water (Guevara 1993). Since then, official water distribution has been increasingly discriminatory against indigenous communities and forced them to adapt to outside regulations.

With independence from Spain in the early nineteenth century, the above model of intermittent expropriation and protection, of exclusion and inclusion, was adapted and legitimized on the basis of nation-State law and liberal ideology. Apparently the new model fit in well with traditional feudal relationships in rural areas: haciendas became much more powerful by the end of the 19th century, eliminating or marginalizing indigenous water rights and management forms (see also chapter 5 and 6). Mariátegui wrote: “The individualistic nature of the Republic’s legislation has unquestionably favored absorption of indigenous property by large landholders. The status of Indians in this regard was more realistically addressed by Spanish legislation. Anyhow, in practice, judicial reform is nothing more than just an administrative reform, since feudalism’s economic structure remains untouched. Most community property has already been seized” (1973a(1928):39-41).²⁸

Indeed, in practice (despite certain portrayals of well-structured dominant power) the *gamonales*’ power was not so much determined by central law. Each made his own law to suit his own style, determining his own norms and limits on exploitation. Along with the private mechanisms of ‘moral economics’ between gamonales and Indians, then, there were no binding limits. Mariátegui again, in his famous essay, ‘*El Problema del Indio*’: “Gamonal rule inevitably cancels all law or ordinance to protect the indigenous people. The large hacienda owner is a feudal lord. Against his authority, bolstered by the environment and by habit, written law is powerless” (1973a:36). Notwithstanding the relative normative disorder of landowners, Flores Galindo tells us that the State required the gamonales to keep the campesino and indígena masses (excluded from suffrage and other liberal democratic rituals) under control. Moreover, Indians had languages and customs different from those of ‘civilized city-folk’ and for that reason were almost beyond the ken of central control (1988:291). We could say that the aim was to control and suppress existing legal pluralism in local communities through the diverse, chaotic pluralism of domination. Rather than formal relationships, what connected the State bureaucracy with the gamonales was a profoundly racist ideology. Class relationships also linked them, as the single owner personified the power to control that had previously been wielded by the ‘colonial holy trinity’: the corregidor, kuraka and priest (Ibid). Although gamonales often held public positions, their power and norms were based on private ownership: the hacienda, including Indians and employees, male and female. As Flores Galindo puts it, a hacienda’s power and wealth were not calculated by land area under cultivation, produce or livestock, but the size of the labor force, Indians and *yanaconas* at their command.

Formally, at the national level, the above ‘ideology of equality’ was formulated in terms of a major

(Ordenanzas de Toledo [1577], in Dominguez 1988:57).

27 Toledo’s “Ordinances for the Countryside” attempted to arbitrate between Spaniards and Indians and set strict water distribution norms. E.g., Ordinance IV regulated that “any person who damages or breaks or adds to or digs out any ditch intake [...] will be subject to a fine of 30 pesos the first time, and a fine of 60 the second and will have their hand nailed, and the third time 100 pesos and their hand will be cut off; and if some black or Indian should do so, the master of that black or Indian shall pay the pecuniary penalty, as if he had done it or ordered it, because this has been done for the benefit of his hacienda ...” (quoted by Dominguez 1988:57-58).

28 Similarly for the Bolivian case, Albó argues that republican liberal policy eliminated most communal rights and incorporated the indios in the hacienda system. In the short period of the late 19th and early 20th century the republican State “appropriated more communal lands than the Spanish colonial empire had done in the three centuries before” (Albó 1999:457).

political undertaking of racial mixing (*mestizaje*, see chapter 6). Fundamentally it was an ideology of whiteness, standardizing all inhabitants of the nation under the model of white-mestizo hegemonic groups, with regard to cultural codes, norms and even physical aspects. Mariátegui, although influenced by indigenist thought, reacted fiercely against this type of racism: “Expecting indigenous emancipation through active cross-breeding of the native race with white immigrants is an anti-sociological naiveté, conceivable only in the rudimentary mind of someone who imports sheep for wool” (1973a(1928):40). He was early to analyze the inclusive and equalizing power strategies connected to liberal thought and revolution: “The liberal program of the Independence Revolution logically entailed surrender by Indians, as an automatic consequence of enforcing its egalitarian postulates” (Ibid:46).

Largely due to the influence of indigenist currents of thought²⁹, this assimilation model was combined with an integration model (Yrigoyen 1998). This attempted to grant indigenous communities more rights and integrate them into a market system, to enable them to share in the benefits of ‘modern’ society. The building of a national identity and unitary consciousness was quintessential for the effort of dominant groups to enhance and control nation-State building. The approach of normalizing and equalizing the ‘inferiors’ to fit them into the white-mestizo hegemonic groups’ model was combined with a paternalistic, civilizing approach geared to ‘supporting the backward’. In chapter 9, I will link this to the wave of neo-liberal water privatization policies which, similarly to earlier liberal and ‘revolutionary’ reforms, contain policies of recognition that neatly combine ‘recognition’ with denial of the Other; whereby ‘civilizing’ approaches provide the historically staunch grounds to normalize the abnormal.

Here we arrive back at our main road of contemporary recognition policies. Ultimately, while new constitutions based on ‘multicultural rights’ increasingly displace *mestizaje* politics, often, the political agenda of ruling groups has not substantively changed. More subtly, concessions are made in the field of some ‘cultural rights’ meanwhile assuring that potentially disruptive, collective demands and water rights are fended off and that real transformations (i.e. redistribution of resources and decision-making power) do not take place. While societal groups, whose local norms and collective rights have been denied, demand greater legal-judicial recognition, inherently, this can – intentionally or not – result in processes that counteract local claims for more autonomy. Let us have a closer look at these policies and politics of recognition.

8.5. Special law in the Andean region: policies of recognition and politics of negation

During the last decade, as the previous section observes, the laws of most Andean countries have undergone major changes. The constitutions of Colombia, Peru, Bolivia, and Ecuador now formally recognize cultural diversity and legal pluralism. They grant legal validity, to different degrees, to indigenous peoples’ own jurisdictions, to peasant and indigenous communities’ own norms and

29 Indigenist thought (Cf. ch. 4 and 6) was headed mainly by non-indigenous intellectuals, and emerged in the early 20th century in response to the subordination of the indigenous and the heartfelt lack of any national identity, which led to a reevaluation of indigenous culture. Attitudes towards contemporary indigenous peoples were highly ambivalent, including romanticism, paternalism and revolutionary approaches (Cf. Almeida 1996; Baud 1997, 2003, 2006; Degregori 2000; Sieder 2002).

authorities, and sometimes to self-governance of water and other resources within their territories.³⁰ Yet, in chapter 5, I have manifested that such general changes regarding recognition of diversity are not reflected in the more powerful water laws or agrarian laws. In Bolivia, 33 proposals for a new water law have passed without reaching agreement on water rights issues that are fundamental to the peasant and indigenous populations – although the latest legal reforms may provide entrances. In Peru, in a similar way, enacting a water law that would respect peasant and indigenous rights and the country’s diversity is far from reality. In Chile, ruling water monopoly sectors have managed to prevent nearly all legal changes that would increase social justice, environmental balance and political democracy. In Ecuador, the rural-indigenous movement CONAIE had led a process to formulate a proposal for a new water law recognizing the country’s diversity in peoples, regions and water institutions (CONAIE 1996). The same was done by the broad civil society Water Platform (Foro RRHH, in 2004 and later years). But adopting and materializing such laws may well take a long time because of resistance by vested interest groups. As indigenous leader Nina Pacari explained in 2002, shortly before she became Minister of Foreign Affairs in a (short-lived) indigenous-supported government that was unable to challenge existing power relationships:

“Regarding the Water Law, we have preferred to suspend debate, because an unfavorable correlation of forces in Congress could upset the indigenous peoples’ efforts to defend better water distribution. Market and privatization theory prevails, and in this context, these power groups would achieve a legal instrument instead that would smooth the way to materializing as soon as possible their profit-seeking, market-driven goals, which would by no means be a contribution to Ecuadorian society. We feel that it is preferable to keep our proposal on stand-by and continue, for the time being, with the law we have at present”³¹

This last remark seems to be crucial: to what degree do legal changes for recognition and implementation thereof in society have political and social support? How can these new provisions be reproduced beyond the constitution, in ‘strong’ legislation (e.g. water law), in public administration and procedures, and daily water management practices? And to what degree are new legal changes actually responsive to demands for greater local autonomy and self-governance in water management?

State law and local rights: a shotgun marriage

One recurrent way in which legal-administrative recognition of normative diversity has occurred is through the enactment of *special law* (see Boelens et al. 2005b). In the Andean countries’ legal systems, Agrarian and Community Laws create particular rights especially applicable to the peasant and indigenous populations. Special laws may also be ‘added’ to an existing legal structure, e.g. by ‘adding’ an ‘Indigenous Law’ or ‘Peasant Community Law’ as a new legal body to the existing Water Law and Mining Code. But recognition policies in general, and, in particular, ‘special laws’ to protect, regulate and legally ‘recognize’ specific societal stakeholders, are not unproblematic. It clearly reflects the recurring *recognition and denial* of socio-legal diversity (Vidal 1990). Special law is commonly grounded in external, essentialistic constructs of both ‘indigenous identity’ and

30 Cf. Bustamante 2002; Palacios 2002; Urteaga 2006. The inclusion of ILO Convention 169 in national law has lent greater force to this demand for cultural and political recognition.

31 Pers. com. with Nina Pacari, August 2002.

‘peasant communities’ in the Andes. These ideological concepts converge in formal recognition policies to institutionalize local water users’ rights and management norms, freezing dynamic local normative systems, reinforcing the process of subordination to other bodies of law, and often strengthening (intentionally or not) the interests of influential players.

Thus, the outcome of this ‘recognition’ may be the oppression or obliteration of local law, codifying it in isolation from its cultural context and slotting it into larger-scale power structures and strategies. As Wray (1993) observes, legal recognition of rural communities in the Law on Communes and the Legal Decree on Peasant Communities (1937) has greatly harmed people’s own forms of organization in Ecuador. “This is not recognition but the imposition of a single form of organization, with characteristics reflecting the criteria and values typical of ‘representative democracy’ rather than the uses and customs of the community itself”.

As I have argued in chapter 1, ‘legalized customary law’ or the diverse forms of special law are a product of a ‘forced engagement’ between official and local law systems – a ‘shotgun marriage’. Official law is too general to be able to resolve locally particular problems and often cannot do ‘perceived justice’ in local cases and water cultures. Therefore the State and its legal system face the need to ‘incorporate’ local fairness constructs and solve normative conflicts in order not to lose legitimacy and discursive power in the eyes of its subjects. Local law systems, in turn, are intrinsically hybrids, and cannot operate without relating to formal law systems. But the marriage is unhappy and extremely complicated. Among other reasons, this is because the State and dominant groups in the Andean countries aim to resolve only ad-hoc, secondary conflicts, without changing the primary, fundamental conflicts based on class contradictions and power structures that reproduce gender and ethnic positions. Various ‘marriage’ conflicts cast doubts on the effectiveness of special law or official recognition policies in safeguarding peasant and indigenous water rights.

The examples below from Peru and Chile analyze how these official regulations make use of simplified, stereotyped constructs that misrepresent peasant and indigenous organizational forms, identities and natural resource management dynamics. They also show how these essentialized constructs are being used politically to freeze, subordinate or de-legitimize (illegalize) the diversity of locally existing socio-legal repertoires. Next, although officially the different bodies of law have equal validity and power, and should be internally consistent, in water resource management practice there is often an informal hierarchy among these multiple and contradicting fields of State law. This is used and extended by powerful stakeholders in order to strategically select the most expedient legal options for themselves, strengthen the status quo, and continue to control their own destiny and that of subordinated groups.

a. The Peruvian Water Law and the Comunidad Campesina

In chapter 2 and 4, I have described how the four Mollepata communities joined to form an inter-community organization to rehabilitate the ancient ‘La Estrella’ Canal. Of all communities, Marcahuaylla was by far the strongest in terms of having a shared territory and ‘comunero’ identity, a joint normative framework and strong mutual cooperation among families. But, like thousands of other collectives in the Andean region, Marcahuaylla had no legal recognition as a ‘Comunidad Campesina’, and lacked all the political rights coming with that label. By contrast, their neighbors of Santiago de Pupuja, had a very weak organization, with loose community arrangements, and lacked leadership and collective decision-making structures and procedures such as in the Asamblea General. It was, however, officially recognized as a Comunidad Campesina, and as such enjoyed all

the benefits of legal recognition (access to credit, water rights, etc.). This situation is recurrent in all Andean countries; Law recognizes only norms and organizational forms that resemble its own image and its (often arbitrarily) self-created ideas on ‘Andean culture and organization’ (see chapter 4).

Recently, on the face of it, the centralized and mono-juridical legal system of Peru seems to have changed in the direction of plurality and decentralization, recognizing local rights. As Guevara (2006) explains, Peru’s 1993 Constitution (Art. 2.19) recognizes that all persons are entitled to their ethnic and cultural identity.³² The Constitution also recognizes the legal existence and corporate status of communities, specifying that they are autonomous in their social, economic and administrative organization, in community work and in deciding about their land.³³ But in water management these progressive legal principles do not seem to apply. The General Water Law (1969) is still in force, is entirely unsuited to the Andean context,³⁴ and ignores any other form of organization, codifying and imposing a single model (Irrigators’ Commissions) to be established in every user community. A technocratic system defines water rights and internal distribution in communities: ‘rational’, ‘efficient’ distribution based solely on technical criteria – with a one-dimensionality that is alien to Andean irrigation reality (Boelens et al. 2006; Hendriks 2006). In sum, national legislation and public policies in Peru deny or only barely acknowledge the existence of the tremendous diversity of local water rights repertoires. At best, there is a timid legal recognition, subordinated to the white-mestizo nation-State’s modernization policies. Even throughout the privatization era of the 1990s, the paternalistic water governance system remained firmly in place. “Since there are no references to peasant or indigenous communities in the water law, they must organize as Irrigators’ Commissions, join the respective Users’ Boards, and apply for official recognition from the Technical Administrator of the Irrigation District (ATDR), in order to retain or gain official water rights” (Guevara et al. 2002: 9).

Paradoxically, this ignorance of local water institutions and imposition of Irrigators’ Commissions goes side by side with, and is profoundly based on, Peruvian *recognition policies*: i.e., recognition of the ‘*Comunidad Campesina*’ through the General Law on Peasant Communities (1987). This law codifies a simplified notion of ‘the community’. The two laws, on water and peasant communities, are subtly connected: the Irrigators’ Commission is established as a specialized committee within the codified community. Thus, national legislation prescribes not only legal irrigation management forms, but also relates them to the elementary form of peasant and indigenous organization, the community (Guevara 2006). Where the General Water Law denies the existence of this basic institution, the General Law on Peasant Communities seeks to rigidly codify and relate it with official water management.

Supposedly, this codification is based on existing organizational forms but, as Guevara observes, “the legal definition is closer to the mythology woven by the early twentieth-century indigenists than to current social sciences” (2006:136), or to realities as experienced by community members. Next, recognition of *existence* is subject to a series of detailed conditions, and to obtain title to their

32 The Peruvian case is based on Boelens, Gentes, Guevara & Urteaga (2005b) and Guevara (2006, in Boelens et al. 2006a), and owes much to the collaboration with Armando Guevara and Patricia Urteaga.

33 The Constitution (Art. 149) grants authorities of ‘native’ and ‘peasant communities’ the power to exercise judicial functions within their territory, applying customary laws, provided that human rights are not violated (Guevara 2006:14).

34 In 1940, the Central Water Council was established to administer rural water affairs. Since then, community organizations were legally deprived of this responsibility, which came to lie with a Ministry of Agriculture official, the ‘Technical Administrator’ in charge of overseeing a great number of systems (Guevara 2006). The Velasco regime’s 1969 blueprint Water Law incorporated institutions and water rights concepts that resemble those found in large-scale State-managed systems in Peru’s coastal region. See, e.g., Del Castillo 2007; Gelles 2006; Hendriks 2006; Lynch 1988a; Vos 2006; Verzijl 2007.

territory communities need to present ‘official evidence’ that accredits their claim (cf. Del Castillo 2007).³⁵ Evidently, “the apparently full recognition, that the 1993 Constitution establishes for peasant communities’ legal existence, runs up against the barriers of the Civil Code and the Law of Peasant Communities. Although it could be construed that the Constitution overrides lower-ranking laws, in day-to-day legal practice communities can operate with any chance of success only when they have accredited their official registration and recognition” (Guevara 2006:141). Many rural groups, self-defined for ages as ‘peasant’ or ‘indigenous communities’, are involved in lengthy procedures, but have not yet received their ‘official classification’ notice – with serious consequences for the defense of their rights to water and other resources, and access to loans and public resources.³⁶

Recent legal changes were not made to adapt to the complex rural reality, but mainly to thrust peasant communities into the market, to make it easier to break them up and sell their land (see Del Castillo 2007; Gelles 2006; Guevara et al. 2006; Oré 2005; Urteaga & Boelens 2006). The numerous draft laws discussed since 1993, with the purpose to make water law fit into the constitutional framework, argue that water management must be freed from bureaucratic red tape by expanding local organizations’ room for action, and carry the political agenda of (neo)liberalism.

b. The Indigenous Law, double legislation and political practice in Chile

“Humanity does not gradually progress from combat to combat until it arrives at universal reciprocity, where the rule of law finally replaces warfare; humanity installs each of its violences in a system of rules and thus proceeds from domination to domination” (Foucault 1977: 151).

Foucault’s critique of Hobbesian hope and believe in State law certainly applies to most Andean countries’ agrarian and water laws. The politics of recognition often materialize in policies and laws of recognition, in which domination is institutionalized either in legal scripts and/or in actual legal procedures. This calls for policies and laws that recognize local identities and customary rights systems to be critically scrutinized. This concerns both the ‘powerful’ laws (e.g. the Peruvian and Ecuadorian top-down Water Laws or the Chilean neoliberal Water Code), as well as the ‘weaker’ laws and regulations that aim to balance ‘issues of recognition’.³⁷

To counteract the negative consequences of the neoliberal Water Code for indigenous communi-

35 Regarding community membership: the General Law on Peasant Communities (Art. 5) determines that native members were born in the community, are children of members or of people integrated into the community. ‘Integration’ occurs through marriage or when an adult applies to the General Assembly for membership. The Law also establishes outsider community members: adults who live in the community for over 5 years, do not belong to another community, and are registered in the communal roster.

36 In the last decade’s neo-liberal era, this governmental, patronizing guardianship of rural communities has been limited to some degree, but this ‘flexibilization’ happens precisely in those areas that *weaken* the collective capacity of communities to defend their natural resources. “The reduction of constitutional guardianship achieves the goal of incorporating communal land and water rights into the market economy” (Urteaga and Guevara 2002:5). Similarly, although the 1993 Constitution recognizes rural and indigenous community authorities’ right to administer justice and natural resources according to their customary laws, the law does not recognize this local right to regulate or exclude third parties that utilize these resources. “What has been written with one hand has been erased with the other” (Guevara 2006:140). Thus, if conflicts arise, there is no effective legislative protection or recognition to enable communities to make use of their local jurisdiction over the resources they control.

37 A case in point is ‘dual legislation’ fostered by ‘special law’. Legal pluralism not only results from the interaction among State and local legal repertoires (chapter 2). It also originates in the different spheres of formal legislation itself: laws that tend to overlap and sometimes contradict each other.

ties (for details, see chapters 5 and 9), Chile enacted a new law in 1993, the *Ley Indígena* (Indigenous Law), meant to support indigenous populations in defending what was left of their territorial rights and livelihoods (Gentes 2005; Boelens et al. 2005b).³⁸ But although the Indigenous Law has managed to fill some gaps in the Water Code, the effects remain questionable. It continues to be difficult to substantively defend indigenous rights against third parties (cf. Aylwin 2004; Toledo-Llancaqueo 1996). In Chile, specific indigenous rights have always been granted by special laws, whereas the Constitution has kept silent (Gentes 2006). The fact that it is a ‘special law’ only applicable for (and within) a ‘special group of the national population’, and the costly, time-consuming procedures it entails, has left most indigenous claims unanswered (Castro 2007). Moreover, the Indigenous Law has proven to be extremely weak as a legal tool, whenever indigenous communities had to face the powerful Water and Mining Codes, which are called upon by the country’s water-owning elites. As Castro accurately observes: “All the rights offered by the Indigenous Law will go only as far as the bounds where the business sector exercises its prerogatives, as the main driving force of the prevailing development style” (2002:200).

The Indigenous Law stresses special protection of water for indigenous groups but at the same time it establishes that, in any event, this must not interfere with water rights that have already been registered pursuant to the Water Code (Castro 2007; Gentes 2006). Here, the State represents various positions (in mining, irrigation, logging, and hydropower) that often are in conflict with indigenous rights (Toledo-Llancaqueo 1996). As a Mapuche leader phrased it: “The Indigenous Law is not worth anything when confronted with the Water Code and the Mining Code. The latter are established basically to support the mining companies [...] The government accepts such water legislation. Therefore, companies or any private investor can claim our subterranean water resources. The people and their communities have been left without water. And without water they cannot do their agricultural production and animal husbandry. As a consequence they have had to migrate to the cities” (in: Solón 2003).³⁹

Since mining companies in Chile have appropriated most of the historical water rights of Atacameño and Aymara communities, they are now trying to get authorization to appropriate Bolivian water, currently owned collectively by indigenous communities. Legalization of mining and water export rights implies illegalization of existing ancestral and socio-territorial rights. Bolivian indigenous communities struggle against this neo-liberal policy, as one user explained: “They want to export 3000 to 6000 liters per second to Chile. What the government wants to do is to make a law to export water and favor the big Chilean enterprises such as Chuquicamata, Inés de Collahuasi and Escondida. This is our great concern!” Another Bolivian irrigation leader commented on this water power play: “Behind the back of our communities, the Bolivian government wanted to enforce a new law to legalize water export to Chile. Communities were never consulted or knew about this law, which was handled in secret [...] Rainfall in this Southern Altiplano region is extremely limited, only 100 mm/year. And in the Eduardo Abaroa reserve it’s even less, 60 mm/year. [...] I think that to defend our water is a matter of life and death” (in Solón 2003).

As Gentes (2005) explains, the State, as an owner, shareholder and grantor of mining concessions, is directly interested in “suitable, expedient mining exploration and exploitation” (Mining Code, Art. 120).⁴⁰ National regulations are complemented by international jurisdiction, establishing

38 Elements of this Chilean case are based on Boelens, Gentes, Guevara & Urteaga (2005b) and Gentes (2006, in Boelens et al. 2006b). See also Castro 2002, 2004, 2007, and Gentes 2002, 2005.

39 Documentary ‘La Sangre de la Pachamama’, Cochabamba, Fundación Solón 2003.

40 Articles 110 and 111 link the granting of a mining concession with the ample right to use the water sources located in area

bilateral and multi-national treaties that open up local population's water sources to exploitation by mining companies.⁴¹ As also happens on a large scale in the Peruvian highlands, these companies tap aquifers around the wetlands in northern Chile that are the water source for many communities. Water rights of indigenous peoples in southern Chile are also encroached on, especially by forest plantation projects. In their conflicts with hydropower and mining companies, indigenous peoples receive hardly any protection from the Indigenous Law. As Castro (2002) and Gentes (2006) argue, a fundamental problem involves the difficulty of protecting collective community laws in an overall neo-liberal framework that destroys collective organization and favors private rights. Government agencies and international trade law assume that indigenous groups must either fit into the market or count themselves out of the process of globalization. Economically profitable projects often get priority (Cf. Budds 2007; Castro 2004, 2007).

The paradox in Chile's neo-liberal model of local rights recognition is that, often, it is precisely the business sectors that are pushing for strong rights for indigenous and peasant communities. In practice, these become a dead letter, since the objective of these powerful actors is not to defend local rights and indigenous autonomy but to provide a broad range of legal certainties for outside investors in rural areas and indigenous territories (Gentes 2006. Cf. Getches 2005). The water rights market and investment in water resources, according to them, cannot operate if there are customary rights that are not registered but do entail a certain legal protection. Therefore, they seek ways to motivate all water users to register their rights and drive public policy geared to making users participate in a market system of tradable water rights (Castro 2004; Gentes 2002; Boelens et al. 2005b). Thus, strict codification of indigenous rights is what the Indigenous Law is about, grounded in an essentialistic concept of 'indigenusness', disregarding the dynamic nature of identity, local rights, and cultural diversity: a tangible definition of indigenusness and a clear domain of 'indigenous' rights enlarges the security of outside investors as to 'how far they can go', reduces the universe of users who can claim 'indigenous rights', and establishes local rules for behaving as 'Noble Indians' accredited and allowed for by the free market game.

In studies on legal pluralism, the phenomenon of 'legal shopping' (chapter 2) is often analyzed as if it were characteristic only of local actors who practice customary rights. But as the illustrations show, State agencies, judges, businesses, mining companies and hydropower plants also apply this strategy. Double or dual legislation perfectly allows for strategic selection from a range of legal bodies and instruments with often quite divergent meanings and purposes. Different from its own ideology, State law is also internally 'plural' and most often lacks clear boundaries, definitions, and 'internal coherence and consistency': it is product of and subject to social and power relations.⁴²

For this reason, selection among bodies of law or legal instruments does not follow a neutral

of exploitation. The Water Code (Art. 56) even goes a step further and can grant provisional rights in "restricted areas" (Art. 65), which may be turned automatically into final water use rights after five years of actual use (Art. 67). Not seldom bureaucracy is cleared away to grant concessions for strategic economic sectors, and collective interests are curtailed to individual lawsuits where free market arguments are strongly favored (Gentes 2005, 2006).

41 E.g., the Mining Treaty between Chile and Argentina (1999) has the purpose of "facilitating development by investors from the two countries of their respective mining businesses ... It shall be understood that the parties will allow investors from either country to use all necessary sorts of natural resources to develop mining business, including water resources available in their respective territories, even if these water resources are not shared among both countries" (Gentes 2005).

42 In Bolivia and Ecuador, water is regulated under a panoply of national laws and decrees, issued for different sectors (mining, agriculture, water supply, industry, etc.) which often contradict each other and in practice rank hierarchically (cf. Bustamante 2002; Hendriks et al. 2003).

rationale, but is heavily influenced by the power of governmental departments, officials and societal groups behind water interests. Correas (1994) argues that there is really not a *single* legal discourse, as it would seem from the expression ‘the law’. In reality, there is a complex of discourses from different sources. According to the prestige or position occupied by the officials, law has different degrees of effective force. The Andean experience also illustrates how different bodies of law and special laws, although formally equivalent and coordinated in a coherent structure, slot into a *de facto* legal hierarchical structure based on unequal powers. Chile’s Indigenous Law, subordinated in practice to the Water Code and the Mining Code, is telling.⁴³

Obviously, application of official double law further reinforces legal complexity. The theoretical function of government officials and institutions using official law is to enforce it, not to create it. Nevertheless, official agents apply official law in highly varied social situations, introducing criteria and ways of thinking that go beyond the letter of the law. Therefore, it is necessary to distinguish between the official legal wording of special laws (i.e. *selection* from among *formal rules*), and the *interpretation* of norms and directions contained in these legal texts by those using them (Correas 1994).⁴⁴ In Andean countries, interpretation of the law under conditions of multiple legislation – with special, often contradictory laws – offers plenty of room for officials to ‘make their own legal pie’ (Benda-Beckmann et al. 1989). Here, powerful water stakeholders have great influence in selecting its ingredients. Their influence goes beyond just a selection and interpretation of existing legal instruments. Weber: “it is those private interested parties who are in a position to distort the intended meaning of a legal norm to the point of turning it into its very opposite” (Weber, in Moore 1973:721).

8.6. Codification of community norms and water rights

As I have illustrated, in response to demands and uprisings by indigenous and peasant groups, and to avoid losing legitimacy in the eyes of a heterogeneous society, there are many precedents of cases in which national governments in the Andes have expanded their concept of unique, omnipresent and overall national law. Thus, by recognizing or protecting specific social groups of society, they introduce special legal treatment within the positive law system itself. The flip-side of the recognition question is the well-known danger of curtailing local autonomy, chaining these groups to new, strict rules, boxing them into a generalizing State law system. The dynamics and multiple manifestations of local water rights systems cannot be codified into blanket legal terms without jeopardizing their foundations. They refer to a broad range of diverse ‘living’ rights systems and cultures that constantly reorganize their rules precisely to maintain their identity, and their capacity to negotiate and solve problems. The tendency in contemporary recognition policies is to create essentialistic constructs that do not represent this dynamic character of peasant and indigenous identities and rights frameworks. Below I will take a closer look at the politics of essentialization.

43 The existence of plural legislation also makes it easier for politicians and hydrocrats to handle a two-faced discourse of both ‘defending indigenous rights’ and promoting ‘national economic interests’ (i.e. supporting powerful economic sectors). E.g., as Rodolfo Stavenhagen, UN Special Rapporteur for the Human Rights of Indigenous Peoples, reported in 2003, the Chilean State enforces national security laws but out-of-context (“criminalizing or penalizing legitimate activities of protest or social demands of indigenous organizations [...] as a terrorist threat”), while also seeking ‘dialogue’ (in practice, however, the latter is directed at ‘family cases’ (*not* collective cases) and compensating individual indigenous families that have been affected. This contributes to break-ups within communities).

44 A third key factor why “law in action” appears to be quite different from the letter of the law is related to its mediation through various actors in practice – thus the way it is inserted in actual societal relations.

The politics of legal re-representation: freezing, subordination, and illegalization

For ages now, law-makers, policy-makers and scholars have used different approaches to analyze the issue of ‘peasant communities’ (chapter 4) and regulate ‘the indigenous question’ (chapters 5 and 6) in the Andean region. As Guevara (2006:131) observes, “at one extreme are the modernizers, liberals, or progressives, who strive to change the agrarian reality at any cost, including cultural costs. At the other, radical indianists, indigenists, and proponents of recovering Andean culture and technology postulate a romantic environmentalism that places Andean peoples beyond history and near an autarkic utopia”.⁴⁵ Indeed, concepts such as ‘Andean’, ‘native’, ‘indigenous’, ‘peasant’ or ‘community’ have been reduced to fragments with supposedly natural properties, through the projection of stereotyped images by many currents of thought (Boelens et al. 2006b. Cf. Baud 2003; Degregori 2000).

These essentialistic and naturalized constructs have often served in official identity politics, e.g. to validate segregationist policies, to justify ethno-nationalism, or to legitimize biopolitical mestizaje.⁴⁶ This is quite similar to the way how colonial law, in many countries, constructed ‘customary rights’, and invented and officialized ‘traditions’. Chapter 4 has made clear how colonial and modernist regimes of representation have portrayed the Andean community as a backward institutional arrangement that would and should fall prey to the ‘tragedy of the commons’. Indigenist and romantic Andeanist schools, on the contrary, have presented a reified construction to imagine the community. Neo-institutionalist CPR scholars have equally defended the community against the idea of the ‘tragedy’ but on the basis of universal principles, norms and rights notions that characterize ‘rational, successful collective institutions’. In all schools, simplified institutional models, abstracted from complexity, have not just *denied* existing diversity but also *transformed* the way to interpret reality. Commonly, these mutated and biased expressions of ‘ethnicity’ or ‘community’ have entered into the law when Andean region law-makers have ‘recognized customary law’.

Essentialization is not just an *error* but often has a political purpose: the *re*-presentation and *re*-recognition of local water rights and identities refers to re-interpreting and thus transforming them. Re-cognize literally means ‘to know and understand reality again’ – here, to reshape their image and contents according to the needs of the formal recognizers. In this process of recognizing, essentialization and objectification fundamentally occur when complex reality and ambiguous categories need to be *contained* in order to control them.⁴⁷ State- or externally endorsed and crystallized ethnicity, identity and ‘nature’ of people’s water rights provide the illusion of the continuity of existing rights, institutions and practices, which, however, are subject to new contexts in which power relations are being reinforced or strategically rearranged. Commonly, Andean countries’ cultural politics thus define water culture and rights as fixed, reified, and aligned to prevailing institutional and power structures: a crystallization of the presumed physical, political-economic and psychological boundaries and repertoires of a group, which predetermines and makes ‘tangible’ their individual and group behavior. Abandoning uncontrolled dynamics, diversity, human agency, contingency and local resistance to the domains of illusion is the implicit political and policy effort. This becomes particularly important when issues of identity are linked to policies of water distribution and redis-

45 See Albó 2002, 2003; Assies et al. 1998; Baud 2006; Boelens & Gelles 2005; Gelles 2006; Guevara 2006; Salomon 2002; Stavenhagen & Iturralde 1990; Urteaga and Guevara 2002.

46 But they were also appropriated as political and cultural tools of identification by marginalized groups themselves, see chapters 4 and 13.

47 See Kearney 1996. Cf. Escobar 1995; Li 1996; McCay 2001; Van der Ploeg 2003; Starn 1994.

tribution: it automatically hauls ontological and boundary questions about identity into the politics of water control.

Susan George observed that “the notion of ‘rights’ and ‘law’ is manipulated so that the commoners are never judged according to the rules of their own society; their time-tested processes for decision-making, arbitration, negotiation and problem-solving become at a stroke illegitimate, null and avoid. The victims of appropriation are then blamed ... and their social structures are damaged” (1998: xi). But the situation is worse, precisely because of the fact that not all *‘usos y costumbres’* are denied: some particular local rights are allowed, legalized and institutionalized – often in their essentialized expression – at the expense of most others and at the cost of intensifying the repression of disobedient rules and rights. Thus, legal recognition and the subsequent freezing of a socio-legal repertoire on the basis of its naturalized norms and identities, not only have repercussions for those societal groups who are ‘recognized’: it also impacts peoples or management systems that *do not have* this new legal backing. As a direct consequence of non-recognition, these have to suffer exclusion from certain services and basic rights. The legalization of some is accompanied by the *illegalization* of others.

This relates to both ‘cultural rights’ (including water management rules and norms) and ‘distributive justice’ (such as water access and use rights). The Chilean example illustrates how equalization and legalization of particular local water rights (naturalized as ‘traditional rights’) has direct implication for the non-protection of other local rights. As one of the many illustrations, Del Castillo (2004) outlines how the Pampas Verdes project, in Peru, uses the Caracha and Urubamba rivers’ water to irrigate 218,000 hectares in the Nazca and Arequipa regions. By building two dams, the territories of seven peasant communities will be flooded, but since the latter have only local rights that have not been recognized and ‘equalized’, the territories are considered to be State property and are invaded as ‘no-man’s land’.

‘Managed multiculturalism’

Aside from State water bureaucracy and neoliberal policy-makers, freezing and codifying (‘recognizing’) local water rights most often is a clear interest of national and local elites who aim to intervene in local (community) water control. The above experiences in Chile, Peru and Ecuador are telling. In the WALIR research program, the USA case was studied as a comparative, exemplary experience. After two centuries of limiting Indian rights geographically and politically in ever-smaller reservations, white settlers and investors are the prime defenders of clear Indian water rights in order to know how far their encroachment practices can go without overstepping their legal backing: “Because investments and property values are undermined by uncertainty, non-Indians and the western states that tend to support non-Indian interests have also urged that Indian water rights should be legally determined” (Getches 2005: 48). Again, a secondary effect (but politically no less important) was government’s attempt to ‘civilize’ and contain unruly Indians by making individual farmers of them and breaking up communally held lands. After dividing up the reservation and individually allocating the land, the rest of land and water rights could be given to white settlers (Getches 2006; Getches et al. 1998).

Indeed, how to contain and dominate (or even encroach on) the diversity of local water rights through modern, inclusive recognition policies is a fundamental question for current water management. And as I have shown in chapter 6, the answers become increasingly subtle and participatory. Interestingly, the decade in which the greatest wave of official recognition of indigenous and customary rights emerged in Latin America was the same in which the neo-liberal model has been imple-

mented. Strong support was and still is provided by multilateral institutions and donor agencies to the cause of ‘multi-culturality’ and ‘recognition of diversity’ (Cf. Castro 2004; Hale 2002). In fact, there is a convergence of interests between the neo-liberal model and certain multicultural currents. This congruence is especially strong in the case of recognition of currents that demand ‘cultural’ rights to use one’s own language or costume, rituals, management rules and customs, but which do not affect the State’s political sovereignty or the process of market exchange among individual property rights holders. While this liberal ideology defends recognition of the freedom of individuals to define their own cultures and identities, most often their collective rights are being denied.⁴⁸

As Assies et al. (1998) argue, the last decade’s recognition policies in Latin America have been greatly influenced by the ‘dual transition’ – transition toward democratic civil governments and transition toward a neoliberal development model through structural adjustment policies. This combination has given rise to a new strategy of ‘managed multi-culturalism’, which celebrates cultural pluralism but fails to materialize it in lasting effects for oppressed ethnic groups (Assies 2006). By contrast with transformative approaches to multi-culturalism – which aim to genuinely redistribute power and resources – this State and multilateral agency endorsed multi-culturalism reinforces essentialistic expressions of group entities. Also in the field of water control, this recognition policy seeks to standardize cultures and their rights and procedures. Self-regulation, as Hale observes, comes with clearly articulated limits: it “attempts to distinguish those rights that are acceptable from those that are not [...] defining the language of contention; stating which rights are legitimate; and what forms of political action are appropriate for achieving them...” (2002:490). For example, as a typical feature of modern Andean water policies, decentralization of water administration forms part of the standard recipe, and ‘participatory’ rights and organizational forms are precisely detailed. At the same time, paradoxically, in the neoliberal age of State downsizing, decentralization is seized upon by central governments to lighten their responsibilities and *strengthen* their legitimacy and control at the local level. For example, the previous Bolivian government explicitly stated that the core purpose of decentralization was to re-establish State authority over society (see Conaghan et al. 1990; Perreault 2006). Legislation regarding watershed management in Peru is another illustrative example of how the State uses the new ‘participatory, decentralizing’ discourse to strengthen their control (cf. Boelens et al. 2005a).

That is why these local water rights recognition policies are not in opposition to, but rather combine quite well with current modernizing policies. As once foreseen by Marx and Engels (1970(1848)), capitalism ‘equalizes’ and creates a world after its own image. Similarly, in modern times, as Assies et al. (1998) observe, the neoliberal State does not simply ‘recognize’ the community, civil society or the indigenous culture, but rather reconstructs them, as a reproduction of its own relationships.⁴⁹ This policy differentiates between ‘good Indians’ and ‘bad Indians’. The former present cultural demands that are ‘compatible’ with the neoliberal project, whereas the latter is the ‘radical Indian’ who calls for redistribution of power and resources. Indeed, as Hale argues, powerful political and economic actors use this kind of multiculturalism “to affirm cultural difference, while retaining the prerogative to discern between cultural rights consistent with the ideal of liberal, democratic plural-

48 See Assies 2006; Ávila García 2002; Urteaga & Boelens 2006; Stavenhagen 2002.

49 Marx and Engels foresaw the entire abolition, and not so much the ‘recognition’, of locally existing relations as an unavoidable first step. Bourgeois capitalism “... compels all nations, on pain of extinction, to adopt the bourgeois mode of production; it compels them to introduce what it calls civilization into their midst, i.e., to become bourgeois themselves. In one word, it creates a world after its own image” (1970(1848):35). See also Gunther Anders’ analysis on ‘reproduction’ (chapter 7).

ism, and cultural rights inimical to that ideal. In doing so they advance a universalistic ethic which constitutes a defense of the neoliberal capitalist order itself” (Hale 2002:491). Therefore, although the neoliberal project speaks of decentralization, tolerance and respect for multiculturalism, these values must not impinge on the model’s foundations. The diversity of cultural features is accepted and encouraged by this ‘neo-indigenous’ policy, if they do not interfere with market rationality. That is why communities’ own resource management norms are attacked, because they are seen to jeopardize free market operation (Assies 2006). As Hale observes, this neoliberal multiculturalism and its recognition project opens up political space for acknowledgement of packages of rights and the same time “disciplines those who occupy them” (Hale 2002:490).

Participatory non-governmental intervention to install government rule and order

Manyaccla (Huancavelica) is a community located in one of Peru’s most remote Andean areas, where governmental agencies and official law are notoriously absent. The GESORI⁵⁰ project aims to support these communities in improving and organizing their irrigation systems using participatory strategies. In the zone, there are already age-old organizations for natural resource management: although often not legally recognized, the community and its general assembly direct water management and community life. In his analysis of the project, Héctor Paniagua cites the project plan, which states: “There is no pre-defined model and each irrigators’ organization will design their own operation” (2005:49). But having said that, the Overall Operating Plan and the Annual Operating Plan continue with arguing that, for improving irrigation in the area, Irrigators Committees must be created and formalized by the Technical Administration of the Irrigation District (ATDR) – the government authority responsible for setting irrigation management norms.

Paniagua explains that Manyaccla residents are not familiar with the ATDR, nor are they registered on the official rosters. GESORI views as part of its mission to rationalize irrigation organization by including user communities in the formal hierarchy and governmental structure. Interestingly, the project’s Operating Plan creates the Irrigators Committee (parallel to the community) before beginning the so-called “participatory assessment”. Moreover, states Paniagua: “The irrigation management model is pre-defined by the project, standardized by sources and means of verifying the activities’ achievements. The Operating Plan calls for a report indicating: the number of comuneros trained in preparing the water rate, legal documents proving institutional recognition and formalization of irrigators’ organizations. Social promoters are hired, and their pay and the evaluation of their performance depend on submitting these reports [...] and on making the activities listed as project goals a reality” (2005:49).

Although the participatory assessment guide mentions that irrigators’ organizations will prepare their own regulations, to be formalized they must follow the rigid Irrigators Committee model imposed by the ATDR. As Verzijl (2007) and Hendriks (2006) describe for other Peruvian cases,⁵¹ NGOs often penetrate the zones most inaccessible for legislators, taking responsibility for enforcing laws modeled on the context of the Coast and entirely unsuited to the Andes situation (Cf. Boelens et al. 2006b; Del Castillo 2004; Oré 1998, 2005). Also in Manyaccla, the Committee model is an almost verbatim copy of the user organizations regulations (D.S. 057-2000-AG). As an addendum to the General Water law, the ATDR instrument was set up to administer irrigation and collect water

50 “Gestión Social del Riego” – Social Management of Irrigation, in Angaraes Sur

51 For similar cases in Bolivia, see Gutiérrez (2006).

fees. The pyramid hierarchy of water administration views the Irrigators Committee simply as a body to support the governmental structure, with the Irrigators' Commission as the foundation; they must also subordinate to the higher-level Users' Junta, which is accountable to the ATDR.⁵² (Paniagua 2005; Del Castillo 2004). The ATDR does not have the capacity to formalize these Commissions and Committees, so often non-governmental projects have used their participatory tools to bridge between local management practices and governmental norms.

Paniagua concludes precisely that "the regulations that must be 'signed participatorily' by community members to obtain their 'legal recognition' oblige them to set up a specialized organization within their own community - an Irrigators Committee required to support a non-existent Irrigators' Commission and district level Users' Junta -, and to ignore the traditional irrigation management authority: in the case of Manyaccla their community authority, wielded by the president, who does exist, lives in the community and is respected" (2005:53). This mixes government law and 'project law', subtly imposing the latter upon locally existing norms. In the words of one of the social promoters who was given the Kafkaesque job of implementing these irrational plans to 'rationalize and organize local lack of regulations': "Committees are important, but it is like preparing a medicine for a disease that you don't have" (Ibid:54).

8.7. Seduction and invasion of the laws of the heart

"Once governments know where to look for extralegal representations and get their hands on them, they have found the Ariadne's thread leading to the social contract"
(De Soto 2000:186).

In the water rights' moralization and normalization process, the State and its hierarchical-vertical, legal apparatus is not the sole, most important source of power. Capillary, inclusive power mechanisms, particularly, have a much broader range of action, and many day-to-day normalizing mechanisms not involving the State or its official institutions or laws may be even more important for sustaining and reinforcing the State system and class relations than the very State institutions themselves. Still, as I have shown in chapters 6 and 7, it would be an important miscalculation to omit the force and functionality of formal structures from any analysis of the water rights game. The 'game of the rules' relates to official rules and rights as much as to informal ones, and the two are intrinsically connected.

In this sense, 'structure versus agency' debates were often highly misleading. Where Sally Falk Moore (1973, 1978) was right to say that Law cannot operate by itself but needs the forces in society that make law work, both 'legal pluralism' and 'human agency' (or 'actor-oriented') schools sometimes tended to conclusions underestimating the strategic force of official structures and formal laws. Others (and even Foucault in some of his texts) have argued that the ancient, sovereign power of Law

⁵² According to the ATDR regulations, the Committee's function is to comply with the provisions of the governmental authority and "Participate in formulating, implementing and overseeing Cropping Pattern and Irrigation Plans to support the Irrigators' Commission and the Users Group"; water fees must also be paid to the ATDR (Paniagua 2005). But these Cropping Pattern and Irrigation Plans are rigid, attempting to mold and oversee the smallest details of local management (Hendriks 2006; Verzijl 2007). Moreover, as Paniagua shows, in communities such as Manyaccla there is no water fee. Water is not charged for (except when people chip in for repairs) and the local approach is to contribute workdays or produce. When they sign up, they agree to pay the fee and the president (contrary to many community members' opinion) said that this payment is necessary 'because it is required by the project'." (Paniagua 2005:55).

has been replaced by the modern, disciplinary power of the Norm. But normalizing mechanisms have not replaced formal modalities; rather, they have infiltrated them from below, sometimes undermining them but also serving as an intermediary between them, and above all making it possible to bring the effects to the most minute and distant parts of the Andean region.⁵³ To a large extent the legal system, just as other official power structures, has become part of the inclusive power game, particularly since it adopted an equalizing, all-including liberal ideology. In a Foucauldian sense, wherever ‘the law’ is invaded and colonized by ‘the norm’ (normalizing techniques and discourses), its effectiveness multiplies. Law, and the complex of human and material legal agents, apparatuses, institutions and regulations that are developed to apply law in a certain manner no longer depend on just vertical, authoritarian power, or on the power of one group over another, but on the way that people interact with and *constitute each other as agents and subjects of law*, in multiple ways.

Indeed, if (paraphrasing Marx⁵⁴) the ruling rules and rights, and their making, would be limited to only the ‘rules and rights of the rulers’, their influence in the Andean highlands for the most part would be restricted to the top-down, formal or coercive water power game, instead of subtly invading and interacting with local rights repertoires. As happened under colonial water rights regimes, Andean water control collectives would have considered these rules of dominance largely as just ‘external’ norms that operate and face off at the level of their collective water rights⁵⁵, but which are not translated into their ‘internal’ frame of rules and individual water rights. The more the ruling rules are (seemingly or actually) co-constructed by non-rulers, the greater their normalizing and subjugating power. As I have illustrated above in the Manyaccla case, NGOs and Juntas de Usuarios in Peru actively participate in advancing the uniform rule of state law, even more intensively in those remote places of the Andean highlands where the State agencies lack access and cannot intervene directly (see also Boelens & Gelles 2005; Paniagua 2005; Verzijl 2007). Water law and rights, therefore, should not just be viewed in terms of their contents and legitimacy – as only the materialization of power relations –, but equally in terms of the methods of subjugation that they promote.

In short, State law has *continued* to exert its dominating power, but unlike colonial times, no longer as chiefly a coercive power modality: its ideology exercises capillary power and invites all Andeans – white, red, black, yellow or green – to participate ‘under equal terms’. As such it disguises the new ways of dominating water control, and is even a prerequisite for effective water rights disciplining since it applies presumably ‘objective’ and ‘non-discriminatory’ legal codes. Indeed, “the theory of sovereignty, and the organization of a legal code centered upon it, have allowed a system of law to be superimposed upon the mechanisms of discipline in a such a way as to conceal its actual procedures, the element of domination inherent in its techniques” (Foucault 1980:105).

At the same time, despite their strategic interaction, coercive and capillary powers, or State law and disciplinary norms-as-a-societal-force, *are not the same*, and cannot be reduced to each other. It makes law into a complex instrument of power, especially since marginalized water user groups, just as indígena and campesino federations, actively strive to join in this power, and to have their

53 As Foucault also argued, “the power of the Norm appears through the disciplines. Is this the new law of modern society? Let us say rather that ... it has joined other powers – the Law, The Word and the Text, Tradition – imposing new delimitations upon them” (1995:184).

54 “The ruling ideas of every epoch have always been only the ideas of the ruling class” (Marx & Engels 1970(1848):51). Nevertheless, although it is certain that ruling classes in Andean countries have represented their views and interests far better in laws than the subordinate peoples, legal shotgun marriages (and the liberal notion of equality) make that Law increasingly complex and in part a reflection of social struggles among those who aim to maintain or to challenge the status quo.

55 See chapter 2: collective water rights, fundamentally, have an external function vis-à-vis third parties. Individual rights determine internal water organization and distribution.

customary rights ‘included’.⁵⁶ Hybrid and even shotgun marriages are the result in the Andean region, commonly of poor fertility and doubtful offspring in terms of effectiveness for the subjugated population.

Back to De Soto’s utopia: comprehending and including extra-legal rights

As was argued in the above section, essentialization of local customs, water rights and identities should not be disregarded as simply slip-ups or off-notes due to misinformation. It is part of the water power game. In this way, Andean families, communities, their organizational forms and their water rights are ‘identified’ and reduced to labels; their multiple and trans-boundary identities are denied and simultaneously ‘contained’. Through moral, institutional and political aligning, their complexes of unruliness need to become tangible and comprehensible (Latin: *com + prehendere* = ‘to grasp and include’, ‘to take in’. Spanish: *comprender* = ‘to understand, *com + prender* = ‘to confine’, ‘to imprison’). They become included and embraced through capillary power; they need to be equalized - not necessarily as political effects that are purposely constructed.⁵⁷

The cases show that, more than through coercive law-making and rule-imposition, the mechanism is to colonize the consciousness of water users and redefine their normative frames of reference and day-to-day water rules. As I have argued, this involves the re-shaping of local water institutions into those that fit in with State administrative structures and/or market rules and control mechanisms. Acceptance and even users’ request of State organizational and normative frameworks is fostered by the fact that these are preconditions for obtaining legal recognition of the community and its water rights, which in turn, are preconditions for obtaining loans and financial support for irrigation projects. Clearly, this is not limited to the Andean water power game. Coward for example related about the Philippines that “each indigenous system receiving government assistance is required to organize formally in accordance with standardized rules [...] These rules include detailed statements about the officers required, committees to be organized, and other procedural rules” (1977:233). Li analyzed how the Dutch colonial authorities and associated scholars engaged in a major program of cataloguing the tradition (*adat*) of Indonesia’s indigenous communities, “as part of a program to strengthen their control over the countryside” (Li 1996:508. See also Roth 2003; Mosse 1997; McCay 2001).

So, rather than recognizing existing dynamic rights and organizations it is the active reconstruction and re-constitution of these organizations and rights frames in the State’s image that forms the crux of the legal and policy effort - the Manyaccla example is illustrative. In this effort of subject-formation *the role of the water users themselves* is quintessential, as I have shown before in the Licto case. For instance, the Manyaccla intervention process reveals that NGOs, just like water user leaders and communities, often also play a crucial role in this process of self-examination and

56 A warning must be given against seeing Justice as rigidly positivist, universalist and ‘objective’ and Equity as ‘locally developed’. The fact that Equity refers to particular, diverse, locally developed constructs by no means implies that it is developed autonomously. Since subjects are mediated (‘subjectified’), the same obviously happens with local normative systems, cultures, water rights repertoires. Both law and custom are ‘normalized’. Normalization may often constitute the very mechanism whereby State and project law (self-referentially presented as ‘normal’, ‘modern’, and thus ‘good’) encroaches and intrudes local law. Normalization may give ‘force’ to abstract, positive law. Rigid distinctions between the ‘traditional power of law’ and the ‘modern power of the norm’ fail to understand that the two commonly go hand in hand.

57 Not just local rights and practices but also national legislation and policies are subject to the mechanisms that classify, compare, judge and correct according to the scientific, civilizing policy models that circulate internationally and that are portrayed as mirrors of good water governance (see chapter 10).

disciplining (Cf. Hale 2002; Assies 2006). It is the process of denying and reconstructing the Self by comparison with the Other (Achterhuis 1988; Fanon 1967; Lukes 2005), which was analyzed in chapter 6: a capillary, equalizing power based on the desire to become included in 'the model' and to be what others are, value, and desire.

In this sense, these legal models in the Andean countries not only preach equality among legal subjects but also strive, as 'civilized nations', to become equal: equal to the Western standards of modernity and progress (see chapters 6 and 7). If we return to De Soto's influential policy mission, it becomes directly clear that following the Western model has profound consequences for local rights recognition, selection and formalization: "...that was basically how Western law was built: by gradually discarding what was not useful and enforceable and absorbing what worked" (De Soto 2000:187). For De Soto, it is not the formalization of law as such, but its importance as a means to "create an orderly market" and "encourage law and order" (p. 198) and therefore, most of all, its ability to protect *private* rights: State law must defend private rights as *the* way to integration and equalization. "Private property is arguably the single most important institution of social and political integration. Ownership of property creates a commitment to the political and legal order since the latter guarantees property rights: it makes the citizen into a co-sovereign as it were. As such, [private] property is the principle vehicle for inculcating in the mass of the population respect for law and order and interest in the preservation of the status quo" (Pipes, quoted by De Soto 2000:196).

Thus, in order to guarantee esteem for the status quo and produce stability, local hearts and minds need to be seduced, abandon their own water rights repertoires and common laws, and instead see the need for formal law and its defense of private, transferable rights. The process of inclusion of local rights and institutions, whenever possible, is to be arranged through participatory tools and strategies, and not by vertical State power or private agents' violence. According to De Soto, who closes his eyes to the broad day-to-day resistance, violence is not even necessary: "The most striking feature of these institutions, throughout the world, is their *desire* to be integrated into the formal sector", or in other words: "the extralegals *want* to come in from the cold" (2000:178, my italics). No obligation, no force, everybody joins? Would this result in the long-hoped for utopian synthesis of governors' law and citizens' moral wish, plight and responsibility? In dystopian terms, it would have established the ultimate and definitive supremacy of obedience and disciplinary power: "... the laws of the State and the laws of the heart, *at last identical*" (Foucault 2001:57).

The neoliberal utopian dream of De Soto, forging Law and Norm in the neoliberal melting-pot, indeed, in this regard, has similarity with Orwell's 1984 dystopia, Oceania, where people not only should have the correct opinions, but also the uniform, right instincts, and *actively desired* to have them. According to De Soto, the results will be just fine: "Everyone will benefit from globalizing capitalism within a country, but the most obvious and largest beneficiary will be the poor" (2000:190). That is, *if* the poor and uneducated masses, with their 'extralegal' arrangements, can be convinced: they need to provide the information on their local rights, and on how to transform and integrate their properties to make them part of the formal system. This way, the State will have "the information required to integrate the poor and their possessions into a legal framework, so that they can finally begin to have a stake in the capitalist system" (188). It is not just 'the poor' that need to be included, but most of all their possessions, their minds and their hearts.

But how to overcome potential resistance to formalization?⁵⁸ As I argued in the prelude to this

58 In De Soto's analysis resistance is not seen as a broad societal protest against uniformization or hegemonic State and market control, but as a *communication problem* caused by a) the 'extralegals' failing to understand the benefits of uniform rights and popular capitalism; and b) local elites' stubbornness since they benefit from extralegal arrangements. The first

book, this certainly is a key issue since the Andean nation-States have tried to formalize property rights many times without any success because of popular resistance. Therefore, as argued in the above sections, inclusive power mechanisms are put to work that *seem* to acknowledge local rules and rights, but fundamentally re-create them by reifying some ‘essences’, naturalizing the contents, re-arranging the normative framework, and transforming their political-administrative lines of control. As a result, the very heart of local rights and social arrangements is invaded from below, to subsequently be absorbed by and codified in an all-embracing formal framework. The quest is for an all-encompassing social contract grounded in a formal property system and built into a political structure that appears to be anchored in people’s *own* legal arrangements but which fundamentally represents the interests of international or Andean nation-State elites – both in water issues and broader societal interests.

Therefore, unlike their mono-legalist liberal or socialist predecessors – from Bentham and Bolívar to the 1970’s revolutionary *Juntas Militares* in countries as Peru and Ecuador – who ignored local property systems outright, a modern De Soto policy- and law-maker, quite to the contrary, ‘recognizes’ legal pluralism, very much in line with the philosophy of ‘managed multiculturalism’ analyzed above.⁵⁹ He or she studies and embraces the tenets, manifestations, and functioning of local water rights and people’s living law in order to, with this information, ‘incorporate’ these particular rules, rights, and rationalities, and subtly squeeze them to death. Or put euphemistically: “Once government obtains this information, it will be able to explain its intent in a way the poor can understand and relate to. As a result, they will support the agenda of reform enthusiastically. The poor will become the most effective public relation machine for reform” (Ibid:1991). Indeed, not by force but by educating the uneducated.

What is more, in De Soto’s utopia, if the ‘unquestionable benefits’ of formal law and the property reform leaders manage to seduce these common peoples with their local laws, the latter themselves will become the intelligence-gatherers needed for State control and market expansion, critically screening their own rights and properties: they will organize in line with bureaucratic boundaries and procedures to foster ‘rational water development’, and provide water control records according to the standardized, administrative needs of State agencies. They will relieve and extend State functions in water governance. At least, that is the hope of legal modernization missionaries: “Only when formal law replaces extralegal arrangements as the source of protection for property will people accept its legitimacy and be interested in providing authorities with the information required to keep their maps and records current. [...] The leaders of property reform need to describe how popular capitalism will affect many different interest groups, show them the benefits they will derive from it, and persuade them that it is a win-win exercise for all segments of society” (De Soto 2000: 204-206).

In the next chapter, I will analyze the historic foundations and current manifestation of this property equalization mission in the name of popular capitalism, and see if the claim of ‘win-win for all’ indeed materializes. Since according to liberal ideology everybody is equal under the Law, not only are economic differences disregarded (while cultural differences may be ‘recognized’ and set aside

is to be solved by education and ‘incorporating their rights systems’; the second by the market itself that “encourages law and order, and puts money in the pockets of the elite” (2000:198).

59 De Soto goes further and criticizes lawyers, particularly in the South, for not studying legal pluralism: “The truth is that lawyers in these countries are generally too busy studying Western law and adapting it. They have been taught that local practices are not genuine law but a romantic area of study best left to folklorists” (2000:187).

as encapsulated, harmless, and folkloric ‘otherness’ – as long as they follow the rules of the model), but the State simultaneously refuses to actively balance or intervene in societal injustice. Laws of supply and demand, sanctioned by State law, become the new driving force for rights definition and water distribution. As equals, peasant and indigenous families are supposed to compete with national and transnational commercial farms and companies in this ‘win-win exercise’.

But as will become clear in the last chapters, user collectives have learned from this historical game. First, they are increasingly aware that, in their struggles, claims for ‘redistribution’ and ‘recognition’ must necessarily combine (see also Boelens 2003; Zwartveen et al. 2005). Rights to spiritual practice, recognition of sacred water sources, education in their own languages, or rights to their own organizational forms and water operating rules, etc. – which are more easily accepted by State and neoliberal policies – should not be traded off *against* water rights redistribution and the rights to more equally benefit from other water related resources. Local organizations contest both the legal and policy regimes that aim to re-represent their norms, values, organizational forms and cultural practices, *and* the unequal distribution of water and other resources which denies them the right to sustenance.

Next, local communities and water user collectives know very well that adoption of the officially legitimate patterns of water control does not necessarily mean obeying (just) these rules and conforming to them. After adoption, will the subjugated local water rules, rights and practices be absorbed and neutralized by the dominant framework or are they capable of resisting and being agents in the transformation of ‘capillary water politics’? In the last chapters of this book I will show how, apart from ‘mimesis’ as normalization and self-disciplining, the recourse to formal law and the use of ‘outside’ water norms and official frames of organization may often also be a conscious strategy of Andean water user collectives. Instead of being a just product of top-down imposed equalization or bottom-up, self-victimizing mimetic desire, rather, it relates to what I will refer to as *mimicry*. Under the disguise, sheltering and apparent adoption of outside rules, rights and organizational constructs, a great diversity of local rights and hybrid norms are developed, exerted and reconstructed, which – intangibly – act precisely against essentialistic containment, universalistic take-over and normative colonization.

chapter 9

PINOCHET'S LABORATORY. COLLECTIVE WATER RIGHTS IN THE ERA OF NEOLIBERAL NORMALIZATION.

“In the name of a scientific program of knowledge, converted into a political program of action, an immense political operation is being pursued, aimed at creating the conditions for realizing and operating of the ‘theory’: a program of methodological destruction of collectives.”
(Pierre Bourdieu, *Acts of Resistance Against the Tyranny of the Market*, 1998a: 95-96)

IN THIS CHAPTER, I will pay an analytical and field visit to the hydro-hospital where all of world's water-related illnesses are said to be cured, to its laboratory that transforms water-madness into water-sanity, and its intensive care where irrational water control is restored to healthy, rational, efficient water use. In all Andean countries, national and transnational neoliberal water doctors have proposed water reforms that closely follow the privatization recipe. They received powerful backing to implement their water sector sanity programs and to provide their universal medicines. This chapter argues, on the basis of historical evidence, that these water reforms and the language used to justify them closely resemble those of colonial and post-colonial ‘civilization’ efforts. They also share with many of their predecessors an association of private property rights with civilization, and likewise serve to justify far-reaching measures and interventions to turn ‘backward’ water management institutions into ideal, modern ones.

In the Andes, collective water uses and management by indigenous and peasant communities generally fall into the ‘anomalous’ category, of those that require curing and normalization. Although local user collectives do not remain silent, but fiercely defend their common property water resources, rules and authorities, the threats they face are tremendous. As anomalies they are either normalized by powerful neoliberal laws, or they are denied legitimate existence because they do not comply with the criteria for modern water behavior. As a self-fulfilling prophecy of the neoliberal model, these collectives themselves are blamed not just for their backwardness but also for their weakening or obliteration under neoliberalism – and the remedies prescribed are taken from the neoliberal recipe book. This chapter shows that neoliberal terminology is ill-suited for understanding actual water realities, for visualizing the effects of neoliberal reforms on local water rights collectives, and also for informing more equitable, democratic and efficient water control. But since treatment programs of neoliberal water hospitals are based on ‘universal’ laws of human and nature's healthy behavior and derive justification ‘globally’, not from local evidences and water tragedies, the struggle of local user collectives to show the *real* outcomes of neoliberal policies and actively question their universalistic pretensions, is complex.

Question: What are the conceptual underpinnings and political strategies of neoliberal water policies and water elites to encroach on, undermine and normalize Andean user communities and their collective water rights?

9.1. Introduction¹

In the Andean region, most actors involved in water policy and management agree that there is an urgent need to improve water control and rights tenure frameworks. As chapter 5 explained, most would even agree that such a change should take the form of, among other measures, the decentralization of water control. However, the reasons for wanting change, and the policy change objectives and directions vary widely. For example, indigenous and peasant groups perceive decentralization as a means to redress their historical exclusion from decision-making about water allocation. They demand fair, adequate representation in water policy-making processes in the hope of securing their own water rights and the livelihoods of future generations. International lending institutions, often together with national governments, see decentralization and privatization of water management as a means to both reduce government spending and increase water use efficiency. Commercial water companies, in turn, hope to be allowed to exploit existing and new water infrastructures profitably.

Given this diversity of interests, it is hardly surprising that water reforms are the subject of so much debate and political struggle. As many of this book's cases illustrate, particularly in the final chapters, in the Andes, indigenous movements, peasant organizations and popular alliances have engaged in a fierce battle to defend their water access rights and to claim more justice and collective control concerning water resources management. Water is a finite resource, and the proposed water reforms unquestionably imply changes in access to and control over this resource. Since the option of expanding supplies has nearly reached its limits, as a general rule in the Andean region, those who receive more do so at the expense of others who receive less. This is one of the main reasons why changing water realities implies changing social and political relations, and why water reforms are inherently political.

However, when analyzing current water policy talk and thinking by officialdom, and even by many actors who oppose neoliberal reforms, it is striking to see that the arguments are increasingly framed in new-institutionalist or neoliberal terminology. This is remarkable since, given this highly contested nature of water reforms, articulating water problems and solutions in the terminology of neoliberalism precisely prevents the recognition that power and politics are central to water control realities. Although the proposed measures differ, current water reforms share a problem analysis strongly influenced by privatization models, new institutionalism and rational choice theory.² Water bureaucracies are understood through rent-seeking types of analyses and the debate about water markets and tradable water rights also mostly occurs in the language and concepts of neoliberal thinking. To understand the organizational dynamics of local level farmer organizations, new-institutionalist concepts are often used.³ Indeed, neo-classical and new-institutionalist formulae are very appealing because of their clarity and the efficiency with which they simplify complex realities. They also neatly suit neoliberal political ideologies advocating less State and more market.

Yet, as this chapter argues, neoliberal concepts and frameworks are not well suited to understanding water as a contested resource. But more than – even far beyond – not being ‘adapted’, they also entail a great threat, which relates to the disciplinary, normalizing effects of neoliberal thinking in Andean water contexts. Most critical writings on water privatization are about the spectacular entrance of large international drinking-water companies on local scenes, and direct attention to the

1 A large part of this chapter was written together with Margreet Zwarteveen, result of our joint water policy research. Main parts were published in Boelens and Zwarteveen 2005a and 2005b.

2 E.g. Goldman 1998; Gleick 2002; Mayer 2002; Mollinga 2001; Moore 1989; Rap 2004; Zwarteveen 2006.

3 E.g. Baland & Platteau 1996; Bromley et al. 1992; Ford Rung 1992; Ostrom 1990 and 1992.

dangers of such capitalistic expansion for poor people's access to affordable, good-quality drinking water. This chapter, however, asks attention for a different water reality that is under threat because of neoliberalism: the threat to existing collective irrigation management institutions. While the multi-domain functioning of local irrigation management institutions that is examined in the first chapters (2, 3 and 4) escapes the instrumental rationality of neoliberalism, neoliberals venture to increasingly dictate the terms of their existence and to formulate the norms against which they are measured. If the behavior and functioning of existing irrigation collectives cannot be expressed in neoliberal terms, this may be turned against them and used as proof of their backwardness and lack of rationality: these 'anomalies' deserve to wither and fall prey to market forces. In contrast, those irrigators' communities who conform to the new policies and rules will be awarded with a 'good governance' stamp of approval: they (implicitly) agree to be labeled as inefficient and backward, and accept support to help them turn into modern institutions that behave according to sound new institutional and market mindsets.

9.2. Paving the way: new policies with ancient roots

“Anomalous – 1. deviating from a general rule or method or from accepted notions of fitness or order, 2. being not what would naturally be expected”
(Webster's New Encyclopedic Dictionary 1994:40).

Local, collective water control systems in the Andean region – just as most other norms, concepts and properties that make up the diverse universe of Andean socio-legal repertoires – have been labeled 'anomalous', 'abnormal' and 'unnatural' even before the region was known and invaded. Long before Pizarro conquered Peru, in 1532, and even before Columbus reached the Americas in 1492, the image of the New World served as a frame of reference for European philosophers, policy-makers, politicians and other interest groups. The images of 'Indian' populations – including their property relationships and their modes of managing natural resources – provided a perfect reflection of the ideas embodied in European political and philosophical thought. Ancient Greek notions of civilians versus barbarians, and Christian mythology about the Golden Age and the existence of Earthly Paradise where primitive people had remained in a 'natural state' were central in representing Self and Other, and the Americas provided a neat screen to project such notions.

Two recurrent themes in most of these projections are closely interrelated: the assumed lack of private property among the New World's inhabitants, and the question whether they could obey a rational, legal system and the divine or natural order. Depending on one's political and philosophical position, the assumed absence of both was either considered as evidence that they were anomalous, brutal savages (ignobles) and needed to be mastered and disciplined, or, on the contrary, used as proof of the fact that they were noble humans not yet affected by the process of transgression and degeneration of Western society and its feudal or capitalist exploitative relations of production. Needless to say, the first position mostly defended European authoritarian power structures and superiority, while the second was adhered to by those philosophers and philanthropists who were critical of Western culture.⁴ Rather than being concerned with understanding the characteris-

⁴ Observers could also easily change positions. For example, Columbus himself was very positive about the Indians during his first voyages (intelligent, peaceful, friendly, open since not restrained by laws, no greed since they didn't have private property), but changed when they did not behave according to his plans: he then saw them as savage, war-minded

tics of Indian societies and identities, these were thus merely used to better represent and legitimize power constellations and property structures *in Europe itself* (Cf. Galeano 1986, Lemaire 1986, Wolf 1982). Whenever confronted with reality, for example in the Andean region, the essentialistic projections of both positions could only be maintained when adopting the corresponding, biased attitudes: negate this reality since it does not coincide with ‘what would naturally be expected’; label it as anomalies within a greater framework that does appear to show coherence; or actively oppress these ‘deviations’.

As the prelude and chapter 8 briefly mentioned, around 1510 an ideological debate started about the nature of the Indians and the legitimacy of conquering them violently, even before Christianizing them, during the Spanish conquest. The debate (Are they rational beings? Can they be Christianized? Do they have a soul? Do they have laws?) reached its climax in 1550. Juan Ginés de Sepúlveda defended the ideas of Aristotle’s *Politica* and transferred these concepts to the Americas. Indians were thus constructed and seen as naturally born slaves who needed to be the property of a master. For them this state of slavery is not only beneficial but also just and rightful. According to Sepúlveda, who had never been to the Americas, Indians were barbarians who, just like animals, could not control their passions; they were mentally inferior, cruel cannibals. Moreover, Indians were extreme cowards, “... thousands and thousands of them fled like women in the face of few Spanish soldiers” (1996[1550]:107).

“Compare then those blessings enjoyed by Spaniards of prudence, genius, magnanimity, temperance, humanity, and religion with those of the little men in whom you will scarcely find even vestiges of humanity, who not only possess no science but who also lack letters and preserve no monument of their history except certain vague and obscure reminiscences of some things in certain paintings. Neither do they have written laws, but barbaric institutions and customs... *They do not even have private property...* How can we doubt that these people – so uncivilized, so barbaric, contaminated with so many impieties and obscenities – have been justly conquered ...? (Ibid:105-113 [my italics]).

Sepúlveda based his claims on the existence of so-called Natural Law: eternal, omnipresent law which God and Nature have embedded in the minds and hearts of civilized, rational humans, particularly in those of wise men among naturally, ethically superior peoples. Following Aristotle, he was of the opinion that Indians (as barbarians) are not among those humans. The basic statement of his *Treaty on the Just Causes of the War Against the Indians* was that “the perfect should rule over the imperfect” (Ibid:19), thus legitimizing violent colonization as beneficial for both Spaniards and Indians. Bartolomé de la Casas, commonly known as the great defender of the indigenous cause, was the most important opponent in this historic debate. Instead of fundamental inequality among humans and the need to exclude the savages, he stressed unity and the fact that all humans are equal. At least he reasoned that the miserable but naturally human Indians, if guided and protected properly, could become civilized, Christian human beings. Their *potential to become equals* was fundamental in Las Casas’ argumentation (Las Casas 1999[1552]). The fact that they, in terms of Webster’s, were ‘deviating from a general rule and from accepted notions of fitness or order’ - Christianity, private property regimes, white-patriarchal civilization – did not mean that they had to be excluded or ruled

ignobles who obeyed neither God nor Law and who were lazy since they had no private property (Cf. Lemaire 1986, Lévi-Strauss 1985, Patterson 1997, Trujillo 1993).

over, as Sepúlveda had argued. On the contrary, they were ready for a process of Foucauldian inclusion, equalization and '*mestizaje*' blending, in which anomalies could be disciplined not by the law of the sword but by the law of the heart.

During the centuries just before and following the Conquest, utopian literature (see chapters 7 and 10) importantly added its ideologies to the political debate, in the New World but especially in the Old one. For example, Thomas More fiercely protested against the politics of enclosures in England and advocated radical abolition of private property regimes. Property structures in his Utopia (or 'the New World') resembled the common/public ideal. In order to produce his counter-image to the power constellations that prevailed in England at that time, some even argue that Thomas More, who wrote Utopia (1516) before Pizarro reached the Inca Empire, would have referred to *Andean* identity and property relations (Morgan 1946).⁵ More's Utopia certainly contributed to the way in which Europeans created utopian images of the Andes and its ruling and property structures. Likewise, Campanella's *The City of the Sun* (1602) constructs the image of a new world where inhabitants have ultimate common (i.e., public) property - "all things are common with them" (p.5). From private property "self-love springs". Dystopian authors as Zamyatin, Orwell or Foucault could have copied it: "But when we have taken away self-love, there remains only love for the State" (p.5). In this theocratically ruled society Truth is defended by the Spanish Crown and the Church: "Spain found the New World" and its mission is "that all nations should be gathered under one law" - which is Divine Law (Campanella 2001(1602/1623):24).

Related with these utopias were the many political philosophies that constructed 'the Indian' for their own purposes. Just as the presumably corresponding indigenous property regimes, the 'Indian ways' became fetishes to be used in Western ideologies and counter-ideologies concerned with the process of modernization in the Old World itself (Lemaire 1986). In *Leviathan*, Thomas Hobbes presented the societal order of the Indian peoples as the ultimate 'natural State' where savage peoples were without any form of State governance or regulation, resulting in a state of permanent warfare, everyone against everyone (see also chapter 8). He used this social construct - a deterrent mirror and the precise opposite of what he considered necessary for Europe - to claim that a strong central State order was needed, with a monopoly on violence and law-making. Without it, savagery, unruliness and un-protection of properties would occur, 'as in Indian societies' (Hobbes 1985[1651]).

In a similar fashion, John Locke (1970[1690]) constructed an image of the natural State and projected it onto the New World and its inhabitants to depict it as an inferior State in which inferior users had not effectively or efficiently appropriated the resources. He argued that, through individual (rather than collective) labor investments people should be allowed and enabled to claim individual rights to property. In his view, the accumulation of such rights to transform and possess the 'unpossessed' former wilderness represented an act of progress. Locke's reasoning neglected common property systems and considered these as non-property: individual appropriation actively excluded the collective use and control rights of others. Therefore, existing mechanisms of collective hydraulic property creation in Andean irrigation systems, and particularly socio-territorial, collective water rights (see chapter 2) would have been labeled as 'non-rights' in Locke's line of reasoning, as still

5 For example, in his book *Nowhere was Somewhere. How history makes Utopias and how Utopias make history* Morgan (1946) argues that More was informed by Portuguese Amazon explorers about the existence of the socialist-totalitarian Andean empire, and that he based Utopia largely on the properties of Inca society (e.g. common property, collective work parties and duties, central planning, social control, the importance of labor and agriculture, a State storehouse system, extended family structures, their way of colonizing other peoples, warfare strategies, the legal system, etc.). (Lemaire 1986:112-118; Murra 2002:67-68. See also chapter 10, 11).

commonly happens in the Andean region. Today, Locke's postulates based on 'possessive individualism' (Macpherson 1977, in Lemaire 1986), consciously or unconsciously prove quite effective for dominant sectors who want to appropriate peasant and indigenous collective water rights, and legitimize the colonization and privatization of public and common-property resources.

Similarly, many other Western philosophers, including for instance Rousseau, Voltaire, Smith, Hegel, Marx and Engels, discursively constructed the Americas' indigenous societies and property relations primarily to clarify their own philosophical-political position vis-à-vis progress, modernization and civilization in Europe. The societies of the New World neatly satisfied the need for a myth of origin, the natural State, necessary in order to provide European civilized identity with a foundation. According to their political-philosophical position, thus representing the Indian either legitimized oppression and control over potential savagery in their own society, or symbolized the loss of authenticity, the degeneration, and the exploitation within Western society (Flores Galindo 1988; Lemaire 1986; Wolf 1982). Scholars, politicians and activists of the region – indigenous or not – inherited many of these traditions when constructing their racist, romanticized, developmentalist, or revolutionary images of the Indian and the Andean, each situated within a corresponding picture of an essentialized 'indigenous' property relations framework (see chapter 6). As a consequence, just as the history of the 'peoples without history' closely coincides with European history (Wolf 1982), the dynamic Andean 'indigenous' identities and property regimes can only be rightly studied in relation to the construction of Western colonial and postcolonial identities and intervention processes.

In reviewing the modernist-positivist tradition of Western thought it is remarkable that civilization has generally been associated with private property regimes. Those writers and thinkers who have been most critical of civilization and modernity have, in logical consequence, typically preached the abolishment of private rights systems. Rather than showing concern for a thorough understanding and accurate description of the realities and experiences of local populations and their property systems in the New World, descriptions, by both 'modernists' and their opponents, typically served the purpose of better representing the Old World and its thinkers. Indians were assumed not to have private property, and the New World was thought to have no property systems, since all resources were considered to be openly accessible and 'virgin'. The huge genocide and massive starvation because of diseases and exploitation (just in Peru, the pre-Columbian population of 9 million inhabitants was reduced to 600 thousand in less than a century (Flores Galindo 1988)) helped to preserve this myth. Because of the decimation of the population, natural resources became abundantly available and the continent indeed presented itself as open and bare, a garden for utopian experiments to create civilization on the basis of natural and scientific laws.

Even critical, anti-utopian philosophers such as Hannah Arendt (1990(1963)) have fallen into this trap of the '*leyenda negra*' of a native American history without law and civilization. As in the case of South America, the colonizers of North America are portrayed as men who "rushed out of society into the wilderness" (p.92), who "obviously feared the so-called state of nature, the un-trod wilderness, unlimited by any boundary" and lived "the justified fear of civilized men who, for what-ever reasons, have decided to leave civilization behind them and strike out on their own" (p.167). Arendt argued that the "natural abundance found in America" made the 'social question' (redistribution) less urgent and relevant (as if abundance were not a result of dispossession). She praises the Founding Fathers for their courage to 'start a radical new beginning' ("the identity of *principium*")⁶ and

6 Unlike Arendt's argumentation, I think that the "age-old thought-custom of Western men, according to which each completely new beginning needs an absolute from which it springs and by which it is 'explained'" (p.206), stems less from Western thought systems than from their need to conceal their *inconvenient knowledge* of the fact that, fundamentally,

to realize their democratic legal dreams, without however making reference to how the *silencing* of existing collective rule-making systems was its fundamental condition.⁷ If she had looked *beyond* the Constitution and its philosophies or philosophers, to analyze not just reference rights but rights as constituted in social action and political practice (see chapter 2), her focus would probably not have escaped the actual process of simultaneously denying rights to some while constructing rights for others.⁸

Flores Galindo neatly points at the common political construction and masking effort: “Europe creates the ideas, the Americas perfect them by means of their materialization; the territory par excellence for practical utopias” (1988:33). Or, as Arendt quotes Locke, “In the beginning, all the world was America” (1990:171). Actually *existing* property rights systems of indígena peoples were anomalous to these utopian ideas. Since existing collective water rights and hydraulic identities had become the obstacles for realizing the water dreams of modernity, they had to be either incorporated in new uniform models, or annihilated.

9.3. Recent waves of water privatization policies in the Andes

Although often presented as a modern, universally problem-solving model, water rights privatization and water markets are not at all new in the Andean countries. Apart from the fact that, as shown in the previous section, the groundwork had already been laid centuries ago, private property regimes ruled the Andes in countries such as Peru and Ecuador long before the current Water Laws (resp. 1969 and 1972) were enacted, nationalizing water property rights. The wish to ‘civilize’ (thus privatize and individualize) water control in the Andes has been an ongoing political process, which has only now obtained global dimensions. Similarly, not just the failure of centralized bureaucratic water control but also the ‘new answer’ to what is presented as the Water Crisis, in the form of water control privatization, has already been discredited in the past. Privatization has commonly not dismantled centralistic power but has often strengthened it in less visible forms; rather, what it did destroy or aim to dismantle were the existing collective property systems: the anomalies of the modernization model. Examples are abundant, and the following illustration of the Choclococha

indigenous societies (and their destruction) were at this ‘beginning’ (similar to the creation of Origin and Truth by the Inca Empire, see chapter 3). Therefore, their notions of ‘Foundation’ and ‘Principle’ – even the *origins* of American community (213) – were also traced back to European (Roman), not American, history (see my critique in chapter 13). Arendt, therefore, also sees “all institutions of self-governance throughout the country” that were “prior to the Revolution and prior to the colonization of the continent” (167) as if based on just settlers’ forms of governance, not indigenous. Neglecting indigenous federations, she argues that “confederation ... was actually discovered in the earliest times of colonial history” (169).

- 7 Despite the founders’ negation of existing diversity of peoples and rights, Arendt states that: “what moved them was the passion for distinction” which they held to be “more essential than any other human faculty” (119).
- 8 It would also have kept her from becoming disillusioned with current governments who betrayed the principles of “political freedom as the right to be a participator in government” – since in political practice that principle was trampled on right from “the beginning”, or even before. In “On Revolution” (1963) Arendt neatly points at the theoretical and practical legitimization of violence inherent in the French Revolution, but fails to do so in America. Her scant references to the violence of colonization explicitly deny “political behavior of organized groups” since they would refer to acts of just “single men” (p. 92). The American Revolution would be based on “exchange of opinions among equals” (93); making people “participators in public affairs” (132); guarding society against the oppression of its rulers and internal power groups (147); rights that should not be enjoyed by Englishmen only but by “all men” (“Irish, Germans or Swedish...”) (148); “duly elected delegates ... received their authority from below” (166); etc. While she does mention the blind spot of violence against the black slaves, there is not a word about the political negation of indigenous societies and their legal systems.

Irrigation Project implemented in Ica, Peru (by Oré 2005) is similar to innumerable others cases:

“The main reason for failing to develop irrigation in the Ica Valley up to now, through private or State efforts, is the existence of collective property systems in the pampas of Los Castillos. It is difficult to risk capital investment without having the backing in terms of security that the property rights of these valley lands will be obtained” (Technical Report, Ica Technical Commission, 1936, in Oré 2005:118). In the Andean region, not just the last decades’ neoliberal economists and planners but, throughout the 20th century, particularly hydraulic engineers have fiercely promoted the destruction of collective land and water ownership. For example, the collectively owned Los Castillos valley lands in Ica legally belonged to 114 indigenous families who, according to the engineers of the Ica Technical Commission and the Peruvian Water Directorate, were considered to be the *major obstacle* for the proper execution of this irrigation project. The communal territories’ ownership characteristics counteracted the free sale and parcelization (*lotización*) of these newly irrigated fields to individual owners. Therefore the engineers (in those days very powerful) first suggested and later firmly pressed the State to enforce a law that would allow expropriation of the Pampa de Los Castillos. The landowners of the Ica Valley, eager to appropriate these large pampas historically owned by the indigenous communities, strongly supported the engineers’ proposals and, since they were labeled by the engineers as “the ideal owners of the irrigation area”, the landowners were installed as the new land and water property owners (Oré 2005:117-122).

As a consequence, both the solutions that Hardin (1968) proposed to counter what he considered as The Tragedy of the Commons are ancient recipes, and certainly did not prove to be a solution but a rather fundamental part of the problem. Historically, particularly in the Andes region, both bureaucratic and privatization policies have proven to be important contributors to the tragedy that peasant and indigenous water use communities have faced up to now. Privatizing water codes in Peru and Ecuador, from the 18th century onwards, allowed landowners and other power groups to try to ‘finish, after Independence, the work left unfinished by the Spanish colonizers’.⁹ As many studies show, privatization regimes provoked violent struggles among stakeholders with unequal power, causing a massive transfer of water rights from indigenous and communal systems to powerful private right-holders, especially haciendas.¹⁰ They also gave birth to important schisms and contradictions within the peasant communities themselves.

Mayer (1977, 2002) describes how in the Peruvian community of Laraos, as early as 1900, a faction of the community (the ‘Libre Pensadores’ – Free Thinkers) opposed ‘antiquated’ collective rules and institutional structures: against the use of Quechua as the community language, against the varayoq system and the power of elders, against the traditional fiestas, etc. Their proposal was to concentrate all political and administrative power in the legally sanctioned district mu-

9 In the same way, water markets are not at all new to the Andean communities. In many regions, after encroachment of collective rights and community livelihoods by encomenderos and hacendados, water scarcity became an increasing problem for local villages, inter and intra community conflicts grew, and local authorities were challenged, corrupted and undermined. Local elites and landowners, apart from extra-economic strategies based on feudal relationships, had few problems to manipulate local water markets and concentrate water rights in the hands of the few (see also Trawick 2003; Gelles 1998, 2000; Apollin et al. 1998; Ruf & Matthieu 2001).

10 E.g., Bauer 1997; Bustamante 2002; Castro 2002; Gelles 2000; Guevara et al. 2002; Mayer 2002; Mitchell and Guillet 1994; Oré 1998, 2005; Pacari 1998, Palacios 2002; Vos 2006.

nicipality which, according to them, used modern rules, written minutes, school tax, in line with national regulations. "They also pushed for privatization of land, since property was considered a symbol of Peruvian citizenship; indeed, it was believed that private property would create the conditions of progress for every citizen and also for the development of the whole community" (2002:292). And indeed, in January 1900, boundaries were established and private rights registered. Soon, the process of buying and selling private lands caused concentration of most properties in the hands of a few owners who started their haciendas, while the leftover comuneros fiercely defended the remaining community territory. But, as Mayer describes "the *puna estancias* became independent private properties, often in the hands of *caciques*, who appropriated the communal lands for themselves [...] Even water was privatized by the Free Thinkers" (pp. 294, 296). As in the case of water control, "contrary to the textbook argument that liberalism provoked the expropriation of Indians from their lands, in this case – and many others – the alienation took place within the community itself, enriching a group of privileged community members. However, in many other parts of the Peruvian highlands, particularly the southern regions, liberal reforms heralded an unprecedented expansion of hacienda growth at the expense of Indian communities" (2002:301).

Therefore, the remembrance of the devastating impact of historical private water property regimes on peasant and indigenous systems (growing water scarcity, concentration of rights, intensified conflicts, favoritism, undermined authorities, declining efficiency), combined with similar evidence regarding current privatization policy practices in the Andes, importantly fuel today's enormous protests against new water reform proposals that are so similar in content and effect. Unlike neoliberal economists and policy planners, peasant and indigenous communities do not view this as a recently implemented, neutral model, but as a powerful political instrument, with historically foreseeable results.

Nevertheless, new scientific tools and institutional theories – particularly economic sciences – have given new impetus to the old policy model, and defend the importance of putting it into practice. Many analysts refer to the influential role that new institutionalist scholars have played and continue to play in laying the groundwork. As I have detailed in chapters 3 and 4, in the mainstream water management debate it is common nowadays to apply rational choice theory and new institutionalist concepts to explain behavior of individual and collective water users.

But however influential this new institutional economics school may be in current water management debates, actual policy practice in Andean countries is not rooted in this 'soft' version¹¹ of economic water policy discourse. It is particularly grounded in its iron version: the free-market ideology of Milton Friedman's school. In the 1970s and 1980s his students and followers, the Chicago Boys, came to design Chilean economic policy and greatly influenced public policy in most of Latin America's countries, and along the way they also formulated the new policy for water control as if it were a resource like any other market commodity. Their objective was to install a free water market as part of Chile's monetary policy. In practice their effort was strongly supported by the economically powerful national elites.¹² It was a radical answer to the paternalistic water bureaucracy that

11 Chapter 3 and 4 outline how, in academia (and policy approaches) a particularly influential application of game theory can be found also in the common property management school. Although the school usually opposes Hardin's market- and State-biased solutions for preventing degradation of common pool resources, it is equally biased by the materially self-interested rational choice paradigm (Cf. Bromley et al. 1992, Ford Runge 1992, Ostrom 1990, 1992).

12 Friedman himself came to Chile to offer his services to General Pinochet, and many of the 'Chicago boys' (trained in a

prevailed in Chile, as in most parts of the Andean region. In these new policies Friedman's keywords as deregulation, privatization, and his non-contextual, positivistic market-driven regulations were implemented as nowhere else in the water world – in a context largely based on peasant and indigenous community water management.

Despite bad experiences with privatization regimes in the Andes for most of the population, the importance of the Chilean model was enormous, particularly after the 1980s. As Trawick (2003: 977) rightly observes: "It is no exaggeration to say that a single draft law, modeled on the 1981 Water Code of Chile, is now being circulated in the Andean countries, throughout most of Latin America, and throughout much of the 'developing world' – proposals basically written by the World Bank for the various national governments" (see also World Bank 1995 and 1996). A closer analysis of the experiment, therefore, is crucial.

9.4. Making the model and breaking the anomalies: the silencing of 'objectivity' and the construction of 'natural law' in the water rights laboratory

"In most countries water is still regarded as public property. [...] The track record of such administered water allocation systems has not been impressive. Despite growing water scarcity and the high costs of hydraulic infrastructure, water is typically underpriced and used wastefully, the infrastructure is frequently poorly conceived, built, and operated, and delivery is often unreliable. [...] The results show that a market-based system of allocation is likely to lead to a more efficient outcome in water-scarce countries than are traditional systems of assigning water rights. Such a system has the potential to increase the productivity of water use, improve service delivery, stimulate private investment and economic growth, reduce water conflicts, and free government resources for activities with a public good content or positive externalities. [...] The Bank could assist in such efforts by raising awareness of the potential benefits of tradable water rights and by providing technical assistance to establish such rights. [...] The findings have been presented at professional workshops on water management in Berlin, Paris, and Washington, DC, and in Bankwide seminars. They have also been presented to senior government officials in Mexico and Peru, members of Peru's congress, a group of nongovernmental organizations in Peru, and a convention of water user associations in Peru" (World Bank, Latin America and the Caribbean Technical Department, Advisory Group and Economic Adviser's Unit, 1996).

The national water law and policy of Chile has been, and continues to be, considered as one of the world's most successful and effective water governance models. In the eighties and nineties, Peru, Bolivia and Ecuador, as well as many other Latin American countries, were forced – not just advised as the above quote claims – by the World Bank, IMF and Inter-American Development Bank to

special University of Chicago - Universidad Católica de Chile program) became ministers and took other leading political and economic posts in the first years of the dictatorship (Catalán Aravena & Frank 1984). Andre Gunder Frank, himself a former student of Friedman's, characterized the Friedman doctrine implemented in Chile as 'economic genocide'. When the monetarist model faced deep economic crisis in the early 1980s (and was modified in 1983) the Water Code (1981) was already in force, and has not been modified substantially to this day because of the new water elites' monopolistic power (see also chapters 5 and 8).

adopt neoliberal water legislation, copying the Chilean model. The Banks engaged Chilean water experts to promote the model in all neighboring countries, and when, under nationwide popular protests and intensive struggle, especially by peasant and indigenous sectors, countries could not adopt this extreme neoliberal proposal, they were threatened with not receiving new Bank loans.¹³ Therefore, in order to understand the contents, interests and powers behind current water reform proposals in the Andes – for example, in Peru, Ecuador and Bolivia – but also in many other countries of the world, it is fundamental to understand ‘the Chilean experiment’, and comprehend both the neoliberal conceptualization of water control, the discourses on which it is built and sustained, and the actual consequences of this policy-in-practice.

Neoliberalism is not just an innocent policy, based on neutral choices. Through powerful laws and rules, the neoliberal model of the water world is forcefully turned into reality. What is crucial to understand is how a water control *model* – aimed at explaining the theoretical behavior of the conjuncture of water, infrastructure and actors under free market conditions – is turned at the same time into a powerful policy that creates the conditions for success, through violence, if necessary. But however powerful the neoliberal concepts and rules may be, they cannot act on their own, but require strong societal power groups to ‘get moving’. “What is presented as an economic system governed by the iron laws of a kind of social nature is in reality a political system which can only be set up with the active or passive complicity of the official political powers” (Bourdieu 1998a:86). Sometimes (as in the case of the Chicago Boys) the model makers themselves are among the economically powerful groups who strongly benefit from the neoliberal policy models. But this is not commonly and necessarily the case. Mathematical and economic reasoning based on rational choice theory and individual profit maximizing assumptions tend to be their basic foundations for *believing* in the model, and for creating their scientific utopia – and they are rewarded for contributing intellectually precisely and only to *this* model. In the Andean countries, most often, they are entirely uninformed about water management *practice* – although ‘helicopter views’ are sometimes included in so-called field analyses. Generally, grounded field research, particularly in peasant and indigenous communities in the Andean region, is entirely absent.

It is no coincidence that this world’s most far-reaching neoliberal water policy model – claiming individual freedom for all – could only be experimented with and installed under the Pinochet regime, one of the most repressive dictatorships the Andean countries have ever known. The fundamental reason is that the model could only be introduced and made reality under ‘laboratory conditions’, where local water user communities and their acts of resistance could be controlled coercively. For example, Friedman noted that the dictator, responsible for thousands executed and tens of thousands tortured, was “sympathetically attracted to the idea of a shock treatment” (cited in Grandin 2006:1). For most small-holder communities, not just the overall economic program but also the Water Code was, indeed, a shock treatment. Thus, neoliberal policy model-makers, criticized by Bourdieu for “trusting in models that they have practically never had the occasion to subject to experimental verification” (1998a: 101), could wave aside such comments since the Pinochet regime did offer them the opportunities for experimentation, meanwhile creating the conditions for the model to succeed.¹⁴ And so, the experiment could go far beyond just an economic and productive

13 I could witness this blackmailing in Ecuador, when internal Washington documents leaked, making new loans conditional to the enactment of a new Chilean-type Water Law (Red Bancos 1995). For the case of Peru, former World Bank consultant Trawick revealed the same policy practice (See Trawick 1996 and 2003).

14 “Under Pinochet’s firm hand, the country, according to prominent Chicago graduate Cristián Larroulet, became a “pioneer in the world trend toward forms of government based on a free social order”.” (Grandin 2006:7).

transformation – people’s hearts and minds needed to be changed: “Where Friedman made allusions to the superiority of economic freedom over political freedom in his defense of Pinochet, the Chicago group institutionalized such a hierarchy in a 1980 constitution named after [Chicago economist] Hayek’s 1960 treatise *The Constitution of Liberty*. The new charter enshrined economic liberty and political authoritarianism as complementary qualities. They justified the need of a strong executive such as Pinochet not only to bring about a profound transformation of society but to maintain it until there was a “*change in Chilean mentality*”.” (Grandin 2006:6, my italics).

Under these laboratory circumstances, deviations would not endanger the model’s functioning. State monopoly on violence actively supported the construction of neoliberal utopia,¹⁵ no matter the social costs (as I have detailed in chapter 8, later evolutions of neoliberal water strategies were and are far more subtle). The often emphasized difference of political interests of bureaucrats (‘more centralistic State’) and neoliberal policy-makers (‘less State, more market’) is blurred in this context, because both consider ‘backward, intangible and unruly’ customary rules and collective rights frameworks as an enormous obstacle to penetration by their mode of control and governance. Particularly in the (simultaneously global, national and local) context of water rights privatization and water users individualization, Foucault’s argument applies: “...most of the time, the State is envisioned as a kind of political power which ignores individuals, looking only at the interests of the totality, or should I say, of a class or a group among the citizens. That’s quite true. But I’d like to underline the fact that the State’s power (and that’s one of the reasons for its strength) is both an individualizing and a totalitarian form of power” (Foucault, 1982a: 210).¹⁶

Thus, instead of introducing a water policy model that was *objective* in the sense that people could *object* to it, as actors who are “interested, active, disobedient, fully involved in what is said about themselves by others”, as water user communities who are recognized for their “ability to propel novel entities on the scene, to raise new questions in their own terms and to force the social and natural scientists to retool the whole of their intellectual equipment” (Latour 2000:111), and so, start a political dialogue on the basis of those objections, the new model claimed to be based on another sort of objectivity: positivistic truth deduced from natural law. Through the ages, Sepúlvedean natural law, based on divine truth, was replaced by scientific ‘natural law’, grounded basically in ‘non-objectable’ economic rules and rationality. As a consequence, the process of silencing objectivity was based on both coercive and capillary modes of power, as in the case of Mapuche and Aymara communities:

In Chile, when the new Water Code was enforced, most indigenous communities were left unaware of the need to officially register their centuries-old customary rights (see chapters 5 and 8). A Mapuche leader: “The big landowners here in the area have registered the water rights in their names, and the Mapuches, not knowing about the laws of the Chilean State, were left without possibilities to claim their rights” (Solón 2003). Water rights that are not claimed, or so-called ‘unused rights’, were allocated to those who presented official requests: powerful commercial companies, especially mining and power generation companies and landowners. Mapuche communities were furious about this, but their protests were oppressed violently. As one Mapuche

15 For an extensive elaboration of the philosophical, political, and social construction of utopias and their general conversion into dystopias, see Achterhuis (1998) and, for the Andes: Flores Galindo (1988).

16 I have shown the same process of simultaneous individualizing and totalizing power in chapter 7, the (Licto-based) analysis of the hydro-political dream scheme. Through various techniques of governance the aim is to individualize users in order to efficiently control the sum.

leader phrases his anger: “The water sources that originate in the communities here have 98 % of their trajectory on Mapuche territory, but the owner of the water is a landowner who lives in the city. He bought the water from the State, and nobody can use it. We cannot use it for irrigation, not even for drinking water, because the water has been bought. But the water was born in and flows through Mapuche communities, and no one of the Mapuches was aware of the need for official recognition when this person registered the water rights on his name. No one of us was consulted and no Mapuche ever knew of the existence of this law” (Solón 2003).

It is not only the neoliberal assumption that (market) information is freely available to every-one that is at the root of the problem here, but also the very basis for rights claims. Mapuche communities feel that the water is theirs, because they have been using it for centuries and because it flows through their territory (see chapter 2), whereas the Water Code demands official registration as a first basis for rights allocation (Gentes 2002; Van Kessel 1992). Officially labeled ‘unused rights’ were expropriated or auctioned off to the highest bidder.

Despite the vast number of cases of expropriation of local and indigenous water rights, most water policy analysts did not question the model. Rather, they continued promoting it. For example: “Chile’s transfer of water to more productive uses was carried out voluntarily”, and: “Chile’s experience in water-scarce areas demonstrates that tradable water rights can benefit the poor and increase user participation in water allocation and investment decisions” (World Bank 1996:12, 1). Policy makers continue to defend the “superiority of markets” (p.1) arguing that the “Chile’s experiences with water markets are very positive. Water users are particularly pleased by the flexibility and control over their water rights [...] Allowing rights to be traded increases the value of the right and its transfer to more productive purposes increases employment possibilities. As a result, the humanitarian and equity aspects of water allocation are likely to be better under a market regime” (p.8, 15). Let us therefore have a closer look at the fundamental points of departure of this water policy discourse.

9.5. Privatization and neoliberal water language

Neoliberal water policies are fundamentally based on the idea that institutional and market incentive structures determine the activities of water users and managers – e.g., water facilities’ construction, operation and maintenance – and thereby largely determine the economic efficiency of water control and use. Hereby, water users are seen as individual, rational decision-makers who aim to generate net economic benefits in situations of resource allocation. The outcome of organizational and political processes in water management are seen as the sum of rational decisions made by these individuals – based on interests which can be defined objectively and universally by outside analysts.

In his analysis of neoliberal irrigation policies, Mick Moore characterizes the basic feature of the rational choice paradigm as “the attempt to see how far one can explain political phenomena by exploring the assumption that political decisions are the product of the interactions of individual agents each rationally pursuing individual material self-interest” (1989:1733). Individual users and/or managers will obstruct efficient, effective water management whenever the incentives are ‘perverse’. This will generate poor performance, neglected maintenance and create net costs for system operation. Therefore, water policies based on new-institutionalist concepts give much attention to arranging the ‘right incentives’ for water management actors, transparency and accountability of

water managers towards water users, financial autonomy, and cost recovery of management activities (O&M) within the system (Cf. Boelens et al. 2002; Zwartveen 2006). As a result, the three basic ingredients of neoliberal water reform recipes are decentralized decision-making, private property rights, and markets.¹⁷

Consequently, current thinking about water rights is intimately tied up with the privatization discussion. Water needs to be transferable and marketable so that it can be used in an economically efficient manner, producing the highest possible marginal returns. For privatization efforts to succeed, clearly defined, enforceable water rights need to be in place. Water rights are thus a crucial condition for water markets to emerge. In neoliberal thinking, water rights, by defining rules for the allocation and use of water resources, are seen to provide the means for describing and accounting for committed water uses. Water rights would allow water to be priced per unit consumed, inducing users to waste less water. In addition, water rights provide a good basis for allocating maintenance responsibilities among beneficiaries. They also, and importantly, provide secure tenure to users, thus establishing incentives for investments in infrastructure (Boelens & Zwartveen 2005a).

It is true that most of the anticipated benefits of water markets will not be achieved unless substantial efforts are made to establish and protect secure water tenure. Yet, a first major shortcoming of the privatization argument lies in the way it automatically links water rights to water markets, as if the two were inseparable. This is not true. Most of the benefits attributed to water markets would be achieved by providing secure tenure *alone*, irrespective of whether water rights are traded or otherwise transferred. In fact, the treatment of water rights by advocates of water markets and privatization of water is rather misleading. The suggestion is created that the lack of (incentives for) transferring or marketing of water is the root cause of current water problems (Seckler 1993:6), while a more accurate problem description would be that water management is such a complicated matter precisely because of the difficulties inherent in establishing an effective, enforceable system of water allocation. The second main error is the assumption that tenure security can be achieved only by means of private water rights. As was mentioned, in the long Andean history of public, private and common property regimes, it was precisely during eras of formal and informal water rights privatization that most people enjoyed less tenure security, particularly in Andean communities. In sum, it is the question of how to create the infrastructure, laws and institutions that allow secure water tenure that lies at the heart of many water problems (and reforms), rather than the question of how and whether to privatize water. To address this first question, a more complex notion of water rights is required than the prescriptive, instrumental and legalistic understanding of water rights that prevails in neoliberal water accounts.¹⁸

Before elaborating on this statement, let us briefly outline the advantages of neoliberal approaches. As Moore claims for anti-poverty programs, the rational choice paradigm has a natural affinity to the policy discussions of international development organizations working in many countries. It is better suited to producing propositions that are partly true in relation to each [of] a diverse range of specific situations, rather than generating in-depth understanding of specific situations (Moore 1990:16). Moore's observation holds true for the irrigation sector, with its strong preference for large-scale standard policy initiatives and a strong predilection for 'design principles' for building

17 See Briscoe 1996; Rosegrant and Binswanger 1994; Rosegrant and Gazmuri 1994; Perry et al. 1997; Ringler et al. 2000.

18 The persistence and popularity of neo-liberal water policies and their theoretical models among policy-makers in the Andean region, are linked more to their success in generating funds and power than to the accuracy and validity of their statements about water management performance.

viable institutions: universally valid sets of factors, conditions or principles that can be applied to design a particular institutional transformation.¹⁹ The application of instrumental rationality to political problems of resource distribution likewise suits irrigation professionals. The beliefs that flows of money and water follow universal scientific laws, and that human beings roughly follow the same rational utility-maximizing aspirations everywhere are important sources of consolation and relief for policymakers who see themselves confronted with complex, dynamic water situations (Moore 1989, Zwarteveen 2006).

However, neoliberal concepts and frameworks do not help us understand water and water rights as contested resources. Neoliberalism makes it possible to simplify the world into bits chewable by policymakers, but this does not mean that neoliberal tools are always well suited for comprehending the world (see also Goldman 1998, Mollinga 2001, Van der Ploeg 2003; Roth et al. 2005). Neoliberalism is a strongly positivistic, universalizing language that presents distribution-related choices, which are deeply political, as if they were neutral, scientific or technical questions based on 'natural laws'. While some aspects of reality (those that are deemed changeable through policy interventions) and some causal mechanisms (prices and finances and formal laws and institutions) are highlighted, there are many elements of reality and many realities that escape their notice. Therefore, these elements and realities risk not just a discursive, but also a political death. They can no longer be talked about or referred to in water negotiations, and disappear from water policy agendas. As was detailed above, an important example of such a reality that risks discursive and political destruction is the issue of existing collective water rights and irrigation management forms in the Andes. Since these dynamic institutions have resulted from diverse, locally particular processes, neoliberal language does not have the tools to visualize, understand or appreciate them. Quite to the contrary: they represent anomalies that threaten the model's operation.

Therefore, mis-recognition entails risks that will lead to undermining communities' water tenure security, thus endangering an important basis for survival. Achieving the neoliberal water dream comes at a high price: violating or even obliterating existing water tenure arrangements and collective forms of water management. To prevent this from happening, water reforms must be discussed with much more explicit recognition and analysis of politics and power. Concerted efforts to show the politics of choices that are presented as scientific or purely economic are an important first step toward decreasing the legitimacy of current water reforms. A focus on the contents of water rights and laws as sources and outcomes of social struggles, on the norms and rules surrounding the distribution of water, provides one possibly promising entry-point to start thinking about water problems in ways that allow recognition of politics and culture as explanations for human behavior.²⁰

The multi-faceted, multi-domain, and dynamic (or transformative) character of local water rights (see chapters 2 and 3) makes them inconceivable and intangible for positivistic (bureaucratic or neoliberal) water rights systems, which demand a stable, uniform playing field and 'investment security'. In chapter 2 I have detailed how water rights in most Andean communities not just establish who can access and use water but also who participates in decision-making about water control. Moreover, various ways of acquiring water rights may locally be sanctioned with legitimacy, and the mechanisms considered legitimate by water users' communities are not necessarily those adhered to by legislative authorities at national levels. In Andean irrigation systems water rights exist in conditions of legal pluralism and the question of which rules and principles are to be considered (most)

19 See Ostrom 1992; Plusquellec et al. 1994; FAO 1995, 1996.

20 See also Benda-Beckmann et al. 1998; Boelens & Hoogendam 2002; Bruns & Meinzen-Dick 2000; Roth 2004; Roth et al. 2005; Zwarteveen & Meinzen-Dick 2001; Zwarteveen 2006.

legitimate is therefore often an intrinsic part of struggles over water in the Andes. New laws or new mechanisms of water distribution are often challenged by representatives of local communities by referring to ‘their own’ socio-legal systems. The very existence of detailed local water rights and laws is often brought to the attention of legislators only through resistance by local communities against proposals for water reforms and new water laws.

In the context of privatization discussions, it is hereby important to emphasize that in Andean irrigation systems individual rights exist within (and because of) collective agreements²¹ and are enforced by and through local, collectively legitimized authorities. As such, they are radically different from ‘private water rights’ that convey all rights of use and control to one right-holder – as framed in neoliberal water policies (also see Beccar et al. 2002, Boelens & Doornbos 2001). The collective features of Andean water rules, rights and duties, their hybrid origins, their enormous diversity, and their strong embeddedness in locally particular community structures makes them even less understandable and seizable for outside actors and policies (see chapter 8). Therefore, such local norms and agreements are important, by outsiders often unforeseen, deviations from national or international water rights frameworks. Generally, they are labeled as crucial obstacles to efficient, modern water control, whereas for local users it is precisely the new national policy framework that establishes the threats. To give an illustration:

The Water Code in Chile establishes that when (new) water rights are allocated and not all potential uses or users can be accommodated, the water should be auctioned off to the highest bidder. The expectation is that this will result in efficient, equitable water allocation, based on the premise that everybody can join the market. In practice, this is not the case. For example, Hendriks (1998) presents a case in which two farmers in the community of Quillagua (Antofagasta region) in Chile sold water use rights to a chemical company, in 1995. Rights to 885,600 m³/year (equivalent to 28 l/s) were sold for approximately US\$280,000 and other rights to 238,568 m³/year (equivalent to 8 l/s) were settled at US\$235,000. This sale provoked serious concerns among the other farming households in the community, who suddenly felt the end of their livelihood approaching. Their neighbors might be tempted to leave and thereby disrupt the collective water use system, while at the same time they themselves would never be able to pay the same high rates as commercial companies for the water they need to irrigate their subsistence crops. Subsistence production largely takes place ‘outside’ the market, which means that the benefits of water used for this purpose are difficult to express in neoliberal economic terms. Therefore, in the eyes of local water users communities, the value of a fragile green habitat in the middle of the desert and the quality of life of the families living there have to be expressed differently. Contrary to the model and in order to protect local livelihoods, prevailing water rights acquisition mechanisms in Andean user collectives commonly *forbid* the auction mechanism, along with many other market-oriented regulations. Thereby, they obstruct the functioning of the neoliberal model.

Current resistance to new water reforms is thus not just about securing continued access to water, but also about continued existence as local communities, distinct from townspeople and other ‘outsiders’. It is a way to express and reinforce community values. In that sense, communities also actively construct ‘local’ counter-discourses to the hegemonic water policy models. As elaborated in the final chapters of this book, in this discursive struggle they tend to operate dynamically, select strategically and adopt those elements and definitions of water rights that can strengthen their communities’ control.

21 For example, as a result of the construction of ‘hydraulic property’: see chapters 2, 3 and 4.

9.6. Demystifying neoliberal claims to promoting efficiency, secure tenure and investment

“Tradable water rights allow the price of water to reflect the value of its alternative uses, which creates incentives to put it to the most productive use... Secure water rights are particularly beneficial for smaller farmers, who have been most vulnerable to reductions in their water allocation over time and who have few other sources of security. Tradable water rights, by empowering existing users, help reduce the abuses of administrative allocation and give assurance to poor farmers that their water availability will not be reduced” (World Bank 1996: 11-12)

Expectations about the benefits of neoliberal water reforms are high. Proponents claim that such reforms will, among other advantages, result in water savings, in higher water use efficiencies, in more competition and lower service fees, in more private investments in water infrastructure and maintenance, in less government spending on water management and in higher economic returns on such investments. In addition, water reforms aim to democratize water decision making. Nevertheless, a growing number of case studies have produced a body of evidence that raises important doubts about whether these claims indeed materialize, or whether they are even realistic (e.g., Bauer 1998; Budds 2004; Castro 2002; Gentes 2006). Some of them reveal growing experience with privatization efforts in Andean places outside Chile as well. For example, Assies (2000), Bustamante (2002), Keetelaar (2003) and Perreault (2004), among many others, mention the steep increase in water fees after privatization of drinking water service provision in the Bolivian Andes in a situation where water use efficiency, distribution and system upkeep all plummeted; Oré (1998, 2005) and Trawick (1996, 2003) describe the causal link between rights privatization and the decline of water use efficiency, agricultural productivity and tenure security in irrigation systems in Peru, etc.

In our Andean water research collaboration, Searching for Equity, Hendriks (1998) found similar evidence in many Chilean cases. He describes how water distribution, water use efficiency and agricultural productivity in common property irrigation systems are worsening under the neoliberal regime, debunking the claim that these factors would generally improve after and because of water rights privatization. The neoliberal model promotes *de-territorialization* or *de-localization* of water rights: water rights should not be linked to the land, the community or the territory, in order to extend competition and enhance free trade of water rights to the most productive use (and the highest bidder). Field experiences in, for example, the Valley of Codpa demonstrate the intrinsic irrationality of privatization policy: “The Chilean Water Code has no relationship between water use rights for agricultural uses and land ownership. They are considered as commercial goods that are totally independent from each other. Within this context, it is not surprising to find quite a disproportional relationship between farmers’ water share property and the agricultural area they own. A recent study in the Valley of Codpa shows that water rights range from 200 to 10,000 m³ per hectare per turn. Farmers at the low end of the range suffer from serious water shortage, while their neighbors enjoy plentiful irrigation water with no need to use it carefully. This over-entitlement for some holders reflects relative irrationality at the system’s level in handling and distributing this scarcity” (Ibid:305).

Next, it is well-known that de-territorialization of water resources may pose an enormous threat to tenure security for those systems and communities that base their rights on socio-territorial claims and rationality – linking collective water rights to territorial land rights. However it is less documented that particularly market-based re-allocation of water rights at the *intra-system* level – strongly promoted by the Chilean neoliberal law and water policies – endangers water rights secu-

riety. This process seriously individualizes and disperses water rights, detaching it from community structures and collective rule-making (CONAIE 1996). In general, this breaks down collective action for system operation and maintenance, and in particular it endangers even more the position of tail-enders and the poorest sectors – often indigenous – in times of water scarcity:

As we have detailed, in collectively managed systems in the Andes, peasant and indigenous organizations generally establish rules about how to deal with such scarcity situations (see Boelens & Dávila 1998). In some cases, the collective rules of the system are more strictly enforced, in others specific emergency rules are activated. These may involve reducing irrigation time or flow for each family's field, reducing the area to be irrigated by everyone, making more strict neighbor-to-neighbor scheduling sequences, etc. In most systems this 'scarcity schedule' is based on a careful sequential ordering according to the spatial location of right-holders' fields. This prevents repeated soaking of canals and increased infiltration losses during water conveyance and distribution. However, neoliberal regulations promoting intra-system privatization and trade of water rights, almost necessarily rupture these collective schedules (Castro 2002). As a result, fields are irrigated non-sequentially in terms of space and time, canals are dried up intermittently and intra-system water losses sharply increase, undermining the policy model's efficiency claims. It is also time-inefficient, since families' and collectives lose considerable time when water is moved around in the system 'at random' (see, e.g., Hendriks 1998). As a result, the individual irrigation frequencies decline, prolonging overall watering intervals and drastically reducing the system's production capacity. Moreover, as many experiences in the Andes show, non-sequential or unordered distribution schedules drastically drop social control to prevent water stealing.²² As Castro writes: "Villagers who remember the old system say that 'nowadays, irrigation is disorderly'" (2002:194).

Indeed, not only water use efficiency and agricultural productivity in common property systems are at stake after privatization. Although in theory water rights privatization strengthens user organizations and grants them greater autonomy and security over using their rights, and thus increases their willingness to invest in the system, the policy does not help them with inter-user collaboration or conflict resolution regarding these same rights. On the contrary, it even tends to generate more conflicts, while weakening the collective organization to handle them. This is particularly the case when intra-system level rights are made flexible, and become dependent upon market forces, leading to their concentration in the hands of some users, or their purchase by outsiders. This so-called flexibilization²³ and dis-embedding of water service and access rights through marketing often imposes uncontrolled, individualistic 'dynamics' where stability, security and collectively controlled dynamics are needed. In all these cases, the model actively discourages personal and collective investment in the common system, since each family tends to figure: 'why invest today, if tomorrow my neighbors may have sold their rights to outside parties, which will disrupt the schedule, decrease my own flow or maybe even cut the water off from my land?' In addition, outside rights-holders generally do not have the same commitment regarding their contribution to operating and maintaining the system, especially if they take the water elsewhere or use it for activities other than irrigation.

Another major cause for decreasing rights and management security and declining motivation to

22 See, e.g., Apollin et al. 1998, Apollin 2002, Boelens 1998, Gerbrandy & Hoogendam 1998, Trawick 2003.

23 In another context, Bourdieu (1998a: 85) argues that the idea of flexibility is a deliberate 'insecurity-inducing strategy' of the neoliberal model. This 'flexploitation' – the rational management of insecurity – is strategically induced by elites in order to impose and control market process outcomes. The above de-territorialization of water rights is an important example. Another powerful example is the soaking off of water rights (regarding both property and its contents) from collective and community controlled frameworks, turning them into flexible rights (and obligations) under control of individual market competitors.

invest in common property systems after water rights privatization stems from the fact that one of the central foundations, the 'motor' driving many collectively managed Andean systems, tends to be undermined by the neoliberal approach. As explained earlier, the way many local communities have obtained their rights to water is by investing often tremendous amounts of labor and other resources to construct irrigation infrastructure. Through collective property construction, both the infrastructure and the water access and decision-making rights are constructed. After construction, this relationship is the foundation for collective action in operating and maintaining their system, since these efforts are seen as an investment to consolidate rights. Privatization and subsequent market purchase of individual rights forcefully breaks with the rights (re-)creation mechanism, and as such it strikes at the heart of Andean water control. Embedded, individual rights are being replaced by multiple, conflicting private rights at the intra-system level. As Hendriks (1998) shows, in analyzing the effect of Chilean policy on day-to-day irrigation practice: "The more individual water owners of water, the fewer owners of the system". He concludes that weak operation and even non-existence of user organizations is noticeable in many valleys and oases of the North-Chilean desert, precisely when the scarcity of water could be expected to encourage a well-organized, solid administration. Users are claiming their individual rights, but collective control is vanishing, and general assemblies and community decision-making disappears:

"...it is difficult to achieve a quorum for an assembly, even on very important topics. There is little local contribution to maintain or improve the canal network. Little is penalized or corrected in relation to water robbery, because the local organization to complain to is not effective. Social pressure by other users, when an individual is opposed to certain measures, is ineffective ... Evidently, this means that users do not share much responsibility for system operation, maintenance or improvement. It also means that users appeal and complain more to outside agencies (State institutions) to resolve problems, to take responsibility for the maintenance, to invest in improvements, etc. Apparently, individual water owners are searching for a system owner who is willing to be responsible for the whole system" (Ibid: 306-307).

Here we have one of the great paradoxes of the neoliberal model in regards to community systems: while promoting decentralization and user management, the result is the breakdown of common property systems as well as the claim by multiple, conflicting private users that the State should make it possible to materialize their individual water rights, to guarantee system management. It also illustrates one of the doubtful 'successes' of the disciplining model: it acts as to turn collectives into a loose group of individuals who confront each other as competitors, and who internalize the notion of private water rights. Their private claims are no longer 'imposed by outside forces' but now come 'from within' and as such strengthen the model's normalizing power.

9.7. Disciplining and equalizing deviations: the model's self-fulfilling prophecies

The many inconsistencies raise doubts about whether neoliberal water policies meet their own expectations, measured against their own goals and indicators for success. These doubts, as proponents might argue, do not need to imply that the policies need revision. For one, there are the whims and fancies of the market to blame. Faulty implementation, caused by poorly functioning bureaucracies,

is another explanation for disappointing results. But most important is the fact that the model has its own built-in defense strategies that make it extremely difficult to question its actual consistency and functionality. A powerful strategy of the neoliberal discourse is to ‘blame the victim’: common property rights regimes and water user collectivities are blamed for not responding to the universal logic of the market because of their backwardness and stubbornness (see also McCay & Jentoft 1998). These traditional communities fail to act ‘rationally’ or ‘democratically’ and thus fail to fit into the model – which is built on natural, scientific laws and thus remains unquestioned.

Instead of analyzing the failure and breakdown of collective water rights systems as a direct *consequence* of aggressive encroachment by these same powerful free market actors – mining companies, power plants, agribusiness – and instead showing how neoliberal rules *provoke* the breakdown of community coherence, shared management rules and collective action, by introducing or imposing internal competition and rights individualization, the model presents itself as the inevitable way to *solve* these local water control problems. Therefore, paradoxically, as a powerful self-reinforcing, self-fulfilling prophecy of the privatization model, the remedy that is prescribed is to increase free market rules in local communities and give more leeway to outside and private interest groups to improve management, increase efficiency, and enforce water rights, in other words, to take over their resources, rules, and authority.

A common example of destroying collective Andean water control institutions relates to the decision-making (collective choice) aspect of local water rights. Despite the neoliberal water policy model’s claim that it promotes more democratic water management, in practice it tends to destroy institutions for collective conflict resolution and consensus-based decision-making. Common property systems are being dismantled by concentrating decision-making rights in the hands of the few. In most communal water systems in Peru, Bolivia and Ecuador, the ‘one-person – one-vote’ rule applies, implying that each right-holder has one decision-making vote in the users organization (Boelens & Dávila 1998, Gerbrandy & Hoogendam 1998). By contrast, World Bank and Inter-American Development Bank proposals for new water legislation in Peru and Ecuador stipulate that voting rights should be made proportional to the quantity of water use rights each user holds, making water users like shareholders in a joint-stock company (World Bank 1995, 1996. Cf. Trawick 1996, 2003). The Chilean Water Code sets the example for these proposals. Hendriks (1998) shows how such a re-definition of voting rights may shape local political economy and power relations:

In Belén, Precordillera Comuna de Putre, the great majority of irrigators, smallholders who depend on agriculture for their livelihoods, called for changing the irrigation schedule in order to intensify their agriculture and save water. They wanted to have more frequent irrigation turns with smaller flows, a decision ratified in several community assemblies. But in Belén, a majority of water shares is owned by a small group of wealthy absentee landholders who reside in the city of Arica and make a living out of other activities. They only go to the irrigation system when necessary, for example when they have their water turns. Obviously, they have no interest in increasing irrigation frequency, for it would mean more time and travel costs. This group’s voting weight and related decision-making power prevents the majority of smallholders (who depend on agriculture) from improving their irrigation system and productivity. As Hendriks (1998:306) remarks: “... when users with abundant water and less need for careful use of available water have more weight in decision-making, it affects the rationality of the system’s collective operation. This problem of resistance to change, by the people who migrate to the city and own a relatively heavy weight of water shares, is recurrent in many remote locations in the north of Chile”.

Similar cases are reported in Peru after the neoliberal government of Fujimori changed the regulations of water user associations, concentrating decision-making rights and voting rights in the hands of a powerful minority of large water right-holders (Oré 1998, 2005; Guevara 2006; Vos 2006). Management disintegration resulted, after which the new tools for remedying the problems and disciplining the users were provided by the neoliberal tool kit.

Similarly, Bauer (1998) describes how the Chilean neoliberal model has led to enormous challenges and conflicts not just at the system level but also between multiple use sectors at the basin level (see chapter 5). Again, the remedy that is prescribed is privatization. While decentralization was to help reduce State involvement (and public spending) the different actors seem to increasingly rely on legalistic procedures in centralized courts and bureaucracy for solving their disputes. Often, in the Andean region, such evidence that would discredit the model is simply ignored²⁴ or advocates of water markets and privatization 'with a human face' argue that the model is good but should be accompanied with an equitable legal framework, to soften the 'tough side of capitalism'.²⁵ But where private companies *do* know how to make use of civil courts and legal frameworks when it comes to defending their private water interests, there appears to be an enormous lack of national legal capacity in the Andean countries when public or common water property interests have to be defended. The *de facto* subjugation of the Indigenous Law to the Water Code and the Mining Code in Chile, illustrated in chapter 8, is a clear example.

An enabling, supportive, equitable legal structure indeed is needed. It is to support rules and rights frameworks that are locally accepted, and as such they may be able to address locally particular water distribution and tackle local conflicts. Within a protective public framework, the search for platforms from which to negotiate, taking existing divergences as starting-points – although difficult to achieve – would seem to offer better opportunities than imposing rigid bureaucratic prescriptions or universal neoliberal regulations. But the fundamental problem, as we have seen in the above illustrations, is that privatization policies such as the Chilean one, precisely go against such local and negotiated solutions, and destroy the collective arrangements. The stronger private actors (such as mining, power generation and agribusiness enterprises) forcefully use their economic means whenever they do not see their objectives materialized at the local negotiation table.²⁶

So, ironically, although privatization aims at deregulating bureaucratic water management through delegation of decisions to the lowest possible level, these same water reforms threaten to destroy existing collective water rights systems in the Andes. Through the installation of neoliberal rights and regulations, locally embedded property systems become dis-embedded from the community's social relationships and security systems, and existing collective water control arrangements

24 E.g., World Bank analysts have concluded that water user associations and river basin councils in Chile have a greater incentive to become better organized when water rights are transferable (World Bank 1996:14).

25 Some enlightened market advocates argue that "a *strong State* is needed to make the market function" (Ismael Serageldin, ex-vice president of the World Bank and honorable professor of Wageningen University, in *Wageningen Update* 4, 2003). But in the Andean region, where there is no such protective, equitable legal practice, and where State agencies have no redistributive capacities but are *known* for their extremely inequitable, undemocratic and often racist attitude and practices, the dogma of international policy-making institutions to urgently install water markets sounds bizarre. As long as the benevolent State in the region is clearly an illusion, policies can rightly be based only on what the State *is*, not on what it *should be*.

26 Water rights are not comparable to rights over other transferable goods, because of the great inter-dependence among multiple uses and users of a single source, in a single irrigation system or river basin. Water use also affects non-users and the environment. Thus, the need to recognize water's social and collective features.

are replaced by outside or market-controlled playing rules. These failures become important successes and achievements of the model, particularly in those cases where impoverished water users, self-defined as irrational and inefficient, solicit to receive the blessings and blisters of the model to become healthy again. “The dominant vision of a modern political and economic scenario appeals insistently to the need to overcome ‘old, archaic’ traditions and move on to ‘new, modern’ forms, proposing for indigenous ‘marginalization’ to give way to ‘integration’” (Castro 2002:197). The excluded are included, and become ‘potentially equal, normal water users’.

9.8. ... but some are more equal than others

- “There is, if you recollect, a suggestion that there are certain persons who can . . . that is, not precisely are able to, but have a perfect right to commit breaches of morality and crimes” Raskolnikov smiled at the exaggerated and intentional distortion of his idea [...].
- “In the article of Mr. Raskolnikov, men are divided into ‘ordinary’ and ‘extraordinary.’ Ordinary men have to live in submission, have no right to transgress the law, because, don’t you see, they are ordinary. But extraordinary men have a right to commit any crime and to transgress the law in any way, just because they are extraordinary” (Dostoyevsky, *Crime and Punishment*, (1985[1866]:.256-257)

When confronted with this almost adequate interpretation of his ideas, the anti-hero Raskolnikov, who committed the central offence in Dostoyevsky’s classic work by killing an innocent lady, corrects the inspector, Porfiri Petrovitch. His precise argument is that extraordinary people do not have the right as such to break the law and commit crimes arbitrarily: “...I simply hinted that an ‘extraordinary’ man has the right, that is, not an official right, but an inner right to decide in his own conscience to overstep certain obstacles, and only in case it is essential for the practical fulfillment of his idea that sometimes, perhaps, is of benefit to the whole of humanity” (Ibid: 257). They are allowed to sacrifice people’s lives only when, by so doing, they materialize a higher societal goal.

“I maintain that if the discoveries of Kepler and Newton could not have been made known except by sacrificing the lives of one, a dozen, a hundred, or more men, Newton would have had the right, would indeed have been duty bound . . . to *eliminate* the dozen or the hundred men for the sake of making his discoveries known to the whole of humanity. But it does not follow that Newton had a right to murder people right and left or to steal every day in the market. [...] I only believe in my leading idea that men are *in general* divided by a law of Nature into two categories, inferior (ordinary), that is, so to say, material that serves only to reproduce its kind, and men who have the gift or the talent to utter *a new word*. There are innumerable sub-divisions, but the distinguishing features of both categories are fairly well marked. The first category are men conservative in temperament and law-abiding; they live under control and love to be controlled. [...] The second category [...] are destroyers or disposed to destruction according to their capacities. The crimes of these men are of course relative and varied; for the most part they seek in highly varied ways to destroy the present for the sake of the better. But if such a one is forced for the sake of his idea to step over a corpse or wade through blood, he can, I maintain, find within himself, in his conscience, a sanction for wading through blood – that depends on the idea and its dimensions. [...] The first category is always the man of the

present, the second the man of the future. The first preserve the world and people it, the second move the world and lead it to its goal. Each class has an equal right to exist. In fact, all have equal rights with me ...” (Ibid: 257)

To Inspector Porfiri's question on how to distinguish between ordinary and extraordinary people, and avoid situations in which ordinary people think that they are exceptional and have the same right to 'clear away the barriers that stand in their way', Raskolnikov answers that there is no need to worry about that, since these mistaken ordinary people will be corrected by justice or by themselves. "*It is a law of Nature*" (Ibid: 257).

Apparently, similar to Raskolnikov's argument, in the neoliberal water policy discourse all have 'equal rights'. Common water user communities are potentially equal and will be so in the future if they accept the standards; the discourse actively encourages water users to participate as equals in a uniform market playing field. If possible, by participatory inclusion, if necessary, by coercive force. "A person's actual freedom," according to Chicago economist De Castro, Finance Minister during the Pinochet dictatorship, "can only be ensured through an authoritarian regime that exercises power by implementing equal rules for everyone" (Grandin 2006:6). But, in an Orwellian way, the advocates of the models' equality discourse - for example, the waterlords who most strongly defended the introduction of free market rules and the privatizing Water Code in Chile - are often precisely the ones who have clear reasons for *not* behaving according to the standards of equality they have promoted. Not only are they far better positioned to manipulate the outcomes of the agrarian and water laws and regulations, supposedly equal for all (see chapter 8). Also, whenever profitable, they make use of the model's inconsistencies and escape, for example, the laws of free trade.²⁷ And similar to Raskolnikov's reasoning, they defend even such deviations from their own model as if these proceeded from 'natural law'. Hence, clearing away the barriers - e.g. the destruction of collective water rights systems and the drying up of local communities - is legitimized by this law of moral relativism, being necessary to reach their extraordinary goals of a better, utopian society: claims to high overall efficiency, productivity, and even equity.²⁸

The creation of water monopolies as a consequence of the water privatization regime is a clear example, out of many, of these 'rights of the extraordinary'. Water monopolies point at both the strategic use and inconsistent practice of the neoliberal equality discourse, and at another inconsistency of the water policy model itself: making water rights transferable does not necessarily get water allocated to its highest economic value. In Chile, companies that try to get hold of water rights do not necessarily get their profits from using or selling water, as the model claims. Speculation by holding surplus usage rights is much more profitable and has led to the emergence of powerful private water monopolies (Budds 2007; Gentes 2006; Solanes 2002).²⁹ Hendriks provides some striking examples

27 Similar to the way the USA and the EU are the champions of imposing world market trade liberalization and Free Trade Agreements (NAFTA, FTAA and WTO regulations) on the South, while fiercely protecting their own markets against products from the South. It is also similar to law-perception among most elites in the Andean region: equality to *obey* the law is for common people, not for the 'extraordinary' (see chapter 8).

28 Not just totalitarian regimes and neoliberal policies or utopian thinkers but also utilitarian philosophers have contributed to such moral relativism, e.g. Jeremy Bentham, when he stated that there is no law that should not be repealed if its repeal would benefit of the majority in society. Human rights for minorities and marginalized groups are not sacred in such lines of thought. See also Achterhuis (1998), Lukes (1995).

29 The Chilean Water Code does not prevent the emergence of such monopolies by powerful enterprises. It is not necessary to pay taxes or fees to own water. And with respect to practices of hoarding and speculation, it is only since 2005 that water elites have to pay some 'fee' for not beneficially using their water properties.

of water speculation by the hydro-power sector. The three major generating companies accumulate 78% (1324 m³/s) of the water used for this purpose; they have rights to 73% (8162 m³/s) of the currently unused water; and they have applied for 69% (26,753 m³/s) of the total volume pending grants. It is estimated that at the total, nationwide level there is a 30,000 m³/s flow usable for electric generation. The same tendency of concentrating water rights is repeated in mining activity in the dry northern region (Hendriks 1998). Peasant and indigenous communities strongly suffer from such water monopolies – water that often stems from their sources, that is badly needed for their subsistence, and which is most often not even used by the companies who own it. Attempts to modify the water legislation to avoid monopolies and unproductive uses meet with the resistance of the existing large right-holders and hegemonic power groups: privatization allowed them to accumulate water rights and now they are reluctant to give up their privileges (Dourojeanni & Jouravlev 1999a; Gentes 2006). The uniform rules of the model are made for the common people, and the water elites are simply more equal than the others.

But not all water user collectives accept the label of potential equals, and increasingly they claim to respect different standards of equality than the ones the neoliberal model offers as inevitable and natural. An increasing number of peasant and indigenous organizations are standing up against privatization efforts and neoliberal water reform programs. This resistance goes to show that ‘not fitting’ the model is often a conscious choice, rather than the result of backwardness or unreasoned stubbornness. The fierce contestation highlights the contested nature of water rights, and the fact that much, very much, is at stake.

9.9. Reflections

The history of the privatization debate, as we have shown, is directly connected to the way in which ‘civilized’ enlightenment thinkers have tried to take themselves as the universal norm for humanity by judging other water rights frameworks and hydraulic identities as inferior to their own and, at the theoretical level, by claiming universality for their models and laws. Following this enlightenment tradition, the neoliberal discourse largely derives its strength and legitimacy from presenting and – subtly or violently – imposing itself as self-evident and actively constructing a logic of its own inevitability.

Thereby, the neoliberal model not just assumes and desires universal laws, but also actively establishes them. Co-existence of a great diversity of rules, rights and obligations is actively discouraged, since such diversity would obstruct inter-regional and international transfers and trades, which require a uniform legal framework. Locally particular rules and rights that are critical about transfers and sales are anomalies that stand in the way of investments and profits. In the Andean region, market policies do not replace bureaucratic policies, as is commonly suggested in decentralization discourses, but act as allies since both perceive the need to discipline and counteract pluralism of water rights repertoires. State bureaucracies, therefore, are ‘reformed’ to provide and enact legislation that allows markets to emerge. Communities and collective rights systems that do not fit the neoliberal picture are per definition inefficient and backward and are thus either doomed to wither, get subtly (self-)included in the market as those with potential to become equals, or they are forced to join the neoliberal game on unequal terms.

The formal ability to demand and practice rights to water in the neoliberal world is a function of one’s ability to enter and bargain in markets and meetings. Therefore, neoliberal political programs

see a clear discursive need to present all water actors as potentially equal; markets and meetings only work when all participants can interact 'as equals'. Equalization and uniformity of objectives and rules, framed in terms of individualized water control, commoditized water rights and users who rationally pursue the economically most beneficial water use, is a precondition for the model to work. Here, it is necessary to consider that equality always asks for a frame of reference, a mirror: 'equal to what?' 'equal to whom?' (see chapter 6). Clearly, the cultural, political and normative standards for this equality, and thus for normalizing the abnormal and equalizing the unequal, are set by neoliberal policy model-makers. And the standards or norms are powerful, since they are presented as unavoidable Laws of Nature – with an large and impressive historical, political-philosophical background. Actually existing differences, characterized by deeply historically embedded social differentiations and divisions in terms of decision-making power, monetary income, skills, information and education, which strongly favor private companies and business actors, are discursively neglected, or presented as precisely the gap that can be bridged by the potential equals when joining the market game.

Confronting this model for equality with actual water rights in Andean practice, we see, however, that these are deeply embedded in plural normative systems, social and cultural institutions, political networks, and technological and agro-ecological environments. The fundamental suggestion of neoliberal policies that 'water rights' could simply be lifted out and isolated from this complex reality and historical organization of control, in order to 'bring them to the market', cannot be taken seriously unless it is admitted that a necessary consequence is the destruction or radical transformation of local livelihoods.

Nevertheless, neoliberal discourse presents water reforms as merely neutral technical interventions aimed at better controlling and managing the Water Crisis. The suggestion is created that such interventions do not fundamentally alter or influence existing social and political relations. However, proposed water reforms involve quite radical modifications in the social and political structures in which water management is embedded, and in the ways in which water is to be owned, distributed and managed. If the policies are implemented, such relations are increasingly dictated by extra-communal laws, institutions and markets. Thus, the proposed water reforms are deeply political, in the sense that they aim to actively create and transform (through laws and institutions) the political and social water-world. Market becomes the metaphor for complex social and ecological dynamics, and people and Nature are deemed relevant only in their commoditized form imputed with value useful to the economy. Through prices, very diverse water values can be compared, categorized, measured and judged and thus transferred and traded. Through reducing motivations for human behavior to self-interested profit maximization, water actors are judged upon their degree of market-orientedness.

Not surprisingly therefore, peasant and indigenous communities have often lost their rights and voice as a result of neoliberal regulation and privatization projects. Not just their water access rights, but also their management rules and identities have been denied and undermined after exposure to a model that simply assumes freedom of expression without actually verifying the conditions of its existence. It is telling that the most extreme water privatization policies have been adopted in Chile, under Pinochet. As in no other place, a nation-wide neoliberal 'water rights laboratory' could be installed in order to experiment and implement the model. Here, popular resistance and dissenting voices were violently silenced, assuring the necessary control over the conditions that could affect the model's working. In most other Andean countries, protests have partly halted or substantially altered water privatization efforts. So far, however, neoliberalism has not yet been dethroned as the

hegemonic water language. For this to happen, as a first important step, the assumptions of political neutrality and scientific objectivity legitimizing Andean water reforms should be thrown into the dustbin in favor of conceptualizations and narratives that explicitly show the politics of water distribution and the on-the-ground results of water policies, that allow for diversity, and historical contextualization, and that acknowledge subjectivity and situatedness.

In sum, neoliberal policies and the theories underlying them can indeed be typified, as Bourdieu has done, as “pure mathematical fictions, based from the outset on a gigantic abstraction”. But, as he continues to explain, “it has now more than ever the means of making itself true” (Bourdieu, 1998a:94-95). Still, as I will show in the final chapters, the takeover of water rights is not a silent process. On the contrary, peasant movements and indigenous organizations are actively and loudly standing up for their rights. Understanding such protests requires a more layered, contextualized, complex analysis than the one that currently tends to dominate global debates. Current struggles are not, as many observers would have it, a simple battle between public and private water interests; neither is this a conflict between common and private property regimes (the former associated with tradition and the latter with modernity). Water rights in the Andes feed comprehensive, all-embracing struggles that do not only exemplify the inherently political nature of water and its close association with power relations, they are also closely associated with cultural meanings and identities. Hence, while the main stake in these struggles to either resist or comply with neoliberal approaches is people’s secure water tenure, these struggles are not just about water. They are also about cultural meanings and ethnicity, about the right to self-define and exist as collectives and individuals, about sameness or otherness, about power and identity.

chapter 10

PLANNING THE PATTERNS OF PROGRESS: THE EXPERTOCRATIZATION OF LOCAL WATER RIGHTS

*“If the only tool you have is a hammer, you will treat every problem as if it were a nail” (Abraham Maslow, *The Psychology of Science*, 1966:15-16).*

IN THIS CHAPTER, I will analyze the mechanisms that proliferate water expertocracy and the ways in which so-called ‘hydro-policy communities’ or ‘scientific water-truth makers’ contribute to standardizing local water rights and pledge to accelerate progress through planned modern development. It leads me to examining how ‘water expert networks’ turn unpredictable Nature into civilized Culture, through superior water science and technology, and good governance based on rational, efficient water use. As happens so often in the Andean region, the objectifying nature of these ivory towers of hydro-policy modeling make that rational understanding is separated from the very capacity to *imagine* the human, real-life impact of these policies and interventions on local communities. ‘Towers of Indifference’, by creating distanced views, neglect actual water users’ diversity and water rights’ complexity: they perceive and construct ‘equals’ that fit into their models.

My effort brings me to review various water intervention cases in Ecuador and Peru to see how, by denying experts’ subjectivity and power-knowledge relations, ‘technical rightness’ is presented as if based on neutral laws, devoid of moral, cultural and political meaning. Water expertdom, thereby, has the self-ascribed and officially endorsed authority to define water users as clients and determine their water needs. Has ‘rationalizing water use and rights’ become a process of substituting existing needs, knowledge and morals? To understand this profound externalization of local norms and technologies and the systematic remodeling of ‘valuable’ water knowledge, I will go down to the reductionist ‘extremes’ of expert rationality in utopian/dystopian tales and satires, to find the roots of ‘Development Speak’.

Can it be true that depoliticized expert intervention in the Andes deepens water scarcity problems rather than solving them? Does fashionable IWRM strengthen dependence on all-knowing, marketable experts rather than bringing the self-rule and autonomy it preaches? Expertocracy, standardization, hydro-political dream schemes, fantasy-loss, blaming and self-blaming seem to be closely connected. But the picture may not be that bleak. Many water user collectives defend their right to dream and act differently, to deviate from experts’ standards. And ever more professionals and user groups see the need to actively interweave their mutual water knowledges and water struggles.

Question: What are the mechanisms that expand expertocratization of Andean water control and how do hydro-policy making expert networks contribute to standardizing existing water rights?

10.1. Subject- and fantasy-loss: the unbearable lightness of hydro-policy modeling

When Mrs. Glü peered down from the highest lookout tower, her son appeared in the street, like a tiny little toy. She recognized him by the color of his coat. The next moment a toy truck hit that little toy.

But that event of a minute ago was no more than an unreal, brief accident, involving a broken toy. ‘I don’t want to come down!’ she screamed, resisting fiercely as she was being led down the stairway. ‘I don’t want to go down! I’ll go crazy down there!’

(*Der Blick vom Turm*, Gunther Anders (1932)).¹

Towers of indifference

The Water Crisis is presented as one of the most important problems of the 21st century, and multilateral policy agencies, research centers, universities, and national authorities have the development of new water management models, policies and intervention strategies high on their agendas. Generally, however, these integrated water management models and policies do not deal with actual people, not even when they are ‘thoroughly empirically tested in the field’. High up in the scientific tower of knowledge production the problems of water and food scarcity, social struggle and people’s subordination are studied mostly in general, generic terms. As a consequence, these models use to deal with puppets and with playing toys. In the words of Gunther Anders, it’s not so much that technology and scientific knowledge lag behind when compared to the possibilities of our fantasy, but rather the other way round: our moral fantasy cannot keep up with the development of technological models and related intervention policies (Anders 1980). “A situation has grown in which we are smaller than we ourselves, in which we are able to do more than we can imagine, a situation in which we can know more than we can understand. We are able to do more than we can feel and justify” (Anders 1979:15). Also in the field of water policy-making, experts and planners often do not grasp what the implications of their models will be when actually implemented in local irrigation systems, communities and watershed areas. They are ‘*antiquiert*’ [obsolete, dated]. And if, for example, policy- and model-makers could only faintly comprehend what the term ‘privatization of water rights’ in most Andean communities would mean, how such policies undermine the collective livelihoods of real, living people, they would probably feel ashamed and scared. “Down below, we would go crazy. That is why we are afraid and want to stay at a distance, why we are averse to even going down” (Van Dijk 2000).

In general, the apparent scientific need to keep one’s distance, to be ‘objective’ and to avoid emotional contacts with the people downstairs, contributes to the inability of most scientific research, technology development and policy formulation to *feel* what is actually happening or *imagine* what might happen in reality. So, far-reaching decisions about people’s lives are easily made. “The larger the distance, the proportionally smaller our capacity to imagine, and the less our actions are restrained” (Anders 1979:15). Just as in the tale of Mrs. Glü, knowledge, empirical perception and intellectual understanding is separated from the ability to creatively imagine the human conse-

¹ From: Gunther Anders, *Vanaf de Toren Gezien* [The View from the Tower] (1988:160), epilogue by Lou Brouwers. The translation is taken from Van Dijk (2000). See also Anders 1980 and 2007b:91.

quences.² It is not sufficient to *know*; as Anders argues, “knowing is the weakest existing form of involvement” (Anders, 1988:138). Puppet-based depersonalization of water planning models leads to dehumanizing water development and the impossibility to contribute to approaches and strategies that address the roots of water scarcity problems in the Andean region (i.e. unequal distribution of water access and authority).³ Still, water planning models fundamentally *are* human, socio-technical relations and relations of power, all the more when this fact is denied.⁴

In the ivory towers of water science and policy model-making, fundamentally oriented toward combating the generalized Water Crisis by inventing and promoting an ‘imagined water use society’ (chapter 7)⁵, the day-to-day consequences of these policy and intervention models for real flesh-and-blood men and women are obscured.⁶ Models draw attention to certain features while ignoring others, as partial constructions that nevertheless represent totality (Mayer 2002:5). A central aspect of mainstream water policy modeling is that it ignores, precisely, human diversity, and the complexity of local water identities and rights systems. It is through essentialization, uniformization and universalization that human actors and relationships are equalized, commonly taking the dominant (mostly white, male, occidental, privileged class, and/or non-indigenous) as the reference. Instead of building on the *differences* among actually existing water users and rights systems the modeling usually leads to a biased form of user and rights representation, to active equalization, and thereby to *indifferences* regarding real-life users and rights. *Seen from high above, from the towers of indifference, everybody is equal and made equal.*

In chapter 7 I have analyzed the parallels – in terms of equalizing and disciplining mechanisms – between the central watching tower of the Benthamian/Foucauldian Panopticon and the hydro-political dream scheme of conventional policy-making. Indeed, equalization and control-by-standardization seems to be a common feature of ‘tower processes’. For example, just as State-bureaucratic and neoliberal water policies aim to construct ‘equals’ according to their own image, the Ivory Tower of water resource sciences also neglects differences, that is, constructs *indifferences*, similar to Mrs. Glü’s indifference when watching in her tower over human society. The Tower of Babylon may be one of the strongest symbols of equalization – the pretentious human desire to build an empire based on one people and one language, in control of the world, as equals to God. The fact that it was precisely the *hydraulic engineering* society of the Sumerians who constructed the Tower of Babylon is telling. In ancient hydraulic societies, not just emperors but also hydraulic engineers derived ‘divine power’ from the water works they designed and constructed.⁷ The large-scale, top-down approaches of overly ambitious, powerful irrigation engineers, then and now, have much in

2 For water technological design and implementation, reason without *shared* (designer-user) moral imagination regarding its impact, can only lead to banality (see also the work of Hannah Arendt, Otto Ullrich, Ivan Illich). I argue that this moral imagination, the capacity to think of *diverse* and *diverging* human consequences in diverse contexts, is opposite to one-way civilizing moralization (chapter 7) or philanthropic compassion.

3 It is illustrative that in the entire Water Law of Peru, only two articles make mention of ‘users’, as if they were not part of the water policy (Del Castillo 2004, 2007).

4 Contrary to common wisdom, as I have elaborated on in chapter 6, the paradox is that depersonalization is a fundamental characteristic of modern inclusive, *participatory* power. Personal bondage among users and elites is replaced by ‘neutralized’ relations, e.g. between client and provider or local water users and public policy.

5 Chapter 7 elaborates on the idea of this ‘imagined water use society’ or ‘hydro-political dream scheme’ of utter irrigation control, an idealized order and socio-technical network to which both human and non-humans align.

6 Anders argued that today only someone who has sufficient fantasy is a realist. The world of empirical observation is an ivory tower. “The only reality is that reality cannot be seen anymore” (1988:57). For a fascinating novel on the issue, see Anders 2007b.

7 Vincent (1997:3): “Secure in their divine invincibility of their engineering, and prosperity of their agriculture, the Sumerians went on to create several cities, including Babylon, Ur and Sumer, and to build the legendary Tower of Babylon”.

common with the ideas behind the construction of this mythical tower, as Vincent argues. “The story of the Tower of Babylon has special resonance for engineers – the application of cutting-edge science to one of the first great public works, only to create incomprehension, miscommunication and lack of cooperation in its wake” (1997:3). Although the tower’s destruction is commonly portrayed as God’s ultimate divide-and-rule act, a reaction to human envy and arrogance, it might also be seen as a divine attempt to guarantee diversity and a symbolic rejection of the wish to standardize and equalize society through human engineering. But where in ancient times Divine Truth was able to restrain human tower-building and standardization, modern technology appears to have taken over the role and power of divine rule.

Perhaps unlike many other practices of high-tech modern science, water engineering is not ‘lacking moral’ – in the sense that ‘what is technically possible, must and will be done, no matter what the ethical dimensions and social consequences’ – but tends to be fiercely driven by the modernization and civilization morality that I have outlined in chapters 7, 8 and 9. Universalistic guidelines are fundamental to the search for ‘progress’ and new water development solutions – for moralized technology (chapter 7). But, paradoxically, it is very common to find that this thoroughly moralized water control technology – the hydro-political dream scheme – entirely lacks human fantasy. Moral action, moralizing water control, is cut loose from political thought, the questions of water redistribution, domination and power differentials among water interest groups. It is this lack of fantasy, the incapability (or sometimes unwillingness) to *think* about the motives and effects of one’s own and other people’s actions in water policy modeling, that leads to indifference, to neglecting actual outcomes, and to the very *non-existence* of these outcomes in next phases of water policy development and intervention design.

Most hydro-policy modeling exercises, invented for universal application and applied in the Andes, tend to *separate* theoretical outcomes from multi-dimensional reality. In this way, policy and intervention results, in a circular way, correspond to disciplinary theoretical predictions. Whenever the actual outcomes are dramatic and in no way can be covered by the model’s assumptions, it is common not to abolish the model but either to blame the victim (the local water users) and/or to ‘silence the drama’ – the results are not incorporated in the evaluation of the model or program, and the social ‘crime scene’ is left behind. Indeed, in general, the ‘epistemic community’⁸ of hydro-policy modeling is not really confronted with the social results of their plans. They are not obliged to do so, not by their own institutional and economic incentive structures, or even by scientific needs, since commonly their contribution to the model ‘has been established’ and their credits are not based on the logic of improvement in the eyes of the water users themselves. Most modernist water scholars and policy-makers preach ‘accountability’ but they themselves will and cannot be held accountable. The design of neoliberal water policies in the Andean region is a typical example (chapter 9). The results are there, in the field, but they are not seen.

Commonly, rather than resulting from wickedness of irrigation agencies or unwillingness of water policy-makers, modernization experts’ biased views are at the heart of the problem: a projection of a narrowly rationalizing, individualistic view toward water users, which reduces agents to

8 Haas frames the expert network or epistemic community as a “network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain” (1992:3). Although diverse in composition, such expert networks share ideological, politico-cultural and technocratic backgrounds, truths, languages, values and norms. See also Foucault 1980; Illich 1971, 2000; Van der Ploeg 2003; Pfaffenberger 1988.

calculators concerned with strictly economic problems (Cf. Bourdieu 1995, 1998b; Illich 2000). This is not restricted to neoliberal water policy-making but basic to most expert-oriented thinking and, nowadays, popular in common-property resource management schools based on game theory. They induce Anders' notion of subject- and fantasy-loss. Or as McCay argued: "By simplifying out the multiple goals, roles, sources of identity and affiliation, and worldviews within which the so-called rational decision-making of economic actors is embedded, we lose all but peripheral vision of the roles of social factors and community in how people relate to and deal with their commons" (2001:186).⁹

There seems to be a contradiction: in the previous chapters I have outlined how, in modern times and water management, ancient, top-down mechanisms of power have been replaced or, more accurately, have been strategically accompanied by modern, bottom-up power modes. The tower parables and practices seem to indicate that top-down, exclusive power has come back to rule the stage, utterly neglecting or oppressing local views, rights and modes of water control 'on the ground'. However, as this chapter shows, this is only a superficial appearance. The panoptic watching tower is made effective by inclusive, not exclusive forces; the scientific water resources tower is sustained by experts and water users who believe in their divine capacities.¹⁰ Since coercive and capillary powers always operate as strategic partners in modern Andean water-power games,¹¹ mechanisms of inclusive, capillary power are not weakened but strengthened by the towers of indifference. Just like the central tower of the Panopticon, they subtly contribute to constructing the equalizing, disciplining model. As many cases in this chapter show, rather than experts just imposing their divine knowledge, water user organizations ask for it, to become included in the world of modern, rational water control; and the modernization experts themselves have left their tower offices to become model's consultants in the field. But, at the same time, many user communities and families have unmasked this expert knowledge and discovered its political contents. Reactions, then, range from outright resistance to critical adoption and hybridization of knowledge.

This chapter examines the way expert knowledge and systems contribute to standardizing water rights. Rather than looking for the ways of mediation and contestation by water user collectives (chapters 11, 12, 13) it focuses on the mechanisms that proliferate water expertocracy. The next section illustrates experts' utilitarian and universalistic reasoning in an Ecuadorian water intervention case. Section 3 analyzes the ways expert systems generate a world of modern water needs that only they themselves can relieve, tying water users, their rights and their resources to the market of external expertise and commoditized inputs. Two cases illustrate this new dependence. Subsequently, the Orwellian roots of 'Development Speak' are examined. Section 4 deepens the insights on the mechanisms and effects of expertocratization by scrutinizing how modern intervention practices and discourses on water scarcity generate scarcity rather than solving it. Section 5 examines how practices of blaming and self-blaming reinforce the expert model in case its results are not what they promised to be. Section 6 analyzes how modern, participatory discourses as IWRM, strengthen dependence

⁹ As I have shown in chapter 9, in the region's policy practice, neoliberal water policies and new-institutional dogmas are based on the very *particular* notions of 'liberty' and 'rational choice' of water rights holding elites and economically powerful companies: how to rationally optimize control over water access and decision-making rights in such a way that it corresponds neatly to the interests of these same dominant water stakeholders.

¹⁰ Even in ancient times, the mythical Tower of Babylon was made by human agency and participation of the people themselves, not by the vertical imposition of God.

¹¹ At least potentially: in case 'they need each other', intermittently, coercive power strategies will join and replace the capillary ones if the latter seem to fail (see chapter 6).

on all-knowing experts by promoting a modernization agenda neatly combining high-tech water engineering with new-institutionalist economics. In a final reflection, a plea is made to combat the fantasy-loss that is promoted by hydro-policy modeling and epistemic water expert communities, and to engage in transparent, on-the-ground, interactive generation of hybrid water knowledge.

10.2. Objectified knowledge and utilitarian reason: 'Some have to suffer for the well-being of the majority'

June 2002. The road leading to the communities of Tulabug, a zone in the Licto-Guarguallá irrigation area, is blocked by a huge barrier made by local residents. Vigilante groups from nearby villages decide who can come in and out. Leaders, instantly organized into the committee to defend irrigated land, keep going to the town of Riobamba to complain to and negotiate with the Municipality and reinforce their alliances with related institutions such as the Standing Human Rights Commission, the Ombudsman's Office, and even the Pachakutik Indigenous Party in the National Congress. This is a red alert for communities joined in the irrigation system, who are solidarily backing irrigator families threatened by expropriation of their land. The town of Riobamba has decided to build a new water treatment plant on their land. So, according to technical experts from the Municipality, expropriation is inevitable because the plant must be located precisely in Tulabug – "*there is no other technically and economically viable alternative*".¹² Therefore, 8 to 14 hectares of irrigated minifundios must be expropriated – a lot of land for some 30 families from several communities. Not only the land will be affected. Communities are also fiercely protesting because the project will affect their irrigation facilities and their largest night storage reservoir, in Bellavista. In the words of an irrigator, Pacífica Yupacabay, from the community of Tulabug Escaleras:

"I am furious with these people from the Municipality who want to take our water away. We have worked, we have struggled for 30 years for this water, and now they want to take our land, to expropriate it! We women have done the most work, carrying our babies in our womb, on our backs. We have gone up at 3 or 4 o'clock in the morning to work on the intake, up to work at the Guarguallá River. We have brought the irrigation water, and now we are happy, but now these people want to expropriate it! We don't agree, and we will defend our land and our reservoir to the end – we are not about to let them go".¹³

The Riobamba Municipality, for urban water supply, has designed its big Alao project, which would double the current flow rate.¹⁴ The Mayor's main campaign promise to the city population was to complete this project in under two years: "... in my administration I will solve the water problem; by August I will have been in office for two years, I offered to solve the problem and I will not fail you, or rest a minute" (Dr. Fernando Guerrero, Mayor of Riobamba). Similarly, the Vice-Mayor (Dr. Luis Cargua-Ríos) explains the project's great political importance: "... we are about to change administrations, so the water supply system is key ... imagine – even now all the radio stations are

¹² Interview with Mr. Angel Obregón, Director of the Riobamba Municipal Water Supply Dept.

¹³ These interviews were conducted in June, July and August 2002.

¹⁴ The current 475 l/s would be doubled by another 500 l/s extracting from a river currently used for non-consumptive purposes (the Alao hydropower station). This is a 12 million dollar project, to be funded by the Bank of the State (interview with Mr. Diego Saltos, Vice-Director of the Water Department, Riobamba).

insulting us for not having done anything about the water supply with the Alao project, that it has been lip-service only”.

But local families, after many years of sacrifice and suffering to build the irrigation system and bring water from afar, are determined not to let their farms go. As Pacifica puts it:

“His Honor the Mayor will have to respect our land. We can’t live without water, we farmers need land. I need this little farm for my children, to make a living, to survive. I will irrigate my land with my own blood, but I will not be put off it!”

The Mayor of Riobamba also refers to people’s strong desire not to leave their ancestral land, but his interpretation of this fact is quite different from that of the people affected:

“There are folks who cling to their ancestors, and even if their land is worthless, they defend it to the death. It is ‘ñucallaqta’, in Quechua Mother Earth, our land, I will die on this piece of land, I was born here and I will die here. Those people are belligerent, they fight, they say ‘you can kill me but I am not leaving’”.

Communities have clearly expressed their non-opposition to the water supply project in itself. However, over the last few months the collective furor has grown enormously, since it is precisely the irrigated *small family farm* land that they want to expropriate, and this is unacceptable to them.¹⁵ Moreover, they have offered the Municipality other (dry) land above the irrigation canal that the communities would give up in order to build the water plant.¹⁶

Also, as peasants, they fear that the Municipality’s political agenda is not just to expropriate a few hectares to build their water supply facilities, but to demand more land than actually necessary, to begin developing urban property in the rural area. They fear that expropriation will accelerate urbanization and utility sprawl for non-farm households, changing their lifestyle and increasingly evicting minifundistas from their land. Lauro Sislema, leader of the Chumug community, expresses this suspicion: “First they move us for the green areas, secondly for sports fields, third for swimming pools and fourth for housing developments”. He feels (and has actually experienced) that urban authorities who expropriate fail to value the major contribution that campesinos make to the city. In the words of Pacifica:

“They want to expropriate our land, these people at the Municipality. They don’t realize that we, out here, produce what keeps the city alive, with our livestock producing eggs, guinea pigs, chickens pigs, cattle – we take that all to town, serving the people of Riobamba. Thank God, with water we have new crops, we produce, everything grows, and we take it all there. They don’t realize that we serve the city”.

15 Hector Pilataxi, a water user, explains the resistance: “... many people have only one plot, and it took 30 years of hard work to get the irrigation water. Many people died before they saw the water get here, some women have been widowed with small children – they need the water to support their children on their land. We are also concerned that not only that land would be harmed, but also our reservoir that feeds 20 modules in Tulabug, Molobog and Licto. We are not opposed to the project ... but what we do say is not to do it on that land. We, as the Irrigation Board, will fight to the end”.

16 In a letter (30-5-2002) to the Municipality, they offer three concrete alternative sites. Leader Lauro Sislema explains: “We told them: ‘we are not against the Alao water supply project’, we have even offered to donate our labor with a minga work party here on Bellavista hill. We wanted them to make it there, and now they say it is too high ... They tossed away that plan – we will not let them get away with that”.

The reaction of urban authorities, self-declared servants of common well-being, is to not understand the resistance. It is remarkable how political authorities view their own actions as following international trends toward decentralization and public participation. They assume that there will be collective agreement, based on the supposed sharing of project information:

“But why didn’t they challenge that when they heard about it – why didn’t they speak up three years ago! Now that I get back to the project and say ‘we are going to do this’, then they make trouble: they don’t want to sell us their land, because they say they are farming, they have invested a lot – okay, they have some irrigation pipes and so on” (Mayor of Riobamba).

However, a look at the project planning readily revealed that it was not formulated or designed so participatorily as the politicians and technical experts would like us to believe. These very authorities, with their decentralized powers now, have never changed their practices of designing their projects as blanket prescriptions, without consulting with the people. And these days, municipal, national or international drinking water agencies and companies receive powerful backing from the international Millennium Development Goals that force countries to work on unrealizable goals regarding ‘tap water coverage’.¹⁷ Unconcerned about this widespread vertical practice, the Director of the Water Department explains the experts’ reasoning:

“The project was made logically. I don’t think we should involve the citizenry en masse at the beginning of a project, with everyone thinking about it. Often, when too many people think about them, projects end up dangling. There are too many opinions and everyone wants to show off how much they know, so a lot of time is wasted”.

Community members point to other reasons that have evidently prevented any genuine consideration of public participation in project planning: financial pressure on formulation and implementation timeframes. This argument was even used to pressure communities to agree to the project and, if the project financing was not approved, to blame them for the failure. In the words of Inés Chapi:

“They said they had the money, that the IDB had given them the first loan [...] and they were already being charged interest and were going to lose the money because of us. They had to pay interest, so they had some blueprints already designed: where to put the tanks, where the ditch would run, where the chlorine station and the pump house would go – they had all the plans ready”.

Non-information and the lack of any kind of interactive design or even consultation process with the parties affected has been amply confirmed in the communities. As Pacifica explains:

“... Distinguished authorities, mayors, council members – they have never asked us, never worried about us – now they want our land. But we have gotten no benefit from these authorities,

¹⁷ These MDG standards not only force projects to ‘build as quickly as possible’ (i.e. without user involvement); often, they also promote encroaching on peasant and indigenous water rights, since these are either not recognized by State law or are not considered as ‘drinking water rights’ (which have legal priority over rights for ‘agricultural uses’). Local community water rights, however, often have multiple purposes, not just for irrigating).

ever. With our own efforts, with our own sweat, with our own money that we carry in our belt, we have done the work. Now, these gentlemen have made us take to the streets, desperate and aggrieved. With tears in our eyes, because we have children [...] And what have these people ever done for us? And then they come to trample us, to send people to push us around, to throw our children out of their homes. Where are we supposed to go? Shall we go into crime? That would be a lot of burglary, a lot of murders, I don't know ...”

Clearly, moving them to other land or compensating them with cash will not be acceptable to the people affected. In analyzing the problem and seeking alternatives, quite different worlds and ways of thinking come to light. The Waterworks Director argues that the main problem is the selfishness of rural families, and the solution is to compensate them with money. Basically, the universal value of money can compare and equalize the intrinsic prices of land, water and the other fundamental factors of rural life – even the community itself. So, a quick reference to civilized coexistence, and the universal desire to match the world created by experts, compared to the lack of all that in the affected communities, should be enough:

“Countries, especially in Europe, are developed, not selfish. We all want to be at the same level, obviously, don't we? As in any major project, we have to compromise, we have to give up something, because the benefit is for the great majority. Here in this project there can be no more than some 30 or 40 families who will be affected, by being temporarily moved off the land, because we are locating them elsewhere, or giving them the opportunity of cash compensation....”.

By contrast, the threatened villagers cannot express their irrigated land only in cash or exchange values. Underlying their resistance against accepting compensation, there is a whole world of other production values belonging to land and water, the history of ancestors who lived on this land, their struggle to get the water, the meanings and symbols of these core elements of rural livelihoods, and the very meaning of ‘community’ and ‘identity’ in and around Tulabug. Their land is not a few ‘individual plots’, as Pacifica tells us:

“The way the Municipality thinks, what they tell us is that they are buying land, they claim, in other places, to repay us for our land here. Other land is depleted, other land is all rocky, this land here is worked and friable. We don't want that other land, we want our own land [...] Our land took a lot of work, by our fathers, our mothers, our grandfathers, our grandmothers – we were born here. This Mayor, where does he think we are going to put our family, with so many community members on this little farm. Then that is why we don't want it - *yo estoy con mis mujeres, con mis compañeras estamos aquí andando*¹⁸ - we are working here. We will not leave our land, we are here, staying put, night and day”.

The utilitarian argument by the Waterworks Director, true to Bentham's ideas that it doesn't matter to sacrifice a few to benefit the ‘great majority’ (see chapters 7 and 8), doesn't sound fair to the villagers. But for project experts and urban authorities, this is incomprehensible; they are irked because it is not just the directly affected families who protest, but also the villagers and leaders from the

18 “I am backing the other women, my friends and I are on our feet”.

other 17 communities in the irrigation system, who have arisen in solidarity. The municipal authorities are unaware that, as well as people's individual interests, there are also collective structures, motivations and behaviors, which are necessary for families (especially the least wealthy) to survive in the adverse settings of the Andes.¹⁹ They label this manipulation – in the words of the Waterworks Director:

“Often, especially in the indigenous area and with issues of solidarity, third parties impose to be involved, even if the locals didn't want to [...] Only a few families are affected, so these families over here ought to be the only ones fighting. We can't get the rest of the province's indigenous communities involved, or even perhaps all the indigenous people in the country, I don't think so, what for?!”

Similarly, the Mayor of Riobamba refuses to countenance this possibility that when the rights and justified complaints of marginalized groups are trampled on, there should be people and grassroots institutions that refuse to accept this and join in solidarity:

“There are people from outside the zone who have nothing to do with this, there are those ‘political’ organizations, and attorneys taking their money – we know who they are – so there are people from outside the problem but who get involved solidarily to take political advantage”.

Seeing that the situation has gotten out of political control, fundamentally, we see two intermittent reactions by power groups, as explained in chapter 6. First, there is the soft face, with the speech of participation and inclusion. There, following the liberal tradition, they emphasize the equality of all humans, stressing the discourse of the ‘imagined community’:

“They should think of the fundamental idea that we are all Riobamba canton, jurisdictionally we are all equal, we are in a single province, in the same country” (Director of the Waterworks).

To maintain this equality and the common welfare of all, then, we should not be surprised that there are some (those who are a bit less equal, in Orwell's terms) who have to suffer:

“Because of the water that will be collected, it is inevitable that there must be a treatment plant, so they should understand that someone must make a sacrifice, pitch in so the rest can develop”.

Indigenous leaders, however, have learned the need for unmasking liberal utopias of equality. Further, the State authorities themselves have changed tone, showing their second face, the tough, violent one, when community members refuse to buy the participation and common well-being discourse. In a letter to the communities, they threaten to expropriate, if necessary with police violence. They argue that, in the words of the Waterworks Director, “*the self-interest of a couple of indigenous peasants without any technical criterion cannot jeopardize the welfare of a whole city*”. Nina Pacari,

¹⁹ I am not referring to the oft-romanticized ‘Andean solidarity’. Here the point is that, when a number of community member families are seriously threatened by outside forces, they close their collective lines of defense.

indigenous movement leader, analyzes this phenomenon precisely:

“There is the unconsciously racist content of giving them low priority, as just a few families and on top of that only indigenous. When they say ‘for a few indigenous families we cannot stop a whole city’s project’ there is racism involved because they are indigenous communities. Now, if they were large landowners ...”.

And indeed, it is true, in Alao there are several haciendas, and one need not be a ‘water expert’ to find plenty of technically suitable land there to build the treatment plant. Rosa Guamán, a rural leader from Licto, has experienced this phenomenon all her life: “It’s always that way. They think it’s so easy to cheat the weakest, the small farmers”.

Whether with the inclusive, capillary jive of participation, or with the more coercive threat of government’s legitimate monopoly on violence (both in terms of ‘public interest’), experts feel that officially established water plans must not be obstructed, much less when peasant and indigenous families make reference to their own normative frameworks that are not backed by State law. The fact that the affected families have no official title to their land and have *created* their water rights by working to build the system means that they have no official basis for their claims. Moreover, as Riobamba experts’ enlightened rationality goes, by offering them compensation the Government is doing them a favor, its is not a right. Liberal, positivist, universal law recognizes no anomalies or local justice, which the Waterworks Director says would be a trait of cannibals, not of educated people:

“Look, if we are in a sovereign State I think we ought to be obliged to comply with the laws of the Republic because we all have obligations, duties, rights and I think we should keep to them. I don’t think we should backslide to cannibalism and take justice into our own hands; I understand that we all now have the opportunity to think, we have studied, everyone is supposed to get an education. [...] I think that laws are universal in some ways, always looking to the big picture, people’s overall situation, benefits and possibilities to develop. I think that everywhere in the world, whenever a large-scale project must be done, involving a lot of capital, involving solutions for many years hence, one must abide by the law and that is what is going on here”.

Modern society calls them ‘experts’ – because they have studied, they have been certified and thereby earned the privilege of making fundamental decisions affecting other people’s lives, other people who never even asked the experts to enter their lives so dramatically. They embody a single person with the role of advisor, supplier of knowledge, organizer of socio-technical systems, and arbiter distinguishing between good and bad. But experts from the Municipality, as anywhere, are not necessary ‘wrong’ or ‘manipulating’. Rather than being ‘evil’, their technical and moral decision-making capacity ‘is not relevant to this context’, a context that they know nothing about and may not want to know about. In the words of Anders, their technical proposal is based on profound ‘subject- and fantasy-loss’.

Official decentralization policies in Latin America give great weight to administration by municipalities and local governmental agencies (as the representative closest and ‘most faithful to the constituency’). However, unequal power relationships, technical-legal training and the moral and cognitive distance between the urban experts of ‘modernity’ and the indigenous peasant communities, all mean that decentralization or ‘participatory water policy’ is no guarantee of relief

for marginalized groups. Local communities also know too well the other side of these ‘inclusive’ claims, and their profound exclusion of local values and morals. As a leader from the Tulabug defense committee put it:

“I would call this a criminal action. It is inconceivable for the Riobamba Municipality, which represents the people, to be against the people and against indigenous culture: if we have no land we have no culture, and without culture we have no life. If the Municipality is going to implement this project, the indigenous communities will be willing to defend this land even with their blood”.

Leader Inés Chapi adds her argument that decentralization itself by no means assures citizen participation. “Only our struggles will gain us any ground, only by fighting for our rights can we defend what is ours. Not because we are indigenous, because we are peasants, can they come run roughshod over anyone...”. As she explains, the situation is complicated:

“...I am afraid there will be a confrontation between the State and users, the campesinos. Since the Municipality is a State institution it is easy for them to bring police, or bring the Army and try to evict us forcibly. But of course this community here is not one single community, but 17 communities that have joined in solidarity to support our neighbors here. I am afraid that there will be a very tough confrontation here. [...] They have weapons, they have tear gas, but we small farmers have none of that. What we use to defend ourselves is by demanding our own rights”.

These stories have no end, only temporary ends. It was a great relief for the farm families that leader Inés’ predictions did not pan out, and the confrontation with the Army – which has happened so often in Licto’s very recent history – did not happen this time. Because of the large-scale peasant-indigenous protest, the municipal authorities were forced to pressure technicians to design an alternative location for the treatment plant, on the land of a former hacienda (Molobog, which was up for sale anyway). Apparently, although technicians claimed in their positivist scientific discourse that there was “*only one* technically and economically viable option”, there turned out to be another, many others. Like any other hydraulic project design, the Tulabug water plant was a political and social construct, one that may prove to have many alternatives when people stand up for their rights and refuse positivist hegemony and domination by the expertocracy’s rules.²⁰

10.3. Newspeak and the expertocratization of water rights

“Imagination, fancy, and invention, they are wholly strangers to, nor have any words in their language by which those ideas can be expressed”
(‘Laputa and its people’, in *Gulliver’s Travel*, Jonathan Swift, 1726)

Andean history and contemporary practice have shown how control over water is an effective means

²⁰ Shortly thereafter, the Government failed to meet its financial commitments, and the project is currently – like numerous other large-scale projects – on the ‘waiting list’.

of consolidating power within human groups, and very often it has provided the strategic instruments to gain power over others. As detailed in chapter 7, in order to control water, people must be prepared, seduced, or forced to act in such a way that various resources (such as labor, money, materials, and management skills) can be joined to design, construct and maintain the infrastructure, define and apply norms for water allocation and distribution, and adapt and consolidate the organizational structure itself. The aim of irrigation water control is to get the ‘right’ amount of water, with the ‘right’ quality, at the ‘right’ time to the ‘right’ place, in order to increase, ensure, intensify and/or change agricultural production. Meanwhile, the ‘right’ rules, obligations, and rewards need to be shared in order to make possible collective action and materialize water provision. Obviously, the definition of what is ‘right’, and for whom, is at the center of the power struggle.

Historically, this contestation has mostly taken place at the local system level, and sometimes supralocal experts and empires sought to be involved in the definition of ‘rightness’ (e.g., the Inca, the Spanish – coercively or not). This definition has nearly always incorporated explicit references to both technical and moral rightness. Technically sound irrigation systems have not just productively supported local peasant economies, they have also strengthened the moral bond among local users and the Apus and Pachamama. At another level, the impressive water works of Tawantinsuyu have promoted the Empire’s economy and food security, as much as they have honored Incan moral might and political superiority. From the Sumerians, the Romans, and the Incas to Dutch and French colonies, in all ancient hierarchical empires (and still today), the sophisticated state of irrigation development was both a sign of technically converting nature into culture, but also of morally converting peoples and nations into Culture. In current times, however, the *openly* moral and civilizing contents of water control rightness have been largely obscured - but as a capillary power, they have not diminished in strength. Consequently, ‘technical rightness’ is *presented as neutral*, devoid of moral and cultural meaning, devoid of social relations and political interests. ‘Rightness’ remains the crux of modern water policy modeling, but the criteria and standards are now in the hands of self-proclaimed objective, neutral, universal experts.²¹

Modern water control, therefore, is commonly presented as the technical manipulation of water flows and human behavior with the most accurate infrastructural and managerial tools and according to scientifically established, measurable criteria, to maximize agricultural outputs with minimal losses of water and (public) funds. As Zwarteveen (2006) argues, the water control modernization process pushes for development of new technologies and management models that set standards for what is achievable; current performance levels must be measured against these norms to evaluate their degree of ‘modern-ness’. Both universal, technical-managerial validity and moral distance are characteristic claims of modern water control.

Indeed, current water thought as it informs policies in the Andes can be seen to be firmly anchored in the Enlightenment tradition. As we have argued elsewhere (Boelens and Zwarteveen 2005b), in this tradition, the expert’s ‘god-trick’ is pervasive: the assumption that one can see everything from nowhere and that disembodied reason can produce accurate, ‘objective’ accounts of the world (see also chapter 11 on ‘invisibilities’). According to Haraway (1991), this god-trick allows systematic denial of connections between power and knowledge, and between subjectivity and power. Bentham used a similar idea, of a ‘god-view’ from nowhere and everywhere, in his design of the panoptical

21 Obviously, water modeling and policy making is a broad and internally contested field; *the* universal water expert does not exist and variations (methodological approaches, expertise, political orientations, embeddedness in institutional and power structures, etc.) are large. Here, I concentrate on some important characteristics that are shared by mainstream “water modernization experts” who operate in international and national policy making or implementing entities.

prison (see chapter 7). Obviously, this denial of experts' subjectivity and of the relation between knowledge and power is ironic "... in view of the fact that much water knowledge is written from the perspective of those who (are deemed to be) in control: planners, managers, policymakers. Produced knowledge is aimed at helping *them* realize their objectives. It enables them to speak more authoritatively through the disembodied, transcendent voice of Reason." (Boelens & Zwarteveen 2005b:104). By denying their subjectivity, belief in the model and thus in the effectiveness of planners' control mechanisms is never to be challenged, nor should the grounds for water knowledge validity be questioned.

Neither hydraulic engineers nor urban authorities in the Tulabug conflict could grasp the rationale of water users' collective resistance against the monetary and replacement alternatives that the Municipality offered. A fundamental belief that fuels modern expert views is that water users and managers follow the same incentives, which are largely determined in expert institutions and markets (Ibid).²² In principle, 'inside' the expert view (as within the neoliberal water domain), similar to the views from the towers of indifference, all actors are equal – at least their differences do not matter for how they relate to each other in the water domain since the rules of the water game are or should be the same for all (Ibid:105). Denial of connections between power and knowledge and the hidden moralism of Water Rationality, coupled with the status of being a representative of scientific reason – which is as strong as the former belief in metaphysical water powers – make the expert into a powerful political actor who, behind the mask of neutrality, supports the justification of far-reaching reforms and interventions.

The creation of modern needs

Just like other professionals, water development experts are heterogeneous and differ from each other in many aspects; no generalizations can be made about *the* development or water expert. Nevertheless, Ivan Illich certainly had a strong point when he argued that "it is no longer the individual professional who imputes a 'need' to the individual client, but a corporate agency that imputes to entire classes of people their needs, and claims the mandate to test the rest of the population in order to identify all those who belong to the group of potential patients". Often, "they not only exercise tutelage over the citizen-become-client, but also determine the shape of his world-become-ward" (Illich 2000:17-18). Unlike water users in local communities with longtime practical experience, and not bothered by age-old embedded-ness in local water cultures, water-power relations, and community livelihood, experts from their water modernization schools not only tend to recommend what is good but actually decree what is *right*. Particularly the last decade has witnessed how (water) development NGOs and State agencies, by adopting international donors' client-oriented discourse and financial rationality, have transformed themselves into consortia of marketable experts whose mission is to relieve the water needs of groups labeled as 'poor'.²³ They have the self-ascribed and

22 As we argued in Boelens and Zwarteveen (2005b), the outcome of organizational and political processes in water management are seen as the sum of rational decisions made by individuals, based on interests that can be objectively defined and known by outside analysts: given the proper incentive structures, human beings will display the same water behavior everywhere. "Differences between people are fundamentally epiphenomenal, making it possible to make generic statements about human nature, truth and other imperial universalities. In such a liberal humanist understanding, people are approached in a methodologically individualist way, as relatively autonomous individuals. This precludes the understanding of people as deeply social creatures, and reduces all differences between people as rooted in differences in character or personality" (p.105).

23 Development institutions and policies, since the mid-20th century, created their subject and object: "With the disappearance of 'the primitive,' 'the peasant' increasingly came to typify the generalized Other, but an Other seen not as primitive

legally enforced authority to define certain water user groups as clients and determine their needs; as ‘helpers of the needy’ they have the moral (but hidden) authority to ‘do good’; as subsidized interveners they have the financial authority to monopolize the water development field and thereby, as I show below, not infrequently paralyze local collective action.²⁴ The Tulabug case shows, as one example in a continuum, how water modernization experts and authorities monopolize definitions of deviance, impute remedies, and therefore use standardized packages of hydraulic knowledge, ‘proven’ norms and procedures, rather than rules and rights that respond to users’ own needs and normative repertoires. Another important example, central to official water management and modernization in the Andes, is Peruvian experts’ water scheduling model.

Illustration 1: Water rights expertocratization through the ‘Plan de Cultivo y Riego’

In chapters 7 and 8 I have indicated how water policy and legislation in Peru and Ecuador contain highly detailed technical prescriptions of how water rights should be acquired and consolidated. They also rigidly define the technical contents of ‘a water right’. In Peru, for example, water allocation is based on the tenet that only highly qualified engineers can establish rights and distribution schedules. The Technical Administration of each Irrigation District is responsible for setting up each year’s *Plan de Cultivo y Riego* (Cropping Pattern and Irrigation Plan), based on experts’ technical, legal and administrative definitions. The Plan fragments irrigation knowledge and practice into detailed, apparently unconnected parts, to be evaluated by disciplinary specialists, who later have to blend them back into a ‘planned system’. The type of knowledge and procedures required for this mean that they are the only ones who can make the parts into a meaningful whole.

This annual allocation and scheduling plan requires very precise agro-engineering planning, which involve detailed calculations of each crop’s water requirements, according to the cropping phase, the soil properties, each month’s rainfall and climate figures, etc.²⁵ While it is already very difficult to establish this Plan in large-scale mono-cropping irrigation systems in the coastal area (where very few systems, with centralized control and strong engineering support, have been able to apply it to some extent), this definition of water rights is impossible to implement in the Andean systems. Even in a sole community or canal sector we find an enormous diversity of micro-climates, soils, mixed cropping patterns, and very erratic rainfall figures, which make the exercise technically infeasible. The diversity of ecological zones within such an irrigation system and the corresponding diversified production strategies, hydraulic cultures and vertical economies (chapter 4) show the intrinsic absurdity of the technocratic policy and legislative recipe. User communities in the Andes, therefore, have no choice but to challenge the engineering approach. At the same time they challenge the assumption that water rights definition is too difficult for local farmers to handle, and that water allocation is too complex for indigenous and peasant authorities to implement. It is very uncommon to find systems in the Ecuadorian, Peruvian or Bolivian Andes that are based on the rationality of the ‘Plan de Cultivo y Riego’.²⁶

nor primordial but as ‘underdeveloped’. This ‘underdeveloped peasantry’ thus became an inversion of ‘the modern,’ a new objectified and contrasting Other....” (Kearney 1996: 35).

24 Cf. Achterhuis 1989, Escobar 1995, Illich 1971, 2000, van Ufford & Giri 2003. Nevertheless, as I show later, a (steadily growing) minority does succeed in bridging the gap of subject- and fantasy-loss, through interactive design processes.

25 This water control model and irrigation planning technique is based on standards developed in Western research centers and commercial enterprises. The norms share the same rationale of water requirements, irrigation efficiency, allocation rules, role and function of measurement structures, water application methods, market crops, organizational structures, and so on.

26 See chapter 2 and 8; Gerbrandy & Hoogendam 1998; Hendriks 2006; Paniagua 2005; Verzijl 2007.

Nevertheless, it is astonishing to see that most new legislative and intervention proposals contain the same ‘error’: both the official policy plans *and* the ‘counter proposals’ of national irrigator federations overlook the engineering bias and the inadequacy of the technocratic model (see Hendriks & Boelens 2004). Apparently, even in such a crucial issue – the heart of water rights definition, allocation and distribution – *it does not matter if ‘things do not and cannot work’ in the way they were planned*. The discourse of rationality and efficiency behind these water rights notions can be discredited in actual practice, but the model remains firmly in place. What is more, because of absence of State expert institutions in the remote Andean areas NGOs often try to ‘participatorily convince’ the Andean communities of the *need* to accept these expert’s plans in order to ‘progress’ (see chapter 8). Once this need is accepted, new, manifold needs-to-be-solved-by-experts-only emerge among the water users in order to set up and implement the imaginary Plan de Cultivo y Riego.

Thus, the non-applicability of the experts’ plan must not be confused with its functionality. As an instrument of subduing local water rights systems it certainly is effective. And the *lack of imagination* regarding the plan’s potential impact (or ‘fantasy-loss’) of the engineers, lawyers, and economic planners who, as convinced supporters, try to implement this tool of progress does not destroy the *imagined water society*²⁷ they foresee. When I argue that experts use standardized packages of water knowledge with ‘proven’ norms and procedures’, this does not imply, by any means, that these techniques and norms have proven or have to prove their usefulness in the eyes of water users. Apparently, non-proven techniques may have imaginary power that is just as strong as proven techniques as long as the power-knowledge-truth triangle of expert rationality sustains them. To this respect, a another powerful illustration follows below.

Illustration 2: water rights developmentalization and commoditization through ‘PES’

Even before the country could provide *any* example of its actual effectiveness or practical functionality, Peruvian law adopted the new international policy fashion of ‘Payment for Environmental Services’ (PES) – the latest strategy for water rights commoditization. Peruvian legislators, universities, scientific boards, and NGOs all supported this because they felt ‘they should not remain behind and needed to be included’.

PES systems are seen as the innovative solution to overcome problems of environmental degradation and rural poverty, by generating economically self-sustaining systems to preserve ‘environmental assets’. Economic assessment of the value of these assets and of the respective ‘environmental services’ – allocating them a monetary value – is a prerequisite for such systems to work right. This enables their scientific observation and measurement, and their application and monitoring in economic-environmental policies. Also, once assessed with universal economic instruments, ‘technical, objective comparisons’ may be made among multiple development options, calculating their costs and benefits, and their economic efficiencies.²⁸ This also enables economic transactions among

27 I argue that, paradoxically, ‘the stronger their imagination, the weaker their capacity to imagine’.

28 To determine the most rational, efficient way to administer and distribute water under scarcity conditions, environmental policies are designed that capture and internalize environmental values in market terms (Loyola and 2004. Cf. Bustamante & Durán 2006; Isch & Gentes 2006). To determine the value of service, not only water resources must be economically assessed, but also the functions water performs in the socio-ecological system (FAO 2004). The economic value of water and the environmental services must be translated into monetary terms, for purposes of measurement, monitoring and comparison. Although the debate tends to recognize not only water exchange and use values (consumption, extraction, production) but also the value of non-use (indirect human use, future human use, or the value of ecological functions) and even discusses ‘existence values’ and ‘intrinsic values’ (e.g., values not perceived or appreciated by human actors or values of sacred waters), the fact is that science is not able to ‘objectively’ set value on these latter aspects, so they remain merely philosophical reflections (or unfounded estimates) and in practice conventional economic methods and postulates

PES system stakeholders, such as between ‘water consumers’ downstream and ‘those providing this service’ in the upper watershed. Consumers pay to economically compensate providers for their efforts and expenses, who as ‘owners of water sources’ conserve the environment and make water available for use. The water or water service have become a commodity. For the market transaction between consumers (demand) and providers (supply) to work optimally and to guarantee secure tenure of the right and investment in water management, water rights must be ‘real and secure’ under the model: preferably private or at least formalized and tangible in standard legal terms.²⁹

Andean countries have great expectations from experts (local and international) to come explain how to ‘install these new systems’. International discussion views Ecuador as one of the countries with many ‘success’ stories. However, there are no such successes in practice – only on paper. But the image is enough to persuade other ‘progress-seeking’ countries, such as Peru. Although, in theory, PES systems reinforce decentralization and user organizations, granting them greater autonomy and more secure rights, they are likelier in practice to have the opposite result. They may generate tension among users and seriously under-estimate *existing* collective arrangements to management water and resolve conflicts. Rights rooted in contextual normative systems and strongly interwoven with local networks are being eroded by increasing dependence on the market system and positivist legislation. Rights can be bought by outside players or concentrated in the hands of a few users; e.g., backed by the policy principles, upstream users now consider themselves as the ‘owners of sources and services’ and demand financial compensation from the downstream communities. If these cannot pay, the upstreamers will withhold ‘their water’ or sell it to those players who pay more. This process of decontextualizing and commoditizing water service threatens collective rights systems’ stability, significantly decreasing secure tenure for members of these systems, and increase the power of and dependence upon outside rules and experts. For the Andean region, PES policy is based on erroneous, quite dangerous assumptions and a very limited understanding of what is at stake in actual water management practice.

In the Andean region, approaches based on universal expertocracy commonly seek to impose a *blanket* overriding economic rationality and monetary value to govern water and the environment. The resource’s scarcity ‘creates’ economic values.³⁰ In their offices, neoliberal planners and PES system experts have not been able to understand the reason for grassroots protests: they feel that Andean communities are unable to act ‘rationally’ or ‘democratically’ and therefore fail to adapt to the universal model. However, there are *already* multiple ways to ‘compensate and retribute environmental services’ in Andean communities and watersheds, based on, for instance, vertical economies (chapter 4), *faenas*, *mingas*, forms of *barter*, etc. However, local ways to manage and set value on water are not seen or judged in their own right (or even on the basis of water use efficiency or marginal returns) but in terms of experts’ ideal universal model. They tend to be viewed as obstacles

are used to set values (Boelens 2006d and e).

- 29 Prices are used to categorize and judge the huge heterogeneity of water values, thus generating conditions for market service through ‘real pricing’. However, instead of caring about how to distribute water equitably under scarcity conditions (who can acquire or purchase it?), this very scarcity is considered a prerequisite for resources and conditions to ‘acquire’ economic value, in order to confront scarcity by a market that compensates service providers. PES reforms are presented as something new (‘modern’) but actually look a lot like the ‘90s attempts to privatize water (chapter 9). In view of public protests and failures by privatization itself, the privatizing mask has been changed into a more ‘environmentalistic’ one.
- 30 What is more, in this frame, water rights and water services only ‘acquire value’ – one uniform social status – if they can be exchanged. As Illich (2000) observed, under experts’ leadership, use-values are dissolved, rendered obsolete and ultimately deprived of their dynamic, distinct nature. But only within certain socio-critical limits is it possible for exchange-values to replace use-values, beyond these boundaries they disable water user communities and produce dependence on water experts.

for modern water control, to be removed in order to pave the way toward water modernization by 'rational' actors.

From Newspeak to Deuspeak?

Evidences such as the Tulabug water treatment plant, the Cropping Pattern and Irrigation Plan, and the installation of Payment for Environmental Services as a 'need', among many others, illustrate that the sweeping statements of policymakers and experts misrepresent the local dynamics of water property rights and obscure the very impact of these policy notions themselves. In chapter 8 I have shown how this converges into the politics of *re*-cognition and containment, which essentialize and transform local definitions and relationships, such as water values, rights and institutions. Indeed, as Goldman argues, "for development experts to assert that they have a game plan for making productive relations on common property 'better', 'more efficient' and 'sustainable', they first have to construct a world of values and property relations which befits an imagined reality. To do so, they must agree to a definition of property – as well as appropriate mechanisms for interpreting the 'true value' of property and natural resources (e.g. prices) – however far removed these definitions are from the irreducible material activities of highly diverse, resource-dependent communities" (Goldman 1998:33). In Andean water policy modeling, these new water rights definitions and the modern mechanisms to value property respond to a process of expertocratization, closely connected to what Van der Ploeg called 'scientification': "the systematic, ongoing remodeling of agricultural practice along the lines of scientific design" (1986:24). This implies a process of profound externalization of knowledge and technologies, whereby the market plays a central role: "a structure is created that grants capital more direct control over the labor process in agriculture" (Ibid:24). As Long (in Long et al. 1986:10) argued, the reproductive cycle of a peasant household, or water user collective, becomes tied intimately to the market's general rules. Not just water users' local knowledge but also the context-based knowledge of any committed, potential supporters (engineers, organizers, etc.) is literally 'de-valued'.³¹

The language of expertocracy actively subordinates local Andean water control and rights notions to the body of functionalist and systematizing theory, as sets of subjugated knowledge (Foucault 1980) that are disqualified and put beneath the required level of cognition or scientificity. They have been invaded and re-arranged by expert-thought and client-thinking. As Groenfeldt observes, for example, "the term 'culture' has been captured within development discourse to refer not to an all-encompassing set of ideas and beliefs (which might challenge Western concepts of rationality), but to a mere sub-topic within the category of 'social capital'." (2003:913).

Orwell's Newspeak (in 1984), the official language of Oceania, has become a metaphor for this reductionist development idiom, sometimes called Development Speak, Policy Speak or DevSpeak. Orwell's fictitious thought experiment carries the idea of an expert-controlled society to its most *extreme* forms, and chapter 1 introduced it as the *ultimate* form of normalization and predictable-ization. I am by no means suggesting that today's development expert societies have adopted or wish to materialize this both top-down and bottom-up, totalitarian panoptic control form. But anti-utopian narratives may provide insights into the dangers associated with utopian expert (or neoliberal, socialist, or other model) thinking. They warn against the conscious or unconscious proliferation of

31 Therefore, Zwartveen (2006) rightly remarks that to become a water resources expert, nowadays, familiarity with international irrigation discourse has often become far more important than knowledge of a particular region, country or community.

Anders' fantasy- and subject-loss. Although Newspeak *language* is the common metaphor used for comparison to expert systems, these systems go beyond ontologies or discursive techniques. I will also briefly look at (a few of the many) other expert standardization mechanisms that constitute Big Brother's Oceania, i.e. the truth claims of expert systems, the undermining of conflicting evidence (also see chapters 1 and 6); the juxtaposed construction and subjugation of anomalies (chapters 8 and 9); the construction of imagined socio-technical societies, and the embeddedness in aligned, stabilized expert networks (also see chapters 3 and 7).

Newspeak was a powerful effort to limit variety, obliterate or invert all the words according to people's *own* understanding (e.g. Ministry of War = Ministry of Peace = Minipax; forced-labor camp = joycamp)³², make them profoundly believe in the truthfulness of the new disciplinary order, and thereby eradicate human agency, fantasy and diversity. "Each reduction was a gain, since the smaller the area of choice, the smaller the temptation to take thought" (Orwell 1977[1949]:249). Truth was entirely monopolized – "whatever was true now was true from everlasting to everlasting" (p.31) – since history was utterly controlled and permanently adapted by the rulers, exactly according to their political interests, social hierarchies, and geopolitical strategies. This way, Orwell sketches a drama of total control by wiping out history and identity. For example, main character Winston Smith worked at the Ministry of Truth to change historical news facts, to undo history. As all others he was trained to *honestly* forget all his manipulations, after which new, modified reality and history became objective, truthful accounts.³³ The fundamental power mechanism to concretize this, 'Doublethink', converges the capacity to consciously manipulate truth *and* ban this act to unconsciousness, thus creating new Truth. "Who controls the past controls the future: who controls the present controls the past" (p. 199). 'Doublethink' or 'reality control' meant that no alternatives could be imagined. "Don't you see that the whole aim of Newspeak is to narrow the range of thought? In the end we shall make thoughtcrime literally impossible, because there will be no words in which to express it ... Even now ... it's merely a question of self-discipline, reality-control. But in the end there won't be any need even for that ... In fact, there will *be* no thought, as we understand it now" (p.45-46). Indeed, right thinking means not thinking, not needing to think. It is unconsciousness since the rulers and experts think for you.

In Oceania, anomalies were not simply destroyed but, most of all, corrected. Similar to the working of Bentham's Panopticon, the abnormal are not excluded but included. People and thoughts are made *sane* again. "The command of the old despotisms was 'Thou shalt not'. The command of the totalitarians was 'Thou shalt'. Our command is '*Thou art*'." (p.205). The Oceanian expert system postulates ontologies and knowledge that construct truth in very particular ways and at the same time claims to work from objective, existing reality. "All the confessions that are uttered here are true. *We make them true*" (p.204). Only once Winston is under his command, O'Brien admits that they make reality, their expert knowledge is a social construction, and obviously, so is Newspeak. But is it *language-control* as such, *Newspeak*, that is at the heart of the control matter? A short utopian sidetrack:

As argued above, the Tower of Babel symbolizes the utopian effort to deny diversity, build a

32 Words such as 'justice', 'political equality', etc., have either ceased to exist, lost all reference in daily life, or could only refer to untruths and crimethink.

33 In a similar way all books were rewritten, paintings were repainted, streets were renamed, documentation was destroyed or manipulated, etc. Publicly shared standards to *verify* historical truths were non-existent or entirely dominated by the Thought Police. In the words of Gunther Anders (1988:68): "The destruction is destroyed", which is a destruction of memory and resistance capacity.

universal language and resemble divine power.³⁴ Harry Mulisch argues that the modern language that is capable of uniting all people, undoing the Babylonian confusion of tongues, building a tower to discover Heaven (Mulisch 2000) and challenge God's power, can only be the universal technological and expert's language of mathematics (Mulisch 1995, cited by Achterhuis 1998:238). Human speech diversity is reduced to a language of calculation in which all are 'equal' and can co-construct the divine (dystopian) empire. Modern expert systems, thus, have their roots. Since constructing the utopian scheme in *The New Atlantis* of Enlightenment philosopher Francis Bacon (1997(1627)), humanity would have started to convert the diversity of languages, peoples, and their technologies into one standardized international, systemic, calculated language aiming for control over both nature and men (Mulisch 2000:246-247. See Achterhuis 1998).

In his legendary satire, *Gulliver's Travels* (1947[1726]) Jonathan Swift ridicules and at the same time warns against both Baconian-type utopias and the experts³⁵ and expert idioms of his days. For example, during his visit to the Houyhnhnm's country Gulliver describes how their language, similar to Newspeak, reduces thought that relates to uncertainties and abstract wishes, hopes or beliefs. Earlier, when arriving at Laputa, a flying and entirely technoexpert-controlled island, Gulliver relates how the inhabitants were wholly implicated and interwoven with mathematics (and music) – in their language, behavior and thought. "The knowledge I had in mathematics gave me great assistance in acquiring their phraseology, which depended much upon that science and music ... Their ideas are perpetually conversant in lines and figures. If they would, for example, praise the beauty of a woman, or any other animal, they describe it by rhombs, circles, parallelograms, ellipses, and other geometrical terms ..." Nevertheless, their fantasy to understand the practical use and usefulness of this expert knowledge was very limited. They detested reality as such. "Their houses are very ill built, the walls bevel without one right angle in any apartment. This defect arises from the contempt they bear to practical geometry, which they despise as vulgar and mechanic" (p.196-197). Since expert's thinking was incapable of understanding and appreciating reality, upside down, reality was to be contained and transformed into the imagined experts' society.

Therefore, Swift's satirical remarks and warnings are not just about 'expert language' 'ontologies' and 'discursive tools'. Also in actually existing expert-systems, the technical, legal and social engineering of an imagined water society neatly *combine*, just as I have shown in chapter 7. Language takes shape as a mechanism of power *only if it is deployed in society-specific contexts* and connected to very particular procedures, technical and physical tools, pedagogical instruments, financial means and politico-economic objectives. Together, they need to have *meaning* in relatively coherent systems of knowledge, making 'the truth-knowledge-power system' as a whole 'acceptable'. In the Flying Island of Laputa, not just languages but also natural resources and ecology are entirely technified, transformed and mastered by the experts and rulers – also the water itself.

"The slope of the upper surface, from the circumference to the center, causes all the dews and rains to be conveyed in small rivulets toward the middle, where they are emptied into four large basins... From these basins the water is continually exhaled by the sun in the daytime, which prevents overflowing. Besides, as it is in the power of the monarch to raise the island above the

34 But many other utopian narratives could have illustrated the same.

35 I.e., the Royal Society experts (Achterhuis 1998). Achterhuis also analyzes technical language constructions by Bacon, Swift, and others. He observes that traditional Baconian science and its language tried to label and explain the world, while modern technocratic science most of all aims to *change* it: a shift from description to potential domination. This radically changes the importance of 'language' in relation to 'bio- and physical matter'.

region of clouds and vapors, he can prevent the falling of dews and rains whenever he pleases” (p.200). For authorities, in both the hydraulic, linguistic and political sense, expert-based water control constitutes a crucial force to control society. “If any town should engage in rebellion, fall into violent factions, or refuse to pay the usual tribute, the King has [his] methods of reducing them to obedience. [For instance] ... by keeping the island hovering over such a town, and the lands about it, whereby it can deprive them of the benefit of the sun and the rain, and consequently afflict the inhabitants with dearth and diseases ...” (p.2002).

This dystopian longing for divine power to, among others, engineer water scarcity and bring water solutions in Laputa, resembles the way Big Brother dominated all agricultural and societal input and output in Oceania. “We control life, Winston, at all its levels. You are imagining that there is something called human nature which will be outraged by what we do and will turn against us. But we create human nature” (p.216). Utopias of control and dystopias of domination are the two sides of the same coin as Achterhuis (1998) demonstrates. They are based on the utopian *expert’s imagination that it is possible to define and domesticate the unruliness of both humans’ and nature’s behavior*.

Thus, clearly, domination by expert systems is not based primarily on control of language alone, on DevSpeak. Neither was it among the Newspeakers. In Orwell’s room 101, even mathematical language lost most of its manipulating power. $2 + 2$ could be equal to 4, or to 5, or whatever, according to the capacity of the Party to control human thinking. The disciplining power of Newspeak, as a metaphor, rather than being based on controlling people’s language as such, was based on its combination with the overall, multi-disciplinary expert system; it was grounded in Orwell’s dystopian imagination of an entire *socio-technical* society in which experts from all scientific backgrounds could *integrate* their fields, technical, psychological, cultural, economic, political, to build an experts’ tyranny, based on a hierarchy of doctrine (see chapter 1). In this imagined, utterly controlled Oceanian society all humans and non-humans, thought, idioms, behaviors, align themselves to this same integrated model, assuring its success and continuation. Every body, every mind, needs to be included, using ever-subtler individualization and recomposition strategies³⁶ – to make everybody want to participate: *they want to be saved from themselves*.

Although Orwell accurately points at the fundamental ‘coercive’ and ‘capillary’ mechanisms and reasons for power in totalitarian experts hierarchies, in their most extreme form, obviously, his analysis does not and cannot leave room for human agency. Winston was forced to self-reflect, seeing the leftovers of his body and agency, in the mirror. “Do you see that thing facing you? That is the last man. If you are human, that is humanity” (p.219). Oceania’s expert system literally and utterly crumbled human agency in order to shape discipline and obedience (cf. Zamyatin 1993[1921]).³⁷ His fictitious novel marvelously showed the destruction of human agency, contingency, and resistance, but (though presenting a clear warning) actual reality is entirely different. This very fact is a major weakness of deterministic standardization theories that claim to present an accurate, *real*,

36 I would argue that, to later regroup them as a collective according to the doctrine’s hierarchy, first, extreme individualization of humans (family, neighborhood, class, and mind) was fundamental to standardize them. In Oceania, domination was utterly measured to the individual, cutting loose all social relations. O’Brien: “Power is in tearing human minds to pieces and putting them together again in new shapes of your own choosing” (p.214).

37 Also in Zamyatin’s dystopian novel ‘*We*’ all human agency was entirely banned by the totalitarian (Russian) State, even sexual reproduction was limited to just mathematical planning and calculation. When engineer D-503 discovers that he falls in love and has a soul, he agrees to *remove his fantasy* by surgical treatment (the extremes of ‘fantasy-loss’). Freed from imagination he is standardized and returns to societal order

non-fictitious, account of the workings of normalizing power in actual societal relations.³⁸ Aside from the fact that real-life (water) policy models and expert systems do *not* have the intention to establish Oceanian societies – on the contrary –, they neither have the *capacity* to escape or destroy everyday practice's contingencies and mediations, even if these 'uncertainties' are denied or 'forgotten' in their planning. Thus, as I will further evince in the last chapters, the equation 'Newspeak = Devspeak = the actual practice of policy models and development interventions', is an insightful *metaphor* but also a truly Oceanian Newspeak manipulation.

Therefore, back to reality. Here, human agency and resistance responses are part of and intrinsic to expert planning processes while, at the same time, this does not take away the nature of these processes. Partly independent of how water users *react* to it, Devspeak presents a language to 'commensurate and glue' heterogeneous actors and diverse institutional, sociotechnical worlds (i.e., an expert discourse as a sociotechnical stabilizer, chapter 1), in order to have them speak of the same type of reductionist needs and problems and the same type of reductionist intervention solutions. The depolitization of institutional effects (Long & Van der Ploeg 1989, Mosse 2003, Van der Ploeg 2003) and (conscious or unconscious) failure to recognize complexity (Roth et al. 2005, Von Benda-Beckmann 1998) make it possible to imagine irrigation development as a rationally plannable engineering process, to seek for global solutions based on globalized concepts and expert tools, either to counteract the 'tragedy of collective water rights' or, on the contrary, to socially engineer 'water collectives' according to the lessons of 'best practices'. Not only are conflicts over water rights and property viewed in expert terms, so are their 'remedies': valuation, intervention and standardization (Cf. Goldman 1998). Indeed, if the only tool you have is a gavel, the judge's court hammer, all water rights will need to look like and become officially nailed down, positivist institutions.³⁹ Global, uniform expert models, cut loose from contexts, 'equalizing all', play a powerful role.

In the Andes, not only water management and practice, but also the very resource 'water' itself has gone through a process of secularization, technification and expertocratization. Where ancient Andeans – and current indigenous communities, still – attribute multiple meanings to water, including spiritual, intrinsic and often living senses, science describes it as H₂O and thus pulls it entirely into the disciplinary domains of water experts. Natural science experts, for example, would interpret the notion of 'the power of water' as just the hydraulic and energetic forces that come with water flows. Social scientists would add the idea that this notion can be seen as a metaphor of 'people struggling over a contested and highly valued resource, the possession of which represents power'. But the idea that water is a living being, a subject, or that it possess a will and 'agency' is (except its version in Latourian actor-network thinking) out of the question. As Illich (1986) accurately elaborated in his work *H₂O and the Waters of Forgetfulness*, vernacular values of water are increasingly replaced by those values based on expert knowledge.

This adds calculability, presumed security and straightforwardness in intervention and control to water development issues. If the Apus no longer control the waters of birth and origin, and if it is not Pachamama who needs to be cared for during the watering and fertilizing of her mother's lap in order to – in ayni reciprocity – receive her blessings and agricultural fruits, then things and Nature

38 Early Foucauldian ideas on 'subjectification' are part of them – how much more the one-dimensional ones of, for example, Marcuse.

39 Obviously, the same applies not just for market-driven expertocracy but also for the experts of water bureaucracies: if you only can think in terms of 'hammer and sickle', local water rights notions necessarily will need to be nailed or mowed down.

become far more predictable and intervenable. This way, reciprocity-based ‘*working for* water and harvest’ is turned into ‘claiming the right amount of water and production’, only to be provided by expert-based *services*. My argument is not that water control needs to be re-sacralized but, again, that such processes increasingly de-localize and externalize water control norms, practices and techniques to the scientific and institutional realm of just experts. This, first, diminishes local creativity, dignity and autonomy and strengthens dependence.⁴⁰ Next, though ‘collectively working for’ is not necessarily *better* than expert-based ‘calculating, predicting and service providing’, but this latter notion, of expert-dependent water security, commonly is no more than an apparent or fake security in the Andean context – as everyday water problems evince.⁴¹

Modern water resource policies promise to accelerate ‘progress’ through planned development and guarantee control over Nature through advanced science; material wealth through superior water technology; and effective, good governance through rational organization of water users (Long & Van der Ploeg 1989; Norgaard 1994). The idea is that local imperfection and inefficiencies, just like cultural differences, will disappear as people realize the effectiveness of rational, modern expertocracies’ capacity to relieve water development needs (Gelles 2000). As such, as I will show below, the denial and externalization of local water norms and the expansion of new water needs – only to be relieved by modern experts’ knowledge – is a fundamental scarcity generation mechanism.

10.4. Modern water management and water scarcity generation

International water discourse talks about overall Water Crisis and Water Scarcity. In the Andean region, it is common to blame small-farmers particularly for this, because of their traditional, inefficient, backward practices. Chapter 9 showed how they came to be labeled ‘anomalies’ that need to be cured. This section places water scarcity discourse in a perspective that questions the tenets of international and Andean ‘expert-based’ policies. A first illustration relates to ‘classic’ water scarcity generation: the ever-modernizing water rights expropriation based on class and ethnic power differences. The second example shows how existing local norms for water provision, based on hydraulic property creation, are being destroyed by expertocracy, generating new scarcity. The third illustration analyzes how, through scientification of local rights notions, scarcity is not so much relieved but rather induced through the generation of ‘modern water needs’.

a. From gamonalismo to modern water exaction: the metamorphosis of ‘pishtaku’

Expropriation of water rights by dominant classes in the Andean region has been extensively described in foregoing chapters. This makes the notion of ‘parasitic’ elites, who live off communities and dry up their water, a characteristic, often epitomized by the ‘gamonal’. Historian Flores

40 Modernization of agriculture regularly follows the route of externalization whereby ever more tasks are separated from the community or farm labor process and reallocated to external agencies (Van der Ploeg 2003).

41 Examples: 1). Detaching water control from local collective action to expert-based action usually leads to ‘claims that the tap must always provide water’, where users-as-clients immediately point at the service provider: the government or the private enterprise [I do not deny the State’s public responsibility here, but argue that this expert-dependence thinking suffocates local collective action. The State needs to support, not replace, this cornerstone of Andean water control]. 2). Individualized water users with private rights in privatized systems tend to deny their own capacities regarding collective action and demand for the State, as individual-rights-protector, to take care of everyone’s stakes – a State that had just been dismantled and sold out to private enterprises (chapter 9). In such a new consumer-provider liaison among users and State agency the notion of ‘water rights’ changes fundamentally toward a commoditized dependence relationship, with many new insecurities particularly for the less wealthy groups.

Galindo wrote: “What is gamonalismo? The term ‘gamonal’ is Peruvian, coined in the 19th century, *as a simile comparing a parasitic plant to landlords*. In another version, ‘a gamonal is a worm gnawing at the tree of the nation’ [...] This term referred to local power: privatization of governance, fragmentation of domination, wielded at the scale of a town or province” (1988: 290, my italics). Accumulation of land and water by the few, generating scarcity for many, brings to mind the image, among the inhabitants of Andean communities, of a *vampire*.⁴² An illustration that analyzes the vampire’s evolution:

Although the symbol of oppression, such works as *Todas las Sangres* by Arguedas (1980(1964)) portray how the group of gamonales was not a homogenous class. The novel shows this even at the most intimate, personal levels: two brothers, Don Fermín and Don Bruno (see chapter 6). Though they share deep-rooted racism, they are constantly at loggerheads and hold opposite political positions. Don Bruno ‘gets into’ Andean culture, and as an indigenized, paternalistic boss, loves and oppresses the Indians. Don Fermín hates his Indians, their culture and collectivism, and propagates a sort of bourgeois, nationalistic capitalism. Both exploit the Indians’ land and water, but in different ways. They also react differently to the intrusion of transnational capitalism. Don Bruno detests this modern rationality; Don Fermín, by contrast, is fiercely opposed to the international companies that come to steal the wealth from *his* country, but he admires its rationality: not just viewing private initiative and competition as the primary source of progress, but also the push to go defeat the *indio* mentality in Peruvians’ minds: “*Then we will be free, without Indians. Everyone associated by our interests, not by superstitions*” (Ibid:68).

Nowadays, gamonalismo power structures have changed: from *mistis* who maintained a relationship of personalized domination with ‘their’ Indians, toward a depersonalized market-based exploitation by companies with ‘invisible hands’. However, like a powerful virus, the *parasitic* element has outlasted peasant struggles, the Shining Path’s terrorism and official reforms – it actually seems to have become stronger over time. It continues to feed on those who have the least, to continue re-creating itself eternally. This extraction has been a key part of new agrarian and water policies, in their push to liberalize and offer up the natural and human resources required to appeal to commercial capital and reinforce market and investment relationships.⁴³ Fermín, despite his hatred for international capitalist companies, wanted to follow their lead in order to subsist: “*I am not senseless enough to want to destroy it, but rather to join it, and change its direction a bit. It should not digest only for foreigners, but also for Peruvian capitalists*” (p.236). But he also realized that this was not mercantile exploitation like what they had known before. The transnational mining corporation, Wisther and Bozart Company, which gobbled up not only communities and Indians but whole towns, haciendas and even mountains and Nature, was, as Fermín put it, ‘the new driver and *hidden* witness to change’, comparing it to a ‘ghost’ with ‘invisible bosses’. This new power was strengthened through invisibility, the characteristic of modern, capillary power.⁴⁴ The new gamonal would have to set strategies to face and partner with new international capitalist consortia, ‘*those anonymous monsters*’, as don Fermín called them (p.236), that squash existing social and production relationships, annihilating people. Nowadays, these agro-export, mining, logging and hydropower

42 José Carlos Mariátegui had already related the gamonal system to a parasitic trend: “The term ‘gamonalismo’ not only means a social and economic category – large landowners. ... It includes a long hierarchy of parasitic officials, intermediaries and agents...”. (1973a(1928):37).

43 Gamonalismo continued after the fragmentation of large landownership, among others, since their mechanism for existence was their ability to make effective and expand commercial capital in precapitalist production arenas (see Manrique 1989).

44 The next chapter will go more deeply into this issue of invisibility.

companies have proliferated throughout the Andean region, usurping water resources from communities and peoples.

So, Van der Ploeg's book, *El Futuro Robado* (2006), portrays the 'successor' of the Wisther and Bozart Company: the 'Imperio',⁴⁵ in Catacaos, Peru. This mobile, non-localized transnational company, like a phantom, gorges itself and vanishes, with its power nowhere and everywhere at once. Like the Panoptic Prison (see chapter 7), its power penetrates more forcefully the less visibly it is present: it is a socio-technical network that becomes *omnipresent* like a nameless monster. This agro-export transnational, to assemble its products, devours local communities and their resources, especially their water – which is the main basis for survival – until it leaves them dry. It drains people's life and generates a fundamental scarcity of water in society. Is this the return of the imaginary 'Andean vampire'?

In *Todas las Sangres*, the 'classic' category of oppressors also appears, personified by Don Lucas: cruel, inhuman, wildly violent with his Indians. As a bloody butcher, the indigenous world associates Don Lucas with a 'nakak', the mythical figure of an Andean vampire, also called *pishtaku*.⁴⁶ As a metaphysical creation of colonial times, the *pishtaku* looks human but attacks people – especially the weakest – and skins them, feeding on their fat, taking all the victim's life force. Curiously, as power relationships have been transformed in the Andean region, the figure of the *pishtaku* has also undergone a metamorphosis.⁴⁷ In folk imagination, in the old days fat was used not only for this monster to fatten itself but also was sold to make candles, bells and other products; in the 19th century it was used for traction and to lubricate locomotives; in the 1960s, it was even used to grease the high-tech machines of the NASA space program, and in the 1980s to lubricate the weapons of the Shining Path army (Ansión 1989, Flores Galindo 1988, Rowe 1992). Other major uses for this fat, in folk imaginings, were to produce medicines and cosmetics – among other items – for the Government to sell in order to pay off the foreign debt. As Portocarrero (1991) has analyzed, since the late 1980s, *pishtakus* in folk tales have metamorphosed into 'eye-removers', foreign doctors and their helpers, who appeared in the shantytowns of Lima to remove the eyes of poor kids to traffic them for cornea transplants in the First World (Cf. Ansión 1989). Extraction, commoditization and illegal trafficking of common people's vital products and raw materials (by the State, Shining Path, bloodthirsty landlords or 'gringos' and capitalism) are the core tendency in the history of the *pishtaku* ghoul.

The *pishtaku* is a metaphor and the incarnation of changing relationships of power and domination. A new, overwhelming appearance of this parasitic monster, both imaginary and real, is the new capitalist transnational agrarian structure (Cf. Ansión 1989, Flores Galindo 1988). As in many other parts of the Andean region, this 'phantom' also surfaced in Catacaos, Perú (Boelens, in Van der Ploeg 2006). As Van der Ploeg describes, there, the Imperio sprang up 'from nowhere'. The Catacaos comuneros perceive this international company as the return of the gamonal; despite the feudal

45 A concept adopted and adapted from Negri & Hardt.

46 The terms 'nakak' (or ñakaq) and 'pishtaku' (or pistaco) refer to the same supernatural being [*Pishta* (Quechua) = 'behead'/skin']. In other parts of the Andes (e.g. Bolivia) they call it 'karisiri' (or liqichiri) (Quechua: 'fat-sucker'). In many stories, this demon is blond, big, very violent and comes out only at night. Before colonial times, as described by Guamán Poma (1615), witch doctors also "took human tallow" and with other ingredients "put it all in the pot and cooked it a lot [...] These so-called Inca priests did ceremonies with sheep and rabbits and with human flesh, which the Incas gave them. They took tallow and blood, and blew on it to speak with their demons and spirit idols...". The interpretation by Guamán Poma – despite his great respect for Tawantinsuyu – was certainly biased by his rejection of Incan 'idolatry'. So he adds: "May God protect and hold the Christians in His hand! Jesus, Mary, stay by me, Amen. This is written to punish and challenge the idolaters who are unbelievers in our holy Catholic faith" (1992[1615]:251)

47 See Ansión 1989; Arguedas 1980; Flores-Galindo 1988; Portocarrero 1991; Rowe 1992; Manrique 1995.

entity's metamorphosis into a modern neoliberal entity, the essence remains the same: "Imperio is, some 30 years after Agrarian Reform, the resurgence of plantations, large-scale farms controlled by outside capital. As they say in Catacaos: 'the gamonales are back'." (2006: 429). Within Imperio there are big ponds with water looted from surrounding rural communities, who now are subject to serious scarcity of water. The State has reallocated water rights from communities to the international company. Monopolizing water, it generates water scarcity by mass planting of crops that need lots of water: "Imperio is a truly parasitic network. This kind and structure of corporation are vampires, who 'digest' local resources, as they say – until there are none left – and 'haul' the wealth they extract away to other places. [...] Such new Imperios create little additional wealth. They simply extract locally produced wealth, to concentrate it in the Imperio and reuse it their own way" (Ibid:427-428). This production rationality builds on and also fiercely defends the de-politicized definition of 'water scarcity' according to water expertdom.⁴⁸

Gamonalismo persists in new forms – its parasitic mindset thrives on the fat and blood of the most oppressed societal classes. On a vast scale, new transnational agro-export industries and companies drain local communities' fundamental resources. The essence of the gamonal is renewed in both political and economic practice, and in folk imagination, as the pishtaku. The Andean vampire, the parasite, the "worm eating away at the tree of society", persists, but no longer in the form of the classic landlord. The paternalist don Brunos – 'good and cruel bosses' – leave the political stage, as do hacendados as don Lucas, 'inhuman, bloodthirsty exploiters'. The challenge is no longer to exclude indios but include them as 'almost-equals' in market society. Gamonales who want to stay in the new constellation of power must turn from 'worms' into 'monsters' who want to work "for this society's benefit" – its progress, its modernity – in disguise, but maintaining their pishtaku essence. I think that don Fermín, as a representative of this group, presaged the signs of the new incarnation of the pishtaku: "This country deserves to be great – it can be great. Only capitalism will achieve this; we need to satisfy our ambitions, not to just be worms that the foreign monster fattens up on. This monster must respect our ambitions, for us to respect the monster's ambitions. Now it doesn't want us as partners, just as servants, as pongo peons" (p.236).

In this way, water scarcity generation is a fundamental element of the race among diverse power groups striving to 'equalize', leaving the third parties, the water- and resource-drained communities, behind as collateral damage.⁴⁹

b. Water scarcity as collateral damage: the undermining of property-based collective action

Investments made by outside agencies interfere not only with existing irrigation *infrastructure*⁵⁰. Nor are they restricted to changing the *organizational* structures needed to operate the changed infrastructure: usually they change the heart of the irrigation system, its water *rights* foundation. In their eagerness to 'build the facility' and 'transfer knowledge and expertise support' public and pri-

48 In Catacaos, water control is key to the capitalist production process and subordinates communities to the agri-biz company. "Mutual inter-dependence hinges especially, although not exclusively, upon water control. The water used in Imperio is no longer available for Catacaos. This amounts to robbery, and makes the community suffer increasingly due to lack of water. ... Engineers relate this rigidly with decreasing capacity of the Poechos reservoir, but it is evident that the water flowing to Imperio plays the main role. It has been argued that drip irrigation is highly efficient compared to flooding irrigation techniques used in Lower Piura. That may be true. But it is also true that on field trips I have witnessed considerable water wastage in Imperio. Efficient water use is not the main goal anyway. What matters in Imperio is simply profitability; that is why they drain water, labor and development opportunities." (Van der Ploeg 2006:431-432).

49 See also Girard (1986) and Achterhuis (1988) about this process of 'internal mediation' and comparison among nearly 'equals' ('mimetic desire'), and the way this frustrates the interests of subjugated third parties.

50 This section is based on Boelens (2008)

vate interventions often impose their own rules of play and ignore people's own normative systems, especially the notion of 'creating hydraulic property' (chapter 2). This can paralyze or destroy the foundation of collective action in community water management. For this reason, many systems can be found in the Andes that, despite a long history of community self-management, can barely get back into operation after an 'improvement' project that, although it lined their ditches, also distorted the system's rights-obligations relationship (Boelens & Hoogendam 2002).

For example, Gerbrandy and Hoogendam (2002) present the cases of Tiraque and Punata in Bolivia, which faced intensive fighting and serious management problems after external investment, which confused water property relations. It illustrates Coward's observation (1986:499): "If State investment occurs in settings with existing community irrigation facilities [...], the usual property consequence is the destruction of existing property relationships. That is, property relations built around the prior investment process and the property objects that have been created are disrupted, confused, and muddled to the extent that they no longer serve to organize social action. This occurs because the State either ignores or discounts the ownership of existing facilities and water rights and lodges the rights to all new hydraulic property in itself". This way, the basis for continuing collective action and water provision is removed by experts' intervention. Boelens and Doornbos (1996) present similar examples for Ecuador, and Lynch (1988b), among others, for Peru.⁵¹

The Aranjuez irrigation project (Cotahuasi, Peru) also shows a characteristic picture. The State agency (FONCODES) planned to extend and line an existing earthen canal. Project strategies concerning labor investment by user communities were vague and chaotic. The head-end community left all the work to tail-end communities since they reasoned that they themselves did not need extra water. The communities at the far tail end of the area did not join since they were not involved in planning. After decades of broken promises they had no faith in the success of this 'local politicians' prestige project'. The community in the middle-reach had to deliver all the work, whereby some wealthy land owners hired *peones* (day laborers) to have them do the work, while others themselves worked to gain water rights. Some contributed too much, others too little, and conflicts within and among communities started. The provincial council built the main intake without any user involvement, creating new property confusion since it was not clear for the users who gained the corresponding water rights. Despite official promises of a large multi-community system bringing prosperity to the region as a whole, at the moment, only the water users of two head-end communities are able to make use of the system, and conflicts continue. Even within these communities there is disorder and conflict since the State agency allocated legal water rights to all users proportional to the area they own, in spite of the fact that not everyone contributed sufficient labor days – or even any labor at all – to create their hydraulic property rights.⁵²

A last illustration is the Canal Nuevo case in the Mollepata region, Cusco, Peru (see chapter 3). In the 1974-1978 period, the government intervened through the currently fashionable Public Private Partnership policy construction (PPP), to build a large irrigation canal, entirely dependent on external expert knowledge. The canal, which was to irrigate the land of Mollepata, cost millions of dollars but was designed without consulting with local communities. Community leader Cirilo Hermosa,

51 Lynch et al. tell about the dreadful impact of irrigation development in San Marcos. After intervention, perceived ownership of already existing canals that were improved by the project is unclear. Local right-holders have vested rights in the system, but those canals constructed and rehabilitated by the government are considered to be State property. Irrigators do not see why they should invest in maintaining or repairing these canals, and the canals fall in disuse, generating a water scarcity that did not exist before (Lynch et al. 1986).

52 Field notes 2000. Cf. Meier 2000. See also Bolin 1990.

from the Marcahuaylla community, explains: “Mollepata suffered from irrigation difficulties, because there were ancient canals, but they had been abandoned, due to landslides and all. The State stepped in, with engineers, to make an irrigation canal. They quickly conducted studies, hired their people, and got the machinery working to begin building. We didn’t know, there were no meetings in Mollepata, the mayors were involved a bit, but no one talked with the people”.⁵³ Nevertheless, the elites knew how to get along with implementing agencies, and it turned out that the canal was mainly going to benefit the largest farmers, including the government engineers, who had managed to get a lot of the land awarded to them during Agrarian Reform. Cirilo says: “The canal was going to benefit the richest people, the big fish, not the poorest people like us up here. They had grabbed the best land, where the canal was leading to. People had been swindled by the big guys. Who were they? The mayor had a hacienda, the governor had a hacienda, the judge had one of the biggest pieces of land. The small farmers had no vote, or even any voice.”

Further, local norms and the existing, old-time experience of building context-adapted canals, were completely ignored; as Cirilo says: “Designs were made on the basis of aerial photography. As if they were gods, they designed the system from the air, with their aerial photos. And we were all obliged to turn over our land where the canal platform would go through”. Santiago Quintana, another leader, agrees: “Just the engineers, with the authorities of Mollepata, made the design, but there was no discussion with the local inhabitants, no, just a ‘frontage’ study ... They drew the platform, where to run the water, finished the study and started the construction, trespassing through farms without anyone’s permission. Abusively, they began digging the ditch for the canal, without paying any compensation for the land or even the crops we lost... Since it was for the people’s good, development for the people’s progress, no losses were reimbursed. It made no sense to complain.”

After three years of construction, the project failed as soon as it was inaugurated. Only a minimal portion of the 1800 l/s design capacity went through the canal, just for a few days. Santiago relates: “it worked for two or three days, but with only about 30 liters per second of water... The water dried up and there were landslides. Now it is a *elefante blanco* [‘white elephant’] without use. It was a tremendous disappointment”. The canal crumbled and was abandoned, to this day, without any technical, financial or social solutions to recover it. “The canal was too expensive for us to take it over”, says Santiago Quintana. “The engineers vanished, since the work was not done properly, they abandoned it. There was no water; it didn’t work. They got some good out of it, since they were paid their salaries, and they took away most of the money, in transportation, materials, cement, and so on...”

Subject-loss, fantasy-loss, the great inability to imagine the true consequences of their technical design for local contexts, and unwillingness to understand existing norms, strategies and labor relations – such as *faenas* for hydraulic property creation – was basic to the experts’ design process. As Santiago explains: “There were no community work parties in this canal, just paid laborers from Cusco, Puno, the North, ... They got manpower from anywhere, so we acquired no ownership ourselves ... Like any company, they did the work, as simple as that. As if they were the boss, they came in and paid people to work”. Cirilo also tells about strong biases in experts’ vision: “This type of canals is bad, the technicians came from the Coast but did not know the Highlands. The conditions, the land, is different here. The project was turned over to contractors, ‘canal specialists’ from the North, who didn’t know how we work, how we live, but just rushed through their studies without talking or working with people”.

53 Field notes 1988, 1994, 2004. Interviews were conducted in January 2004. See also Hendriks 1988; Boelens & Temmink 1990.

As a result, for many years the region lived in circumstances of great scarcity. Many fields and crops were directly trampled down by the white elephant; household money was invested in credit to purchase seeds, fertilizers and other irrigation inputs which now desperately waited for the Canal Nuevo water to arrive. Hope and confidence were also destroyed by the outside experts: perceived water scarcity was worse then ever before. It has only been since the mid-1980s that marginalized groups in the region could break free of their relations of dependence upon local elites and agency experts. As Santiago comments, they regained self-confidence: “We wouldn’t agree to let such a company in again. We can manage the authorities in town by ourselves. We no longer let a study come through just like that. Now we complain... We value our ancient canals La Estrella and Marcahuasi. Now our experience has changed, the organization has moved on, now we are more solidly organized... A beneficiary now has rights, a vote, a voice to demand whatever, but it didn’t use to be that way”. They have rehabilitated the old canals under an agreement that they arranged and wrote themselves, with a local NGO using an interactive methodology (see chapter 3), applying their own norms regarding water rights creation, and thereby generating collective hydraulic property. All this, despite and before the eyes of the “PPP” expertocracy. As Cirilo Hermosa explains: “With experience, with the thrashing we got from this project, with this phantom canal, we have learned to stand up and fight”.

Sometimes, mainly in State-developed systems, there are clear intentions to increase outside control, and although the rationality of local property confusion and destruction is not understood it is certainly welcomed by the rulers (the ‘Foulcauldian side-effect’). In other cases, these ‘side-effects’ leave interveners in bewilderment, not knowing what they did wrong – the easiest way is, then, to blame the users for their lack of expertise and their sticking to backward rules. And user families are left behind with a new white elephant.

c. Expert-based reconstruction of the water scarcity concept

When Andean water user groups develop their distribution systems, they do go beyond considering just ‘physical’, ‘agropductive’ and ‘economic water use efficiencies’. Water has always played a far more ample role than only ‘helping make plants grow efficiently’.⁵⁴ Their water practices must necessarily take into account the irrigation water’s *social efficiency* (Boelens & Dávila 1998). In many communities, irrigation water is not only the ‘fuel for the productive motor’ but also works as the ‘oil lubricating the engine of social relationships’. For example, in situations with heavy work overburden, or in zones with many non-agrarian livelihood activities aside from irrigation, ‘hurried’ watering (often with large flows and short turns), accepting significant ‘wastage’, may be the solution in order to gain efficiency in other areas of families’ economies. Second, but equally important: to optimize the transparency of water distribution, to simplify the distribution schedules and/or improve the feasibility of social control, communities often consciously grant lower priority to technical efficiency than would theoretically be possible. Third, besides forbidden robbery of water, many Andean systems also have permissible water theft, which seems to ‘break with rational water distribution’ but which reflects, rather, water’s social function. Fourth, the sequence of irrigation turns in certain distribution arrangements is often based not only on technical considerations, since

⁵⁴ Families establish multiple uses and purposes for water, even when using water labeled as ‘irrigation water’. Families manage water with concern for limiting risks rather than maximizing earnings and harvests, and uses of water that seem economically inefficient reflect other users and uses beyond irrigation, or its return elsewhere in the basin (Guillet 2003). But within irrigation practices users also distribute water in ways that do not necessarily match the ‘technically and productively optimal’ approach, to accommodate ‘social efficiency’.

the water's social function may be overriding, expressed in criteria such as 'first the elderly' (social security and respect), 'certain crops first' (productive and food security) or the turn schedule is made compatible with the ritual functions that must be performed along with irrigating. Fifth, and above all, more than just the criterion of 'crop water requirements', the way in which water is distributed in most systems is strongly rooted in the need to guarantee that all families have access to a basic amount of water. Securing collective and household subsistence often prevails over allocating water to a 'higher value'.

Thus, the acts of defining 'water scarcity', of how to 'value' scarce water, and how to use scarce water 'efficiently' are socially embedded. In the pishtaku narrative I have shown how water scarcity in the Andean region is often also a political construct, *generated* by unequal power structures, which destroy existing balances of socially defined demands.⁵⁵ In the Andes, social embeddedness and political relationships are main contributors to the fact that "... water scarcity is not a fixed condition of any place, but rather a particular relationship between supply and demand for water at a given point in time. If demand is greater than supply, then there is scarcity" (Hunt and Hunt 1976:392). Water values and scarcity are related but, indeed, the combination of value and scarcity is not an objective 'fact'; it is determined according to both context-specific cultural perceptions and power structures.

Expert networks now typically tend to objectify and universalize their perceptions on water value and scarcity, legitimizing their own power-knowledge-truth triangles. Horst, for example, warned against the (ever-) increasing focus of water expert networks on narrowly defined 'water scarcity' and 'irrigation efficiencies': "The tendency nowadays of trying to increase irrigation efficiencies by increasing regulation and measurement of water, together with training of operators, should be considered a fallacy; it creates more complicated manipulations, more sources of error and does not prevent mal-functioning of the regulating structures" (1983:3). Now, 25 years later, we can see that this focus has not substantially changed.⁵⁶ Despite this clear fallacy, most policies and models continue to neglect 'low-tech' systems with more simplicity, transparency and user autonomy, as advocated by Horst. And the issue of 'social water use efficiency' has not reached the agendas of the new 'Blue Revolution' policy-makers.⁵⁷

Apparently, what is to be considered as a 'fallacy' for users is not so much a fallacy for controllers and planners. Adherence to experts knowledge and decisions is a fundamental tenet of their power base.⁵⁸ For them, the mix of an equalization/inclusion discourse, the technocratic efficiency

55 The description by Hunt and Hunt is typical: "In the Tehuacán Valley, early in the colonial period, water shortages and conflict developed between villages planting traditional crops and haciendas planting sugar as a cash crop, because haciendas took more than their 'legal' share of communal waters. This cropping pattern introduced scarcity because of the high water demands of sugar vis-à-vis traditional crops. [...] When such cases were taken to court, the local communities invariably lost their traditional rights, and a new allocation system favoring the haciendas was imposed from above" (1976:392).

56 Although the focus on 'economic' water efficiency seems to have grown stronger than the one on 'physical' and 'agro-productive' water efficiency.

57 The UN proclamation of a technified 'Blue Revolution' (Kofi Annan 2003:1) as a follow-up of the Green Revolution is exemplary ('more crops per drop'). Instead of design directions that seek for simplicity and transparency of operation, and flexibility and independence of user groups, as is common in many Andean systems (see Gutiérrez 2006, Gutiérrez & Gerbrandy 1998a and b), modern designs still aim at "accommodating the needs of presumed cropping schedules with high irrigation efficiencies. Engineers have, therefore, designed sophisticated structures for measuring and regulating water flow as exactly as possible." Nevertheless, "modern systems with adjustable discharge structures often suffer from low water efficiencies, low production, inequity, corruption, hostility between farmers and managers..." (Horst 1983: 2).

58 Critique of colonial engineering is still widely applicable to the Andean region's current situation: "Existing irrigation works were seen as inferior, largely because they lacked the possibility for high degrees of regulation and control.

paradigm, positivist policy and legislation, externally designed irrigation technology, and a credit, training and production support structure oriented at overall commoditized production and market incorporation, is clearly more powerful to determine water values and scarcity than actual local practice in user communities. Where many Andean metaphors refer to local irrigation systems as living systems (as human bodies with a head, heart, organs, legs, arms, etc.), modernization experts have repeatedly diagnosed them as ‘ill’. Subsequently, the remedies by expert interventions (which involve the above mentioned property confusion, their mono-crop bias, high dependence on external material input and knowledge, etc.) have ‘made them ill’, or at least – like viruses – made them strongly dependent on fluctuations of outside factors.

For example, local Andean systems are often based on the logic of complementary irrigation, whereby crops, field qualities and planting dates are strategically selected and water delivery schedules collectively established in order to match and make use of rainfall periods. Modern irrigation schemes and expert approaches, quite to the contrary, try to adapt water delivery to crop choices based on market-oriented production plans. Therefore: 1) they try to apply water according to fluctuating crop water requirements; 2) they have to accurately assess and predict water requirements; and 3) they install technically advanced infrastructure and devices (e.g. downstream controlled systems with automated structures and a pressurized, closed-pipe system) to control optimal water allotments corresponding to periodic crop water requirements (Plusquellec 1994). As much as possible, these systems are to be ‘closed’ (or ‘immunized’, Zwarteveen 2006) and isolated from outside, unpredictable human and environmental influences. Combating ‘water scarcity’ becomes maximizing water use efficiencies and precisely responding to water needs generated by market fluctuations.

Thus, in order to ‘modernize’ and equalize to water technological ‘progress’ in the ‘expert countries and institutes’, the latter’s obsession with physical, agronomic and economic water use efficiencies is (assumed to be) adopted. In practice, the commoditized and expert-led irrigation systems that are implemented produce not just water, infrastructure and agricultural products, but also the very particular *need* for these items, *conceptualized as commoditized, expert-based products*. The production process produces water scarcity, produces the need to consume expert knowledge, produces needs for ‘modern’ water control techniques, and produces subjects who ask for experts. Or, as Marx observed long ago:

“Production produces not only the object but also the manner of consumption, not only objectively but also subjectively. Production thus creates the consumer.

Production thus not only creates an object for the subject, but also a subject for the object. Thus production produces consumption (1) by creating the material for it; (2) by determining the manner of consumption; and (3) by creating the products, initially posited by it as objects, in the form of a need felt by the consumer. It thus produces the object of consumption, the manner of consumption and the motive of consumption.” (Marx, 1973(1857): 9-10).

In this way, the production system institutionalizes and expands scarcity: water scarcity; scarcity of the equipment, infrastructure and financial means to measure and combat water scarcity; scarcity of the experts able to deal with the techniques to measure and combat water scarcity; etc. Water

[...] disregard for existing irrigation practices also stemmed from colonial engineers’ wish to clearly distinguish their own ‘modernity’ and superiority from the backward traditions and old-fashioned beliefs of ‘the natives’. How irrigation science came to develop is thus closely linked to the hierarchy between colonizer and colonized, or between ‘developed’ and ‘underdeveloped’.” (Zwarteveen 2006:92. Cf. Diemer & Slabbers 1992).

scarcity, more than a relationship between humans and climate, or agroecology, becomes an interhuman relationship mediated by the experts of a professionalized, capital-controlled water consumer society.

Moreover, besides the lack of resources according to certain ‘absolute’ needs, in an equalizing regime, the existence of water scarcity is also strongly mediated by ‘the conditions and possessions of the other’ (see Girard 1986; Achterhuis 1988). These needs, which emerge as a result of comparison between humans, are relative (which does not deny the importance of these needs as perceived by the people themselves). Examples are those irrigation projects that provide water to the people living below the canals, thereby increasing the relative water scarcity of the community members who have their fields and homes above the canals. Relative scarcity is also provided by irrigation projects that fail to pay proper attention to the system’s tail-enders: notwithstanding the fact that the water availability in an absolute sense may have increased, the scarcity and uncertainty that are experienced have increased too. Next, interventions that fail to recognize existing norms of distribution fairness (e.g. sharing shortage among all) usually provide less water and more scarcity to the poorest families. Relative water scarcity also increases where projects create new needs and expectations for water (as in the above Canal Nuevo case), but fail to support collective user-control and well-functioning of the systems. And most of all, both ‘relative’ and ‘absolute’ water scarcity increases in the many Andean places where newly promoted water-intensive market crops replace the variety of local (subsistence/market) crop security mixtures: increased water needs juxtapose with a universe of water users who confront each other as market-competitors, each claiming a comparatively larger portion of available water, neglecting local balances of ‘social water efficiency’ and destroying local supply/demand rationalities.

Relative needs do not refer only to material resources, such as water, but even more importantly to non-material or abstract objects, e.g. development services, irrigation expert knowledge, etc. These needs are continuously refined and renewed, thereby reshaping and intensifying scarcity perceptions. New needs tend to strengthen those institutes that first promote and then provide these so-called needed services and goods. The increasing expansion of so-called ‘needs’ (Achterhuis 1988; Illich 2000; Ullrich 1984; Wood 1985) reinforces dependence and subordination. The very redefinition of ‘water needs’ makes relieving the *new* scarcity by the Andean communities themselves impossible. It is like a Tantalos punishment: the Greek gods forced Tantalos to stand in a pond with water that nearly reached his mouth; in this water-abundant context he was tortured with thirst, since the water disappeared into the soil each time he tried to drink it.

10.5. Dream schemes, delirium and guilt

The discourse of water modernization experts – technical, economic, legal – is powerful in those places and spaces where it succeeds in presenting itself as based on ‘natural law’, universal criteria, and self-evident logic (chapter 9). Whenever accepted not just by the ‘epistemic community’ but also by the water users themselves, the social conventions and political choices that are basic to building hydro-policy models are depoliticized, and the practices of users’ self-blaming tend to increase, for not being able to fulfill the model’s ‘modern needs’. Water rights ‘examination’ and moral or ethical justification becomes a phenomenon *shared* by experts and user communities, the former setting the standards and the latter seeking alignment to this Rightspeak of expertocracy.

In such an (imagined) society, not all local, indigenous water user communities are consid-

ered equally ‘guilty’ of their failure. As the foregoing chapter has argued, those who accept the rules of water management modernization get the global label of ‘good governance’: they are the undeservingly impoverished water user communities and deserve charitable and/or expert-based development. By contrast, the deserving poor *themselves* are the cause for their poverty and backwardness, since they don’t accept the rules and regulations of modern water management. Progress will unfortunately but rightly undermine or take away their water rights. The fact that the latter are on the wrong track not just intellectually – by sticking to ‘bad practices’ – but also ethically, adds moral disapproval to their water management and local rights frameworks (Boelens and Zwarteveen 2005b). The question of guiltiness, of ‘who is to blame’ is caught in the standardizing web of moral Darwinism. Let us have a closer look.

Deviation from the right track

Many Andeanist and indigenist authors defend the postulate of an almost intrinsic pride of ‘the’ Andean inhabitants, rooted in their cultural and technological history, and also in irrigation. An illustration is Cáceres’ argumentation: “Irrigation in the Andes, throughout history, fosters growing inter-dependence of thought, action and affection (fondness, feelings), which have created in men and women of the Andes an awareness of their own power, inherited from their past. The implicit message of Andean people, shown through their behavior, is: ‘I feel safe because I have inherited plenty of technology and know-how from my grandparents’.” (2002:94). However, the fact that self-consciousness, rather than having intrinsic historical roots, emerged as a *reaction* of resistance against usurpation and racial discrimination would be a more accurate description. It relativizes ideas of a presumed ‘historical pride’. As Gelles argues, the goal of many indigenous peasants is “to educate their children so that they can escape peasant status and become ‘professional’ ... a move that usually requires an individual to deny his or her highland cultural roots. [...] it helps reproduce the structures that marginalize and stigmatize Andean culture and identity” (2000:45). Here, hierarchization among local and professional expert knowledge is often a key element. The interweaving of divine power and outside expert knowledge, and the self-blaming of the Andeans for their own poor technologies and fate, is even part of certain narratives and myths, as Gregorio Condori Mamani relates in his life story (see also chapter 14):

“They tell this story about Inkariy; it was way back then in those distant times of our ancestors. Our God used to travel from town to town, asking: ‘What kind of work would you like me to give you?’

And Inkariy replied: ‘We don’t want any of your jobs. Our hands can do any kind of work if we need to work.’ That’s how he answered. ‘We know how to make stones walk⁵⁹, and with a single throw of a sling, we can build mountains and valleys. We don’t need anything at all; we know everything there is to know’.

Well, then this two-faced God went to Spain, to the enemy of our ancient Inka forefather, where he also went from town to town, asking: ‘What would you like? I’ll give you work. Ask me and I’ll give you anything you want’.

Where Inkariy had scorned him, all the people in Spain were ambitious and greedy, and they

⁵⁹ Gregorio refers to the myth that the Incas, in order to build their fortresses and palaces, were able to order the stones to walk uphill.

asked for everything: ‘We want this, that and the other.’

That’s why today we runas don’t know how to run engines, cars, or those machines that travel high above like birds, the helicopters and planes. We don’t know how to build any of those machines, but those Spaniards are clever and know how to do everything. A wiraqucha Spaniard invented electricity by just watching water, and with some pieces of glass, he invented the light bulb. ... That’s why today they can build cars, engines, iron pots – all the things we don’t know how to make. That’s the way it is, all because God himself gave those jobs to them and not to us, the ones who spurned the good Lord’s gifts” (in Valderrama & Escalante 1998:56-57).

Current epistemic communities of hydro-policy modernizers tend to reinforce such an environment (water technologies, practices, methods, thought, etc.) in which irrigators can only see themselves as guilty; more than just being blamed, they blame themselves. Gaps and deviations from the expert norms make them into prisoners of themselves: chained to both moral and scientific guilt and shame. Where in former days such guilt was expressed in more abstract, collective, and divine terms (lack of *ayni* reciprocity among the divine, natural or human communities),⁶⁰ in modern times it is strongly individualized and personalized. In line with modern, enlightened morality, responsibilities lie with individuals, not gods. The self-made person needs to seize all opportunities to become equal, and compete as an equal, accumulating what he or she deserves. Therefore, moral and scientific judgments are not based on just ‘best irrigation practices’ but on integral ‘best irrigation lives’. The forms of understanding which water users create about themselves, and the subsequent self-blaming, indeed are fundamental to the capillary power of expertocracy.

A wide-spread example: currently, users’ self-management of irrigation systems is pursued by most policies and strategies, from radical to neo-liberal. At the same time, most intervention projects plan an almost radical transformation towards commodity-based (re)production, not just in their economic plans but also and especially in their technical designs. The devices, distribution mode, cropping patterns, pesticides, fertilizers, labor organization, etc., all tend toward a future commodity production process, with respect to both inputs and outputs. Moreover, due to the internal logic of public policy and development programs, many intervention agencies *must* design this radical transformation towards market rationality, simply because only ‘profitable projects’ are to receive funds, i.e. those with high commercial output – to recover both O&M and investment costs. As Moore (1989) rightly observed, irrigation investment programs are pushed beyond their limits and the economic viability analysis is severely influenced by the ‘necessary’ prediction of highly optimistic figures: picturing low construction and O&M costs, and exaggerated productive benefits and cost recovery. Original technical designs⁶¹ present a future irrigated area that is far too optimistic if compared to available water resources (thus *creating* water scarcity and ‘poor irrigation’, especially at the tail end).⁶² This presents a very ‘positive’ cost-per-hectare ratio. Reality-based, critical analysis by implementing agencies, which from the outset could show that actual system performance would not (economically) justify most of such projects, are not in the interest of implementing in-

60 For example, through *pachakuti* (chapter 3 and 14) and the Great Andean Flood “punishing everyone with its floodwaters” (Guamán Poma de Ayala 1992(1615):74).

61 Among many others, all systems dealt with in this book reflect this bias: Licto, Patocochoa, Latacunga-Salcedo-Ambato, La Era, Pungales, La Estrella, Mollepata-Canal Nuevo, Majes, etc.

62 Most designs lack attention to tertiary block development, funds for interactive capacity-building and organization-strengthening – which would increase ‘costs per hectare’. The assumption prevails that farmers themselves will massively buy modern water application techniques and change to economically high-yielding market crops – which would increase system’s economic viability.

stitutions.

Therefore, in the practice of project planning, whenever possible, *costs* are charged to the non-mercantile community sphere and *results* are projected towards the mercantile sphere (see chapter 4). To make projects viable and bankable, there is a *structural deceit* in relation to the presentation of irrigation projects' potentials (Hendriks 2002). It also means that project activities are directed completely towards 'achievements' in the mercantile sphere (Boelens 1998b; SNV-UNL 1994; Van der Ploeg 2008), ignoring the community sphere which is the *foundation* of guaranteed reproduction. When projects fail (because they do not meet expectations in the mercantile sphere or establish a sustainable foundation because of omitting the community sphere) the culprits are easily found: the 'backward' peasants who do not want to change their maize, beans and broad bean crops and fail to live up to the project's expectations. A technician on an irrigation project in Tungurahua, Ecuador, excused himself by stating: "You can't get rid of the maize culture in only a few days. It is difficult, but in the end we'll manage to make these peasants understand" (in Boelens & Doornbos 1996). This is the irony of irrigation development: under the banner of 'self-management' many interventions externalize the knowledge and means available and needed for irrigated agriculture, thus increasing peasants' dependence on commercial products and services and on the very outside institutes themselves. More than the above structural deceit itself, the very acceptance of it as a truthful account makes it into a users' self-deceit. Consequently, users do not blame the interventionist rationality but themselves. External non-truths are structurally incorporated into local practices of self-blaming.

Another simple but common example: In northern Ecuador, a Dutch irrigation engineer and the Ecuadorian NGO he was working with were enthusiastically training and convincing the local water user families that the age-old Andean art of making *canteros* (or *canterones*, the long zig-zag furrows that go downhill to irrigate steep slopes) was anti-technical. The 'water use efficiency' would be very low since the water infiltration pattern in the soil would be highly irregular. For this reason, the training aimed to abolish canteros-practices and persuade user families to construct shorter, straight contour-line furrows. It can be seen as a metaphor for irrigation standardization and combating of local water users' 'madness' or 'delirium'. *Lira* (Latin) means "furrow" (Foucault 2001:94). Irrigation experts (implicitly) made clear to farmers that they were chaotic and '*de-lirious*': in a literal and figurative sense they were *abandoning the right line of reason, deviating from the straight furrow (= deliro)*.⁶³ But (besides the technical discussion of whether leaving the 'right line' and making zig-zag furrows indeed is or is not water inefficient) the question of *why* farmers make zig-zag furrows was entirely overlooked. First, the strategy to deviate from the right furrow is a precise response to the socio-economic context of water users in 'feminized' communities: not just water use efficiency, but especially labor efficiency was the main driver behind farmers' technical choices. In this zone of intermittent (male) outmigration little labor force was available for watering crops, so households (females) needed to open long furrows that consume less irrigating time. Particularly the already overloaded female tasks in the household, the field and the community did not allow them to make and irrigate numerous, short, straight furrows. Second, the land right inheritance patterns in these Andean landscapes mean that inheritors receive very long, narrow fields *perpendicular* to contour lines: in this way each inheritor gets fields of the same quality (soils, microclimates). Therefore, *long* straight contour-lined furrows are impossible.

The very need and right of 'being delirious' in Andean communities was denied and portrayed

63 Right (*recto*) means both: "what is in accordance with what is good, just, proper" and what is "straight" (Webster's Dictionary 1994).

as traditional and backward, as madness and un-civilization. As a consequence, it is loaded with moral guilt (carrying the label of being ‘inefficient and irrational’, or at least ‘immature’). Users’ own practices, even though responding to the un-straight, zig-zag patterns of clear local rationality, were drawn into the domain of guilt. The expert institution’s tasks becomes waking water users up from their delirium; and the most advanced of these doctors – in a participatory strategic sense – try to *share and get into* this domain of users’ delirium in order to ‘get them out’ and bring them forward to truth. From the inside, the local water norms and rules are ‘unmasked’⁶⁴ and new, universalistic water morals are proclaimed that distinguish between ‘right’ and ‘wrong’. ‘Rationalizing water use and rights’ is a process of *substituting* knowledge and morals. Shame, contempt and fear to fall back into the madness of water control traditions fuel the modern water users’ wish to progress and equalize the sanity or maturity of modernizing expert systems. In an equalizing power regime, water users themselves, not just experts, are the vehicles asking for transformation. Not only the experts’ material water use system but most of all their dreams, their knowledge, their imagined water use systems, become objects of ‘wants’. The wish to become ‘*técnicos*’ or ‘professionals’ and represent yourself in their terms is fundamental in this power play: water users *re-cognize* themselves as inefficient, and ‘progress’ becomes directly associated with self-reproach.

Again, what I accentuate in this chapter are the *mechanisms of expertocratization* that are part of many water modernization processes in the Andes, not the overall, actual outcomes. The latter respond neither to planners’ optimism over ‘managed development’ nor to the pessimistic, predetermined picture as presented by ‘hegemonic regime thinkers’ (Cf. Roth et al. 2005; van Ufford & Giri 2003). As I will show in the last chapters, outcomes are shaped in a context of mediation, negotiation and resistance, and sometimes also of accompaniment. Many people *defend* their right to dream differently and to materialize their deviations from the universal standards of, precisely, the experts’ dream schemes. Hydro-political dream schemes (chapter 7) are the product of subject- and fantasy-loss, and opposite to ‘delirious systems’ that dare to imagine reality, build on diversity and leave the straight furrows of Right-speak. As Eduardo Galeano argued in his narrative *El Derecho al Delirio [The Right to Dream]*, people have and claim the right to be delirious.⁶⁵

10.6. Universalization of the Inclusive Approach

The more the discourse of overall water scarcity manages to embed itself as a violent, universal threat in the minds of policy-making communities and water society in general, the stronger the support for large-scale or even ‘utopian’ solutions, combined with a legitimization for increased human control. Where a minority of agencies and irrigation engineers in the region have learned from the white elephants of the past (in the Andes called: ‘the archaeology of water development’) and now, together with water user communities, focus on the need for creative, interactive socio-technical design, profoundly involving user groups and their interests in the design process, a majority seem to have to have fled into reinforcing their dream schemes. With new technological possibilities and the globalization of remedies, their subject- and fantasy-loss has deepened rather than lessened, and so have the normative ‘should-be’ standard solutions. This majority view, strongly promoted by transnational water policy discourses (of which many lead to ‘IWRM’, Integrated Water

64 Rather than understanding these local water rights, rules and practices, they are delimited and mastered.

65 Arguedas argued that imagination is needed to understand the extreme socio-cultural complexity of a country like Peru; Galeano also sees it as a fundamental instrument for change. See also Flores Galindo 1988.

Resource Management)⁶⁶, is concerned with modernizing and commoditizing rural society,⁶⁷ and has a particular view on water user participation in irrigation. Not interactive design *with users*, of their devices, rights and organizations, but *system modernization* itself is viewed as the way to ‘participatory and efficient irrigation management’. Time-consuming, unplannable, intangible farmer participation in the *design* process is greatly avoided and the emphasis is on sophisticated hydraulic engineering which enable (new-institutionalist) economic principles to ‘work optimally’. In particular, automated and automatic control structures, if possible applied in closed-pipe systems and with advanced field application and measurement techniques, have become central to irrigation development, and combine the notions of ‘farmer participation’, ‘volumetric control’, ‘cost-recovery’, ‘economic, agroproductive, and water use efficiencies’, and ‘down-stream control’.⁶⁸ *The experts enable individuals to participate*, through high-tech systems and ‘demand-management’.⁶⁹

In terms of technical management, Andean *farmer-managed* irrigation systems, on the contrary, typically have *upstream control* techniques and management structures which provide transparency and easiness of operation. And for them, very differently, participation in water distribution means that collective agreements have to be made by users in order to distribute the water from the source to the individual fields, and that all have to be involved in the system’s management. How is it possible that, after the failure of top-down, engineer-driven irrigation development, a new irrigation-expert technocratic paradigm has become so powerful? The norms on which ‘modern irrigation systems’ are built coincide with the theoretical perspectives and needs of the powerful new paradigm – not engineers’ paradigm, but economists’ paradigm. Technical irrigation experts got a very strong ally, the neo-institutional scholars and economist policy-makers, who needed particular techniques of governance (chapter 7) to have their theoretical water policy functioning in practice. Clearly, as I have mentioned earlier, the water control discourse or Foucauldian ‘*dispositif*’ is not made up of just ‘words’, ‘language’ or ‘economist formulae and calculations’, but also consists of ‘hard’ engineering artifacts. Engineers provided neo-institutionalists with the techniques that perfectly coined the words they needed: demand management, downstream control, efficiency improvement and user participation.

In Annex 2 I describe how these techniques are largely unfit to the Andean context, a fact that, however, does not at all diminish the discursive power of this hydro-political dream scheme. The forging of a socio-technical network of allies (Latour 1987, 1994) creates reality. Or, as Mosse pointed out, policies are less important for what they say than for who they bring together; what alliances, coalitions, and consensuses they allow (Mosse 2003:7). As I have argued in chapter 7, the more expert and water modernization agencies are able to tie other actors and their interests to the project, the larger the network, the more stable it is and the more powerful the policy model and its

66 “It is difficult to overstate the extent to which IWRM has become the norm or even, one might say, the orthodoxy in water resources management” (Jeffrey & Kabat 2003:2).

67 The transition from ‘traditional isolation’ to international and national integration is their other, major concern (World Bank, quoted by Escobar 1995: 162)

68 The engineering concept of *down-stream control* (as in drinking water and most sprinkler systems where individual users can instantly decide when and how much water they want) is a very particular conceptualization of ‘user participation’. In the field of irrigation it is directly related to high-tech systems. If applied in open canal systems, control structures are needed with high-precision design, fabrication and implementation (e.g. *module-a-masque* (neyrpic) and/or avio-gate type), which neatly follow international engineering standards – small errors (or debris) make the structures dysfunctional. In this approach, sophisticated and capital-intensive irrigation facilities are needed –at least for the main system levels – which in general cannot be designed or repaired by the irrigators themselves (see Annex 2).

69 “Demand management measures include: water markets, measuring the amounts consumed and charging users for this amount, taxing on the basis of consumption and punitive costs for wastage” (Guillet 2003:37).

success (see Latour 1994).⁷⁰ The modernization discourse is difficult to counteract. Not just because of its claim to be based on objective, natural laws, or because “it has behind it all the powers of a world of power relations which it helps to make as it is” (Bourdieu 1998a:95), but especially since its normative label of being ‘good’ and ‘obvious’ is increasingly being supported by stake-winners and stake-losers alike. The powerful weapon of the discourse is its inclusiveness, particularly when framed in terms of IWRM.

Indeed, IWRM and decentralization policies in the Andean region, under the banners of participation, have commonly shifted authority downward to local State (not water user) authorities and upward to international regulatory frameworks, expert networks, and multilateral agreements.⁷¹ The State and its water control authorities are reshaped, territorial water control arenas are reconstructed, and local rights repertoires are re-cognized (*re*-interpreted, chapter 8) in order to ripen them for transnational investment.⁷² Expertocracy’s decentralization policies and official ‘inclusive approaches’ in water management throughout the Andean countries offer no guarantee of any improvement in water relations or democratic decision-making. In practice, they entail new dangers, especially for groups with less economic power. As indigenous leader Nina Pacari, former Minister of Foreign Affairs of Ecuador, puts it: “Decentralization, according to the Occidental modernization model, may re-distribute decision-making geographically, but the way decisions are made remains hegemonic”.⁷³ It tends to channel power and decision-making toward the same authorities as always, but now at the local government scale. Integrated Water Resource Management models tend to obliterate the ‘*who* does the integration?’ question.

In Swift’s satire, the answer to this last question is clear, and the transnational, moral modernization mission shows that it is not just an ‘internal affair’. Laputa expertocracy had not only transformed and scientificized their own society and agro-ecology, but also that of their neighbors in Lagado, capital of Balnibari. Laputa modernization projectors and, most of all, the Lagado migrants who visited Laputa played a fundamental role.

“These persons, upon their return, began to dislike the management of every thing below, and fell into schemes of putting all arts, sciences, languages, and mechanics, upon a new foot. To

70 As Mosse argues, the donor community promotes this: “donor interest was in the project as a coherent rationalizing policy idea (a ‘system of representations’), not in the events and relationships of practice (the ‘operational system’)” (2003: 15). And: “policy discourse among international donors struggles to ensure that practices are rendered coherent in terms of a single overarching framework rather than celebrating a diversity of approaches or the multiplicity of rationalities and values” (2003:19). Cf. Achterhuis 1989; Long & Van der Ploeg 1989; Rap 2004.

71 A particular threat comes from new Free Trade Agreements which intend to obliterate the entire local context and history of water rights development, and impose a new order.

72 An case in point is the IMT process in Ecuador. When writing my 1995 article on IMT, I still had the expectation that Ecuadorian grassroots institutes would be allowed to officially support a user-oriented decentralization processes. Local institutions (indigenous and peasant organizations, NGOs and progressive bilateral finance agencies) came together to discuss guidelines for *responsible turnover* (see CNRH et al. 1996) and presented a proposal. But North American (Utah) technocrats were offered the job, and in line with international policy a simple State-downsizing program was enacted, based on just expert-knowledge. The poor outcome involved large social costs for users and big salaries for the experts. This is the way the service approach of neoliberal water policies often works, especially in Latin America: combining national elites’ interests with those of private companies or Western ‘expert’ networks.

73 Pers. comm. Oct. 2004. See also the results of the Intl. WALIR Seminars on “Local Management, Collective Rights and Water Legislation” (Oct. 2004, Quito); and “Legal Pluralism, Water Reforms and the Politics of Recognition” (Nov. 2006, Cusco); and Boelens et al. 2006b; Urteaga & Boelens 2006.

this end, they procured a royal patent for erecting an academy of projectors in Lagado; and the humor prevailed so strongly among the people, that there is not a town of any consequence in the kingdom without such an academy. In these colleges the professors contrive new rules and methods of agriculture and building, and new instruments, and tools for all trades and manufactures; whereby, as they undertake, one man shall do the work of ten; ... The only inconvenience is, that none of these projects are yet brought to perfection; and in the mean time, the whole country lies miserably waste, the houses in ruins, and the people without food or clothes. By all which, instead of being discouraged, they are fifty times more violently bent upon prosecuting their schemes, driven equally on by hope and despair..." (Swift 1947[1726]: 210-211).

Instead of looking at the actual field results, which were dramatic, the dream scheme of the imagined mathematical-agrarian expert society was pursued fanatically with ever more fantasy-loss. Those few persons, like Gulliver's host Munodi, who continued to work according their own norms and forms, were looked on with an eye of contempt and hostility, ignorant, wilful and weak, as enemies to progress and the general development of their country. Even though his productive results were optimal in terms of production, environmental health and livelihood generation, "his countrymen ridiculed and despised him, for managing his affairs no better, and for setting so ill an example to the kingdom" (p.209). Soon he would be forced to destroy and rebuild his land- and waterscape after the present mode, "the form as modern usage required, ... unless he would submit to incur the censure of pride, singularity, affectation, ignorance, caprice" (p.209-210).

Quite similar to Mollepata communities' experiences with the Canal Nuevo project, the Lagado academy water experts also left their white elephants behind. As Swift relates, Munodi had always made use of his convenient mill, turned by a current from a large river, providing sufficiency for his own family and many others. But this was no longer the case:

"About seven years ago, a club of those projectors came to him with proposals to destroy this mill, and build another on the side of that mountain, on the long ridge whereof a long canal must be cut, for a repository of water, to be conveyed up by pipes and engines to supply the mill [...]" He said, "that being then not very well with the court, and pressed by many of his friends, he complied with the proposal; and after employing a hundred men for two years, the work miscarried, the projectors went off, laying the blame entirely upon him, railing at him ever since, and putting others upon the same experiment, with equal assurance of success, as well as equal disappointment." (p.211)

Expertocracy, irrigation dream schemes, fantasy-loss, blaming and self-blaming; they appear to be closely connected and emerge in fictitious narratives as they do in reality. However, even though Orwellian, anti-utopian narratives and Swift-type satires give deep insight into the rationality of expert-based hierarchies and knowledge networks, they obviously present a strongly exaggerated representation of reality and the expert systems that prevail in society. Even the word 'expertocracy' seems to refer to 'hegemony', side-lining human agency, creativity and resistance to dominant power-knowledge structures. When Illich typified the common features of the professionals who disable rather than enable people to construct their own worlds according to their own needs and capacities, no doubt that he made the same sweeping generalizations that are common to the experts' systems and disabling professionals he wanted to criticize. "As a moral entrepreneur and as a creator of the need for his services, he acts the role of a priest. As a crusading helper, he acts the part of a mission-

ary and hunts down the underprivileged. As an inquisitor, he outlaws the unorthodox: he imposes his solutions on the recalcitrant who refuses to recognize that he is a problem” (2000:20). When we recognize that social reality cannot simply be constructed and transformed according to the rational standards and linear planning of experts, this demystifies not just a presumed over-arching power of expertocracy but also the idea that Andean water communities are doomed to fall prey to ‘modernization’. Moreover, rather than obeying to the dichotomized presentations of monolithic expert or exogenous knowledge versus local or Andean knowledge, the age-old interactions and contestations among ‘knowledge repertoires and their bearers’ have given rise to boundary-crossing and the interweaving and hybridization of water control knowledge and skills. Both are diffuse and interconnected.

Still, it can be argued that in the Andean region, mainstream expert irrigation intervention has learned little from errors from the past (and largely deny the past when looking for remedies); overlook the complexities and context-based opportunities of the present; and time and again renew their belief in an imaginary, universal, expert-planned model of ‘modern water management’ that could control the irregularities, correct the incapacities, and subdue the stubbornness of Andean Nature and peoples. The firm wish to morally decide about what is *good* and what is *wrong* in irrigation socio-technical science and practice seems to be based not only on the wish to establish the universal substance, values and norms of the field of water expertise,⁷⁴ but also on their need to legitimize the position of the experts community. Whenever seen as neutral and a-political, their truths can legitimize political decision-making and shape water policies and agendas.

This does not imply that mainstream water experts can be portrayed simply as ‘dominators’. They are subjects of and to the same game. Where Foucault argued that the process of ‘subjectification’ and self-disciplining leads to people’s incapacities to, independently, have a handle on the reach of their own thinking and acting, Anders would rather point at the state of the technology that makes our moral imagination lag behind and restrains the capacity to give a balanced moral opinion. “Whether people really grasp what is happening first and foremost depends on the moral situation they are in. Property relations, labor divisions, thought-imposition, political violence, etc., determine such a situation. These issues mean that we are indifferent or actually worry about the things that are fundamental to us” (Anders 1979:15). Indeed, the capacity of experts to understand what they are preaching is strongly related to the webs of power and technology they are part of. Foucault stresses the power-truth contents of (among others, expert) knowledge, Anders the distance between experts’ knowledge and their creative capacity to imagine the consequences of their technological interventions. And indeed, the discursive construction of water technology’s political neutrality certainly obscures the expert’s capacity to see both the power relations and the human suffering or well-being enhanced by particular technologies. Very similar to Mrs. Glü’s View from the Tower, Gulliver’s host Munodi rightly remarks about the Laputa and Lagado experts that they are: “... too much taken up in their own speculations, to have regard to what passed here below” (Swift 1949:210).

As soon as experts’ knowledge and consultancy become a monologue (an objectified language of universal reason *about* local water rights and practices) more than language it is the silence that constitutes the power relation: it silences power differentials and obscures the active social and political construction of knowledge by the very expert communities themselves. But, as I have observed and will show in the last chapters of this book, communities break the experts’ silence and speak up. And

⁷⁴ E.g. the accepted ways to test claims of truth, codes of conduct, design standards, definitions of ‘good water governance’, ‘best water practices’, and ‘functional rules, rights and organization’.

they are joined by a minority but growing group of water development professionals who do see the need for actively interweaving their mutual water knowledge and water struggles, and the need to match designs to users rather than trying to match users to designs.

PART 4

LOCALIZATION AND RESISTANCE



“Equitable, sustainable development will not be viable without respect for historical and cultural diversity as the foundation to build peoples’ indispensable unity. This will entail, as a basic element, equal rights and opportunities among men and women of the community, while respecting our cultural values and norms.

It implies unrestricted citizen participation in the exercise of genuine democracy, in collective decision-making.”

Rigoberta Menchú, Prologue to
‘Searching for Equity’ (1998:XVII)

chapter 11

THE POLITICS OF VISUALIZING THE HIDDEN VERSUS THE STRUGGLES FOR INVISIBILITY

“– *Now I will be invisible!*

He was impregnated with a power that could vanquish the wind, the mountains, the stars.

– No one will see me! I will stalk through towns, right into their homes, and walk down their hallways. No one will glimpse me! They will post watchmen, but in vain. Their checkpoints, their neighbors and their spies will all be worthless. I am crystal! I am crystal-clear! I am invisible, Don Florentino! I am air! Nothing but a shadow! They will never catch me! I am a wisp of smoke!”

(Manuel Scorza, *Garabombo, El Invisible*, 1991a: 82)

“Making peasants, women, the poor, the marginalized, etcetera, visible” and “Visualize their interests, their rights, their practices” : the new, cross-disciplinary commandments? Modern dogmas of the development discourse? Certainly, they have a point. For instance, the gender gap in water rights affairs cries for attention: as in most parts of the world, irrigation water rights allocation is notably biased towards male users, both in Andean State and local laws. In the region several conflicting analytical perspectives, ingrained in influential policy discourses, give different explanations of this gender gap and propose divergent directions for change. This chapter seeks to highlight these major ‘monocular regimes of representation’ regarding ‘gendered water relations’. Biased as they are, they amputate and objectify gendered water reality and promote their own, particular fields of vision.

But in gender debates, *beyond* the question of ‘how to visibilize’, beyond the critiques to neo-liberal or radical views, to Andeanist or universalist focuses, the question of the *need for overall, accurate visualization* itself remains nearly untouched. The overarching assumption seems to be that ‘making visible’ - women (or gender), their rights, resources, arrangements, objectives and strategies - is always in their interest. Since the relationship among visibility, power and control are largely under-conceptualized and under-strategized in Andean water and gender debates, I analyze the risks of modernist, inclusive approaches that aim for overall visibilization of subjugated people and practices: ‘Subjection by Illumination’ ?

The chapter also looks for responses. Female (and male) peasants and water users, beyond challenging their ‘misrepresentation’ by doctrines and god-views that prescribe which water rules and rights are best for them, also actively shape the ways *they* want to be visibilized and decide when and how to come on stage, at the times and places *they* choose. For their defense and mobilization they select their ‘scopic weapons’ and *alternatingly* adopt unitary class, ethnic or gender labels. Apparently, the mainstream efforts toward overall, participatory mainstreaming of their visibility meets with resistance. In times of globalizing truths, all-inclusive capillary power mechanisms and generic visibilization politics, can it be construed that subjugated groups claim the right to, in their way, reconstruct the connection between truths and reality, and capture the power to represent, visibilize and self-represent?

Question: What are the backdrops and dangers of currently influential ‘gender and water rights’ visibility strategies, and how do Andean female water users struggle for and shape their rights to self-decided ‘invisibility and visibility’?

11.1. Introduction¹

The unequal division of land and water rights has triggered numerous social struggles in Andean history that, as the previous chapters have examined, erupted mostly along class and ethnic lines. As in most parts of the world, unevenness in resource entitlements is also basic to relations between men and women, although the respective struggles have been less visible and open. Though the gendered-ness of property rights in informal or customary Andean rights systems is tremendously diverse, most formal titles to land and water are in the names of men. This is true not just where land and water are held as private property, but also where regimes of common property management prevail.²

Not everybody sees the unequal division of formal control over natural resources between men and women as a cause for concern. In the conventional water management policies and irrigation projects in the Andes, the issue is either not recognized or simply denied: irrigation development is about hydro-technical planning in order to improve agro-productivity, and can and should not interfere with inter-human relationships – let alone ‘change culture’ or ‘deal with intra-household affairs’. Next, many other scholars and activists in the Andes are of the opinion that there is no reason to question the unequal gender division of resources, although the issue is recognized. This opinion is based on the belief that such divisions are derived from larger injustices based on class and ethnicity, which should be tackled first. Moreover, a specific focus on gender inequalities would cause internal division in communities and water user organizations. Alternatively, there is the viewpoint that the gender gap in rights to resources does not matter because gender roles in the Andes are highly complementary. In peasant and indigenous households and communities, men and women supposedly work together harmoniously and share resources equally. Rather than being a reflection of differential powers, the gender gap in rights to resources allegedly reflects just different roles for men and women. And whenever male-biased rights are legally established within national law – featuring highly inequitable figures – actual practice in Andean common property systems is seen to establish customary rules that consider land and water rights as true family property rights, undivided along gender lines.

There is also a large group of scholars and practitioners who do consider the existence of a gender gap in rights to water and other natural resources – both legal and customary rights – to be an important element of social injustice that should be tackled. They envisage closing this gap, but the ways of visualizing the problem of gender inequality in natural resource and water management differ strongly among these groups, as do the strategies they work out. Generally, these conflicting visions are rooted in powerful academic discourses that influence both the Andean debate and practical strategies.

Considering that, with varying backgrounds and ideologies, most development approaches and research projects in the Andes argue for the need to make women (or gender) ‘visible’, but largely omit conceptualizing or strategizing precisely around the theme of ‘(in)visibility and visibilization’, the section following this introduction analyzes the conceptual links among visibility, power and control. It scrutinizes the backgrounds and dangers of modernist, inclusive approaches that aim

1 A large part of this chapter has been written together with Margreet Zwarteveen, in particular Sections 1, 3, 4 and 5, which also appear in her dissertation (Zwarteveen 2006). We published part of this joint research work with WALIR and in: Boelens & Zwarteveen 2001, 2003, and Zwarteveen & Boelens 2006.

2 E.g., Arroyo & Boelens 1997; Bennett et al. 2005; Bourque & Warren 1981; Deere and León 2001; Harris 1985; Jácome & Krol 1994; Kome 2002; Lynch 1991, 1993; Prins 1996; Stolen 1987; Vera 2006a; Vokral 1991.

for overall visibilization of (to-be) subjugated peoples and practices, and thereby, through bottom-up panoptic gazes, promote self-correction and disciplining. The section continues to analyze how one-sided discourses (which I have labeled as ‘monocular regimes of representation’) construct their own truths in order to fit the gendered water rights reality into their own frame of reference, analysis and political action. The third section identifies four major monocular regimes of representation in the Andes that aim to describe (or rather, re-represent) the linkages between water control and gender equity: respectively, the ‘engineering’, the ‘neoliberal’, the ‘universalist-feminist’ and the ‘Andeanist’ views. In order to evaluate the tenets and claims of these monocular views, the fourth section compares them to the evidence available: a review of gender and irrigation studies in the Andes examines the gendered-ness of the socio-legal, technical and organizational domains of water rights and irrigation water control. This provides the materials for the fifth section, which analyzes how and why the different discourses fail to comprehend actual reality and rather organize their own, particular visibilities and invisibilities concerning (presumed) gender and water rights relations. By doing so, the views, experiences and interests of female irrigators are often distorted. Rather than enhancing struggles for gender justice in water control the monocular views tend to undermine them.

Finally, the last section focuses on how women themselves view and strategize visibility regarding their interests in the gender/water connections. How do they challenge and, at the same time, strategically use discourses, cross their boundaries and shape identities to represent themselves and further their strategic water and gender stakes? Rather than assuming that women and other marginalized water users always benefit from ‘visibility’, the question is posed whether visibility also constitutes a pitfall, and how people fight for the rights to practice their own ‘visibility strategies’.

11.2. Visibility, power and control

“Full lighting and the eye of a supervisor capture better than darkness, which ultimately protects. Visibility is a trap.”
(Foucault, *Discipline and Punish*, 1980: 200)

Modern policies that visualize the invisible

Irrigation is a man’s world, as Margreet Zwarteveen has clearly shown and analyzed in her book on the gendered-ness of irrigation science, intervention policies and practices in the field. Irrigation-related powers and resources are often vested in men, the irrigation scholars and professionals themselves are mostly males, and irrigation activities such as planning, design and management are commonly perceived as typically male affairs. In short, masculinity and the professional irrigation identity mutually constitute and define each other, just as the ideal water user often is identified as being ‘male’ and ‘masculine’ (Zwarteveen 2006:20-28). The Andean countries’ water expertocracy that I have analyzed in chapters 7 and 10 is no exception to this. Barbara Lynch (1993) has shown how the bureaucratic irrigation tradition in the region is profoundly rooted in a colonial, masculine world view, one that vests authority and control in male actors and male-dominated structures and institutions.

The almost hegemonic properties of this colonial and later bureaucratic tradition have glorified and visibilized the dominant irrigation rulers, i.e. the male irrigation engineer, very much in line

with the characteristics of the top-down power regime that were worked out in chapter 6. Indeed, the explicit vesting of power and decision-making in male water domain rulers, its hierarchical, centralistic structures and female-exclusive strategies and, most of all, its outright orientation towards Male-Visibility, have been fundamental to sustain and strengthen this gender-biased water power system. Male water actors publicly have governed irrigation science and intervention in the Andes, as in most parts of the world. Not just male visibility (as irrigation decision-makers, project planners, water rights holders, etc.) but also women's invisibility in irrigation were (and often still are) two sides of the same coin (see Lynch 1993; Anderson 1994). The same discourse has invisibilized females, their roles, and their labor. Agrarian and hydraulic policy practices have organized fields of vision and action that have largely erased women or located them in subordinate positions.

But in the last two decades, grassroots groups, scholars, and development institutes, with varying motives, have fiercely challenged this male-biased water development bastion in the Andean region. This has been done at the local, national and international levels, to such an extent that currently donors, policymakers and water agencies all argue that 'the gender component' (in earlier times, the 'women component') must form an 'integrated chapter' of water development programs. 'Inclusive strategies' were developed in order 'to make women visible', similar to how indigenous people and peasants needed to be visibilized. 'Re-cognizing' women and marginalized groups would make irrigation development more productive and successful. Indeed, as explained in chapter 6 – unlike classic top-down politics – modern horizontal power asks for visibility and inclusion. In the 1990s, particularly in development projects, a large number of manuals contained instructions and questionnaires on how to determine women's strategic and practical gender needs and accordingly 'plan gender' (often based on Moser, 1991). Irrigation planners, together with gender consultants, needed to uncover biases, and Zwartveen's remark certainly holds true also for the Andean region: "(...) it perpetuated an image of Irrigation Engineers as small 'gods' who [in cooperation with Gender Consultants as right-hand, right-seeing angels, RB] had the power (and knowledge) to mold and create the world according to their own, scientifically informed and thus superior insights and beliefs" (Zwartveen 2006: 60).³

In the region, this modern policy approach, in development analysis commonly referred to as Women in Development (WID), caused a chain of reactions, just as did its successor, Gender in Development (GID). Diverse currents challenged this visualization and explained how Andean women (and men) 'are' – and how they 'should and should not behave'. In these analyses, whatever the alternative approach, it is remarkable however that they do challenge the way 'women are made visible' but do not question the project of overall and precise *visibilization itself*. The 'how' question overrules the 'if' question. Some stress the need for 'mainstreaming gender' in water development (according to their particular focus on how gender is constructed), others challenge this focus for not accurately representing the Andean gender and water world, for not unraveling the real worlds of human agents, in order to get to know what people themselves think, feel and perceive. But all seem to agree that there is a need to make marginalized groups, women, peasants, or indigenous 'visible', *in the most accurate way* – whatever that way may be. Commonly they plea for going beyond just formal structures and institutions, 'to penetrate the real and the invisible'.

There to, Meinzen-Dick & Pradhan (2005) mention two aspects that are seen as crucial in most studies: "the need to identify 'invisible' uses and claims on water resources, particularly those that

3 "Irrigation Engineers were implicitly seen as essentially benign, neutral agents who, with sufficiently accurate information, could be relied upon to implement the universal good" (Zwartveen 2006:60).

are important for women and other marginalized groups” (239) and the need to “make visible the role of women as users and rights holders of irrigation water” (252). Yes, but As I illustrate in this chapter, certainly, both these visibilization aspects may have great importance for marginalized groups at certain moments, as particular tactics and needs in their struggle. But this visibilization also may entail great dangers; where some theoretical analyses do point also at the problems and not just at the benefits of an overall visibility exercise, this ‘nuance’ commonly gets lost in the overwhelming attention of current development strategies to the issue of *generically* mainstreaming gender and making marginalized groups visible.⁴ While fighting against an exclusive power regime, it appears to be difficult to simultaneously struggle against the subtle inclusive strategies of a capillary power regime – an issue that is explored in the next section.

Unclosing the hidden: panoptic visibility and subjection by illumination

“In this place, he knew instinctively, the lights would never
be turned out. It was the place with no darkness ...”
(George Orwell, 1984, p. 184)

“We shall meet in the place where there is no darkness”, were the apparently promising words of Party official O’Brien, giving hope to Winston Smith (Orwell 1977:88). Winston, mistakenly, interpreted this as a meeting in a far-a-way bright future without thought control, thoughtcrime, Rightspeak, without Big Brother. But to the utter contrary, as Winston later would discover, O’Brien referred to the Ministry of Love, the place of torture and the dreadful room 101, center of depersonalization and human mind engineering (see also chapter 10).

Making the subjugated visible, and visualizing their beings, resources, strategies, social relations, norms, behavior, thoughts, desires, is a fundamental element of modern, disciplinary, capillary power (chapter 6). Opposite to coercive, exclusive power strategies that make the marginalized subjects *invisible*, modern power mechanisms put the dominated in the spot lights and the dominant and their power tools in the dark. Shifting the focus away from the mechanisms, practices, institutions and actors that benefit from the new models and policies reinforces their power as well as the subjugation of the enlightened.

In the chapter on the water rights expertocracy, I have made use of dystopian literature and satires, not as a metaphor for day-to-day social relations and not in the least to accurately represent current reality, but to focus on the lessons provided by the extremes of ‘inclusive strategies’ which organize new fields of vision and control. In ‘1984’, the telescreen received and transmitted simultaneously. Citizens had to “remain within the field of vision which the metal plaque commanded”, so that they could be seen as well as heard. “There was of course no way of knowing whether you were being watched at any given moment. How often, or on what system, the Thought Police plugged in on any individual wire was guesswork. It was even conceivable that they watched everybody all the time” (Ibid:6).

It is this strategy of ‘subjection by illumination’ (Foucault 1980:154) that crucially marks modern forms and techniques of governance and control. As Winston analyzed his situation: “Always the eyes watching you and the voice enveloping you. Asleep or awake, working or eating,

⁴ Although “GID” perspectives might focus on visualizing the very power relations themselves, in actual water development practice in the Andean region “WID” approaches powerfully continue to ‘visibilize women’.

indoors or out of doors, in the bath or in bed – no escape. Nothing was your own except the few cubic centimeters inside your skull” (Orwell 1977:25). In the end, Winston found that even those few cubic centimeters of human brains were not of his own making anymore, since they also critically belonged to the space that was enlightened and molded by the human and social engineers of Oceania’s utopian (or rather, dystopian) society.

In ancient power regimes, ‘making certain persons visible’ was among the privileges of the elites (chapter 6). As Galeano (1986) made clear, most of Latin America’s history visibilizes and was written by the dominant (the hunters), not by the dominated (the prey). The subjugated had no individuality, they only had the darkness of the masses.⁵ Traditionally power was what was seen and what was shown. The more it was manifested, the stronger its force. At the same time, “those on whom it was exercised could remain in the shade; they received light only from that portion of power that was conceded to them, or from the reflection of it that for a moment they carried” (Foucault 1995:187). But modern, disciplinary forms of power are an inversion of this principle; they are exercised through their invisibility while, simultaneously, they “impose on those whom they subject a principle of compulsory visibility. In discipline, it is the subjects who have to be seen. Their visibility assures the hold of the power that is exercised over them. It is the fact of constantly being seen, of being able always to be seen, that maintains the disciplined individual in his subjection” (Ibid: 187). This optical twist is fundamental to the mechanisms of the new power regime.

Both utopias and dystopias, being each others’ reversal and having the same family roots (Achterhuis 1998), tend to give strong attention to the aspect of ‘control by illumination’. While dystopian thinkers describe it as ‘negative’, utopian writers see especially the productive, positive effects of ‘enlightened control’.⁶ The grand old man of the utopian tradition, Thomas More, was very explicit about it: as he describes in *Utopia, Book II, Of the traveling of the Utopians*, every action and all behavior of the Utopia’s inhabitants had to be illuminated in order to generate discipline and order. A total lack of privacy and fierce punishment of deviant behavior was fundamental to engineer and control their well-being: “There are no taverns, no alehouses nor stews among them; nor any other occasions of corrupting each other, of getting into corners, or forming themselves into parties: all men live in full view, so that all are obliged, both to perform their ordinary tasks, and to employ themselves well in their spare hours. And it is certain that a people thus ordered must live in great abundance of all things; and these being equally distributed among them, no man can want, or be obliged to beg” (Thomas More 1975(1516):84. See also Achterhuis 1998:42).⁷ Dystopian thinkers

5 When Foucault phrases this fact, and the way it is put upside-down in modern times, he (consciously or not) relates this simultaneously to the male gender: “For a long time ordinary individuality – the everyday individuality of everybody – remained below the threshold of description. To be looked at, observed, described in detail, followed from day to day by an uninterrupted writing, was a privilege. The chronicle of a man, the account of his life, his historiography, written as he lived out his life, formed part of the rituals of his power. Disciplinary methods reversed this relation, lowered the threshold of describable individuality and made of this description a means of control and a method of domination. It is no longer a monument for future memory, but a document for possible use” (1995:191).

6 In a similar way ‘invisibility’ is seen as positive or negative according to the political position of the analyst. While Adam Smith praised the invisible hand of the market, Marx and Marxist thinkers would typify it as the invisible foot: the invisible hand promotes the capital accumulation of the dominant groups, and at the same time the invisible foot kicks the dominated to the margins of society (Ophuls 1977, cited by Achterhuis 1988: 218).

7 In chapter 9 I have described how Morgan (1946) claimed that Thomas More based his Utopia on the model of the (by then not officially ‘discovered’) Inca empire, looking at their common basic features (see also Lemaire 1986, Murra 2002). I would argue that he oversaw another, fundamental common element: The Inca governors’ ideal was to build a State that could register, monitor, oversee and control all productive and reproductive relations of their (self-correcting) subjects. Although they had technical-physical constraints to do so, their administrative and metaphysical control reached far for those days (see chapter 6), among others by the installation of the *mitimae* spies and the inspectors or overseers, the *tokoyrikoq* - which means: “those who see all” (Rowe 1946, in Patterson 1997).

such as Foucault would agree with the functional power of this illumination but characterize similar settings of visibility in exactly the opposite way: “The fear of darkened spaces, of the pall of gloom which prevents the full visibility of things, men and truths. It sought to break up the patches of darkness that blocked the light, eliminate the shadowy areas of society, demolish the unlit chambers where arbitrary political acts, monarchical caprice, religious superstitions, tyrannical and priestly plots, epidemics and the illusions of ignorance were fomented” (1980:153).

Subjection by illumination goes further than control by the dominant over the dominated. It promotes self-control. Participation in order to control (see chapters 6 and 10). Continuous examinations, made possible by modern documentary and socio-technical techniques (see chapter 7), make each individual a case, marked by the gaps that he or she should overcome to become ‘normal’. For example, if the implicit norm (of water experts, policy-makers and administrators) is the vesting of water rights in male water users – who are supposed to be individuals who rule the ‘classic household’- deviant groups (e.g. female-headed households, migration-based households, single women irrigators, etc.) will have to adapt and ‘participate’ or wither. If the State norm is to focus on individual (male) right-holders to pay individual water fees, the water user community needs to change its practices of contribution (in labor, in kind, as a collective, etc.) in order to continue its formal existence. If the irrigation professional norm is that public water decision-making is a male-issue, female irrigators will need to conform (and send a male representative to the engineer’s meetings), keep silent, or get ridiculed. Many similar cases of self-correction to ‘the norm’ have been analyzed in the previous chapters. They justify paraphrasing Foucault’s argument: she, who is subjected to a field of visibility and is aware of this, assumes responsibility for the constraints of power. She makes them play spontaneously upon herself, she inscribes in herself the power relation in which she simultaneously plays both roles: she becomes the principle of her own subjection (Foucault 1980:202-203).

Starting with the Panopticon, chapter 7 has extensively examined the relationship between panoptic power and the socio-technical construction of a (real or imaginary) water-power society. When Bentham developed his ideas for the Panopticon prison as his architectural, socio-technical masterpiece, materializing his philosophy of utopian utilitarianism and, tellingly, Enlightenment, these were condemned by the Church. Indeed, it can be argued that he intended to construct his own, utilitarian god who would have to replace the Christian God. The omnipresent normalizing power of the central tower’s watcher can only function and penetrate people’s minds and bodies if he is invisible to the people who are being controlled. The watcher is a disembodied, depersonalized entity. From His tower He can oversee everyone, but nobody is able to see Him.⁸ The power functions because of the panoptic god’s *presumed* presence; making him visible would dethrone him, and cease the omnipresence and effectiveness of his power. The panoptic, self-disciplining environment works by the grace of a socio-technically constructed, invisible god’s eye, by internalizing the fiction of an omnipresent, disciplining god into peoples mind (see Bentham 1995 (1791); Foucault 1995; Achterhuis 1998).

The center of power disappears, is made invisible. Interestingly, Utopia literally means “no place” (Webster’s 1994:1147). Big Brother’s empire was also based on invisibility: “Oceania has

8 Apart from the architectural concept of the central tower and the prison cells themselves, other artifacts (e.g. luminary techniques making the watcher invisible, and a one-way audio pipeline system bifurcating throughout the prison) and psychological techniques were detailed by Bentham to invisibilize and thus strengthen the working of his panoptic power (see chapter 7; Bentham 1995 (1791); Foucault 1995(1975); Achterhuis 1998).

no capital and its titular head is a person whose whereabouts nobody knows. It is not centralized in anyway” (Orwell 1977:167). Bentham, similarly, but in technical and political practice, had an obsession to construct an invisible, dominating, overseeing gaze, “a project of a universal visibility, ... the technical idea of the exercise of an ‘all-seeing’ power” (Foucault 1980: 152). The ‘micro-physics of power’ (or ‘political anatomies of the detail’) aim to visibilize the invisible: detailed techniques and procedures to establish the norm, compare, categorize, examine and correct deviation, are characteristic of most utopias and dystopias. Seeing is not limited to watching towers but extends to people seeing and equalizing each other in all places of society.

A powerful, complex example is how gender norms are constructed in modernizing, equalizing regimes. Illich (1984) showed how modernizing regimes have often ‘forced’ transformation of vernacular societies (with gender diversity and gendered domains, tools, times and tasks, ‘multiple genders’ (Rosing 1997) or ‘gendered spaces’ (Bourdieu 1977)), to become presumably ‘genderless’, ‘unisex’ or ‘gender-neutral’, but profoundly sexist societies. “An industrial society cannot exist unless it imposes certain unisex assumptions: the assumption that both sexes are made for the same work, perceive the same reality, and have, with some minor cosmetic variations, the same needs” (Illich 1984:9). Economic theory requires that ‘both unisexes’, as genderless humans, compete for the same gender-neutralized work. However, the *concealed model* for a person becoming ‘unisex’ and for society becoming ‘genderless’ is profoundly masculine. As Kearney observes, both peasants and women were envisioned as marked forms that need to be assimilated into the unmarked: peasants would have to be incorporated into modern developed society; women would enjoy the same rights and identities men had previously monopolized but only when adopting their ways of acquiring and organizing political power. However, “attempts to assimilate to identities that have been constructed on structures of inequality serve not so much to liberate as they do to reinforce the structuring of that inequality” (Kearney 1996:7-8).⁹ As if caught by the panoptic gaze, all deviations from this sexist, presumably genderless, norm have to be (self-)corrected, in the name of equality. This way, male dominance, as a capillary force, can extend to all domains of society, also to spaces that formerly had gender restrictions and protections. For women who ‘cannot make it’ in this masculine unisex regime, the ‘equality’ banner is a permanent frustration and the fundamental tool to deny and subjugate them.

The response is even more complex and sexist: to avoid this Hobbesian competition or war of everyone against everyone, new, *presumably traditional* but universalistic, fixed gender spaces, roles, boundaries and identities are installed. As Achterhuis (1988) argues, Rousseau is a powerful forerunner of this ‘ultra-sexism’. His disciples in the Andean region, while claiming ‘autochthonous views’, are many and equally influential.¹⁰ Implicitly they follow his argumentation when, under the false banner of complementarity and respect, he claims that women need men as the model to determine their own norms and identity, without them they are helpless and useless. “Natural law subjugates women, for their own sake and for that of their children, to the mercy of men’s judgment” (Rousseau, *Emile*, p 337, quoted by Achterhuis 1988:164-165). A male, to the contrary, “only depends upon himself and may defy public opinion but a women, if behaving appropriately, has only fulfilled half of her duty and for her, how she is seen is equally important as what she actually

9 Thus, rather than differentiating between We (universal, unmarked, positively valued men) and the Other (the feminine gender marked as the negative of We) as argued by Simone de Beauvoir, both genders are captured as equals under a homogenizing label but with masculine properties and, obviously, with divergent ‘points of departure’ which makes ‘liberation’ illusory.

10 For example, the PRATEC school: see chapter 4 and this chapter.

is” (Ibid:337). Again, although it seems to be the contrary, it is the women – not the men – who are screened and subjected by illumination. Thereby, in the current Andean context, rather than pushing women back into traditional roles (which is difficult under equalizing regimes), new traditions are invented, commonly as romanticized equal-but-different constructs, to confine female farmers and water users.¹¹ Under the slogan of fighting occidental imperialism and its intra-family unisex competition, the hidden, masculine fear of adding water rights competitors and losing male dominance in the sector certainly plays a role.

For example, Rousseauist ideas on ‘traditional roles’ – “If a woman were equally apt as a man to discover principles ... they would live in permanent envy” (Ibid:162) – have strong resonance in the Andes. This is one of the reasons why formal procedures for selection of future water right holders in irrigation projects almost invariably subjugate women. A very explicit case is that of the Laka Laka project in Bolivia. Here, when women went to the construction site to contribute labor in order to obtain water rights, they were sent back by the project staff. To the women’s surprise and anger, the project management had decided to exclude married women and people younger than 16 from the possibility of obtaining water rights. The justification of this decision was that the number of claimants had to be reduced (Prins, 1996). Clearly, women are pushed into roles of complementarity which do not reflect local, vernacular conditions but constitute modernist, sexist constructions to avoid female involvement in (water) control. They were screened according to the masculine water right-holder model, and found to be deviants.

Both unisex morality *and* the political-philosophical creation of ‘traditional’ genders actively neglect and destroy the existing, context-particular gender relations. Both create norms for the ideal men and women and treat actually existing gendered persons, particularly women, as role-deviators. Although differently, both generate or extend women’s subjugation by posing men as ‘the norm’. In both cases subjection by illumination plays a fundamental role in the ‘subjectification’ of women as well as of other subjects, e.g. the indigenous and peasants. Often, the creation of such fields of vision does not refer to intentional power plays (see chapters 6 and 7), but to ‘strategies without strategies’ that are ruled by partly self-strengthening norms and ‘disappearing’ dominant actors. And the missionary idea of inclusiveness often makes ‘good intentions’ to be important elements.¹²

As I will show in this chapter and particularly in the following ones, women irrigators just as peasant and indigenous groups and other marginalized water users, often do not want or accept this overall inclusive, participatory mainstreaming of their visibility. Particularly for those people resisting against domination and normalization, overall visibility may not be strategic at all. They themselves want to have control over their visibility and determine the ways and moments they are visibilized. Masked and fluid identities, hidden practices, ‘underground’ action, as well as *intermittent* visibility strategies in which they decide when and how to come to the stage, are often crucial in their struggles.

11 In another context, for example, in the chapter tellingly phrased “Manipulated Motherhood”, Joke Schrijvers (1986) presents how peasant women in Sri Lanka, among others through irrigation scheme development, have lost their position as subsistence cultivators and have been pushed into marginalized positions (unpaid family workers and dependent housewives) that were newly created by the fusion of capitalism and invented tradition.

12 . In his interview *The Eye of Power*, Foucault stated: “Bentham was the complement to Rousseau. What was in fact the Rousseauist dream that motivated many of the revolutionaries? It was the dream of a transparent society, visible and legible in each of its parts, the dream of no more zones of darkness, zones established by the privileges of royal power or the prerogatives of some corporation, zones of disorder”. The interviewer replied: “There is a phrase in the Panopticon: ‘Each comrade becomes an overseer’” (1980: 152).

Monocular regimes of objectified representations

In Orwell's Oceania the rulers not only visibilized the invisible and the oppressed, but at the end, also forced the subjugated to see and visibilize *themselves*. The intention was not to show the latter that what the Party wanted them to see, but to make them *auto-identify* as right-speakers and right-thinkers. To make them truly believe that reality exists only through the viewpoint of doctrine: "Only the disciplined mind can see reality", said O'Brien. "It is impossible to see reality except by looking through the eyes of the Party. That is a fact that you have got to relearn, Winston. It needs an act of self-destruction, an effort of the will" (1977:200). The rulers first crumbled all of society's individual identities and then, through the doctrine and its fields of vision, new identities were shaped.

Again, (water) life in practice is (usually) different from life in novels, and human agency, identity and contingencies cannot be crumbled and transformed as in Panoptical prisons or rooms 101, at least not through water interventions or agrarian reforms. And while in water reality *bottom-up, capillary* forms of self-correcting gazes (e.g. the wish to become modern and 'equal'; the socially-controlling eyes of 'fellow-subjugated') do have strong effects, the *top-down imposed gaze* or rulers' view seems to be technically and politically unrealistic. Nevertheless, even such top-down gazes (that impose a biased perspective)¹³ remain powerful in the hydro-policy world and have some aspects that are of great importance in day-to-day water development and visibilization practice. I want to single out three key issues, handed out to us in a dramatic form by O'Brien's words above.

The first issue concerns the mission and vision of 'the all-embracing system or doctrine' that is to be imposed. It relates to the very reality and existence of the (unrealizable) 'hydro-political dream scheme' that I have worked out in chapter 7: the planners' imaginary scheme of utter irrigation control, an idealized order and socio-technical network to which both human and non-humans must align. Everyone is assumed to join the scheme and its control rationality.

The second issue relates to way in which the view of water rulers and professionals, being profoundly political, are presented as natural, objective and a-political. It concerns the prominently existing practice of the 'god-view' in water policy and development and, at the same time, to the classic development discourse of taking poor people out of their worlds of darkness, and bringing them into the enlightened world of progress, truth, objectivity and reason. Water scholars, professionals and policymakers – commonly from the hidden, very masculine normative position described above – often claim the rights and (privileged) access to universal water truth and knowledge by lifting themselves and their authority above the masses. Resembling O'Brien's god-eyes and Bentham's panoptical god-view, Haraway (1991) typified this as the objectifying 'god-trick' of seeing everything from nowhere, contrary to 'situated knowledges'.¹⁴ A similar claim of all-seeing power and authority is analyzed by Hannah Arendt (1977, cited by Achterhuis 1998:407), when she refers to Plato's utopian vision in *The Republic*. In *The Allegory of the Cave*, society is portrayed as a cave in which people, as chained prisoners, "have their eyes full of darkness ... they see only their own shadows, or the shadows of one another, which the fire throws on the opposite wall of the

13 In fact, this imposed gaze is a mix between 'ancient' and 'modern' power mechanisms.

14 Haraway (1991) also elaborated an appropriate answer to this phenomenon of claiming objectivity in knowledge generation processes: Knowledge is generated and used not in abstract situations but in concrete practice, with diverging actors, interests, frames of reference, etc. She therefore proposes that the particular subject's standpoints and context-specificities lead to 'situated knowledge': only from a location-specific ('subjective') position one can claim 'objective knowledge' (see chapter 1).

cave” (Plato 1992, book VII:186-194). To the common people, “the truth would be literally nothing other than the shadows of those artifacts” (187). The Sun of truth and righteous ideas enlightens reality but they cannot see it, just its reflection. The noble but difficult task of the philosopher (“the instructor”), who ascended from the cave and does see truthful reality, is to rule the State and govern and educate its cave people, by the grace of his wisdom.¹⁵ Since the truthful Sunlight is too bright for the common cave people (their darkened eyes will be dazzled and painful when seeing true light and objects rather than their reflections), the instructor has to go down and lead them. “That is why each of you must go down to the general underground abode, and get the habit of seeing in the dark. [...] you will see ten thousand times better than the inhabitants of the den, and you will know what the several images are, and what they represent, because you have seen the beautiful and just and good in their truth. And thus our State, which is also yours, will be a reality...” (193). Obviously, the wise instructors are presented as neutral and objective, since they are guardians of truth and can *see reality* and because, as *real* philosophers-rulers, they do not like to govern and would not have political ambitions.¹⁶ Today’s water policy-making arenas often closely resemble Plato’s allegory.

The third issue concerns the way dominant doctrines and models want to visibilize and shape the water world and its actors according to *their* focus. It relates to how existing relationships and identities have to be crumbled and reshaped in order to fit *their* model. I call these *monocular regimes*. Monocular literally means: “relating to, or suitable for use with only one eye” (Webster’s 1994:649). Monocular regimes provide focused, objectified but amputated presentations of reality; they are discourses and truth constructions that, similar to paradigmatic models, converge on what *they* want to see and discursively *visibilize only that*. Many of them relate to ethnocentric orientations and objectivist discourses in which the norms, histories and cultures of non-western ‘others’ are homogenized, defined and portrayed as antagonist to Occidental patterns of thought and governance, and visibilized as static and ultimately inferior (or superior – according to the political-philosophical position and god-eye of the Platonic wise men).¹⁷ For the importance of monocular regimes in the field of Andean gender and water rights constructions and policy-making, the ‘empirical’ sections below will analyze this last issue more in detail.

But first it is useful to point at the apparently strong conceptual difference among the monocular and the earlier mentioned disciplinary, bottom-up panoptic gazes. These latter, inclusive regimes typically aim to visibilize *all* aspects of common people’s day-to-day life and livelihoods, up to their intimate thoughts and desires – in order to categorize, visibilize their deviation from the norm, and (self-)correct. As long as the ‘formerly invisible’ think and perceive that they are being watched ‘by all others’ they will incline to self-disciplining and behave according to the righteous norms. Monocular regimes, to the contrary, as paradigms, only visibilize that what fits their biased framework; conflicting evidence is denied or discursively and materially destroyed. Visibilization of some persons, things, notions, automatically entails the non-visibilization of others. ‘Truth’ is thus defined as what is (made) visible, the rest is untruth; which is also the reason why monocular water sciences and management have great difficulties to deal with features that are ‘invisible’ to them, such as love, hate, friendship, culture, etc., but also with local water norms and rights or metaphysical

15 Instead, the common people, “uneducated and uninformed of the truth”, will never be “able, educated ministers of State” (Plato 1992:190).

16 “And the only life that looks down upon the life of political ambition is that of true philosophy.... And those who govern ought not to be lovers of the task. For, if they are, there will be rival lovers, and they will fight.... Who then are those whom we shall compel to be guardians? Surely they will be the men who are wisest about affairs of the State.” (Plato 1992: 194).

17 See also chapter 9; Escobar 1995; Gelles 2000; Said 1978.

water relationships. And often, if reality does not fit their monocular scopic framework, they create reality. They often first ‘visibilize what is not there’ and then impose this in order to organize and control reality. They aim to make fiction reality. Monocular views have the tendency to pre-establish or pre-fix those subjects, objects and relationships that they ‘objectively’ want to see and show (objectification). More than Foucault-like discursive power modes, which ultimately aim for the self-visibilization and self-creation of subjects according to the regime’s doctrine (subjectification), monocular regimes often have Platonic god-eye instructors such as the male irrigation scholars and professionals; whereas in capillary regimes the dominant and their power mechanisms are hidden.

Nevertheless, I would argue that, in practice, these apparently diverging forces that either promote ‘all-seeing’ or ‘mono-viewing’, usually, do not contradict but overlap and reinforce each other, and have many aspects in common. For example, both create the conditions for model-satisfying changes to happen, and not others. Both shift visibilities away from the dominating powers, to focus especially on the subjects to be blamed, adapted, and subjugated. Both aim for power-knowledge-truth constructs that show how ordinary people deviate from the doctrine’s ‘benevolent, all-including norm’ and strive for (self-) normalization and subjugation to this normative model.¹⁸ Both are situated within the tradition of modernity, and dictate the way in which different client groups (peasants, indigenous people, women, water users, the environment) are to be visibilized and confined, “mapping them onto certain coordinates of control”, as Escobar says. “The aim is not simply to discipline individuals but to transform the conditions under which they live into a productive, normalized social environment: in short to create modernity” (1995:156).

The fact that the strategies of all-seeing and mono-viewing are not mutually exclusive but reinforce each other is evident in Andean water rights practice. For example, as shown in chapter 8, neoliberal De Soto-type reforms have the aim to first visibilize all the invisible, intangible local water property rights (which are “dispersed among dozens, sometimes hundreds, of communities; rights and other information are known only to insiders or neighbors” (De Soto 2000:162)) and second integrate all these extralegal property arrangements in a uniform market framework. But they are not integrated *as they are* but *according to the needs of the monocular regime*: as standardized, private, exchangeable property rights.¹⁹ ‘Making local rights visible’ and ‘making women and their invisible rules, rights and roles known’, indeed, gets a deeper dimension when analyzed not just from the depoliticized development idiom. As was argued in chapter 8, for example, it is precisely the neoliberal economists and business sectors who are pushing for indigenous and peasant communities to have clear, visible rights – not to defend these local rights and autonomy but (1) to provide a broad array of legal certainties regarding investment by non-peasants and non-indigenous people in indigenous territories and (2) to introduce commoditization of these local rights systems once they are visibilized, registered, governmentalized, and subjected to the forces of private water rights markets.

Interestingly, the role of the powerful Platonic ‘knowers’ or ‘instructors’ is not that different in the capillary, all-seeing and monocular regimes. The god-trick makes this happen, in many ways. For example, in liberal (water) policy-making the utilitarian ideas of John Rawls’ *A Theory of Justice* (1971) are telling and very influential. Since, according to Rawls, in a just society the rights secured

18 The apparent objectification/subjectification contradiction is a paradox: monocular views first fix and objectify, and then aim for the subjugated (the subjects) to accept this as objective truth (subjectification).

19 In a similar way, Marx analyzed how money, as ‘the invisible god’, visibilized peoples and objects according to particular interests of the capitalist monocular regime. The equalizing role of money blurs all differences among people (commodity owners) and among goods: all qualitative differences are brought back to quantitative, objectified differences, in order to make exchange possible. The focus is on the equivalent of people, their labor, properties and goods, in terms of money (exchange values).

by justice are not subject to political bargaining or to the calculations of social interests, he explicitly aims to neutralize such power interests by invisibilizing both these interests and their bearers. The decision-making process on welfare distribution and justice arrangements is made invisible behind a theoretical ‘veil of ignorance’. Here, autonomous and rational individuals, cut loose from their own and others’ interests, histories, cultures, genders, and socio-economic backgrounds, are to decide about society’s structure and distribution processes. Presumably, the sum of these ‘neutral’ decision-making processes would lead to ‘what is best for all’. But obviously, denying power structures and class, gender, ethnic or other differentials behind a theoretical veil of ignorance does not mean that rational individuals will build the optimal utilitarian society; Andean water policy and intervention practices show that the powerful very much welcome such an invisibilizing veil.

Clearly, the boundaries between ‘visibilizing to describe reality in detail’, the Platonic ‘objectified visibilization by god-like knowers’ and ‘visibilizing to intervene in reality and construct ways to control it’ are not clear-cut. Like twin strategies, monocular regimes seek support from disciplining mechanisms to normalize reality according to their doctrine or reality model. The section below, therefore, aims to highlight some of these reality models that are most powerful in the Andean region.

11.3. Visualizing gender and property rights: monocular regimes of representation

As we have detailed elsewhere (Boelens and Zwartveen 2001, 2003), the prevailing discourses on gender and water property rights in the Andes inform the visions and strategies of scholars, water professionals, policy-makers, funding agencies and other water development actors, but they also influence the perceptions and actions of local water users. They contribute to the way they represent themselves, the modes in which they construct their water control relationships, in particular their water rights.

In the region, apart from the conventional, bureaucratic regime of representation concerning water management and water rights, three contrasting discursive representations can be distinguished. In field studies, policy proposals and on-the-ground water management discussions in the Andes, all four ideological views or discourses on the position and rights of women in natural resource management have strong influence. The traditional bureaucratic and technocratic, male-biased regime is powerfully reflected in, for example, national water legislation, administration, policies and classic intervention programs. The second discourse, increasingly powerful in the region, is the modernist, neo-liberal view, in which backwardness and progress of people are determined according to their integration into markets and commoditized production systems, and where women are seen as instrumental agents to foster this integration and change water into capitalized nature. The third discourse is an essentialized, populist interpretation of feminism according to global standards of liberation. The fourth is a romanticized, pan-Andean representation of the ‘Andean worldview’.²⁰

The conflicting assumptions of these approaches, which can be regarded as mainstream discourses (the first and second approach) or foster a process of counter-normalization (the third and fourth approach), color most academic debates as well as day-to-day discussions on natural resource

²⁰ The labels given to these discourses are put between inverted commas to indicate that they do not form fixed, stable or coherent frameworks of thought.

management and gender relations in the Andes. The chosen ‘monocular regime of representation’ importantly determines *what* is studied, *which* questions are asked and *which* solutions and intervention strategies are proposed. In this Foucauldian sense, the four discourses are more than just ideas expressed in words and texts: they are real practices with rules and conditions shaped by the conjunction of knowledge and power, they are embedded in and reinforced by networks of NGOs and international donor agencies, national and international intellectual elites and research institutes (Escobar 1995; Arnold 1997; Spedding 1997a and b). What follows is a schematic description of these discourses. The focus is on gender and water rights, and more in particular on the rules, roles and rights that, according to each discourse, are linked to the genders. Thereby, all four actively construct their ideal male and female water users, with the corresponding masculine and feminine properties and capacities needed to organize water control in the Andes.

The ‘engineering’ monocular regime

The first regime or discourse visibilizes the gendered-ness of water control in its classic, conventional manner. Its preoccupation is with top-down projects that are bounded in time and space, with clearly defined objectives tied to universally applicable standards and supposedly based on goals of technically rational, optimal production. At the same time, it is heavily inspired by what Lynch called the ‘bureaucratic tradition’ (Lynch 1988a; chapter 5) in irrigation, and largely continues to promote technocratic modernization. The approach is based on a stereotypical view of the household, characterized by a labor division of its members that can be explained by comparative advantage, and which predicts that household welfare distribution is guided by altruistic principles. Women’s roles are primarily those of mothers and domestic care-takers, whereas men are primarily breadwinners, i.e. farmers, irrigators, and water leaders (Zwarteveen 1994a). Since men are most often officially registered as ‘heads-of-household’, legislation, policies and irrigation projects nearly always allocate the water access and decision-making rights to men (Arroyo & Boelens 1998; Kome 2002; Vera 2006a). Because of international development guidelines, this ‘mainstream’ discourse is no longer very explicitly adhered to at policy levels, but it continues to be very much alive in the thoughts and practices²¹ of staff of irrigation agencies who were trained in this tradition and see this also reflected in their own (urban, mestizo) households.²² Its ideas also more or less coincide with and are reinforced by those of middle-class urban machismo, which couples a strong undervaluation of women’s labor capacities and skills with the idea that a woman’s place is in the home (marianismo) (Cf. de la Cadena 1995; Arnold 1997; León 1993).

The ‘neo-liberal’ monocular regime

The second powerful discourse builds on neo-institutional and neo-liberal foundations. In recent years, mainstream irrigation thinking in the Andes has become increasingly neo-liberal in flavor, with a focus on water pricing, decentralization and a strong reduction of the role of the government (see chapter 5 and 9). Women (rather than gender) become visible and are made instrumental in neo-liberal discourses primarily as a hitherto under-utilized resource. Making use of gender studies that demonstrate the importance of women as household budget-holders and their important roles in

21 New ‘gender guidelines’ for irrigation projects tend to be ‘neutralized’, as Zulema Gutiérrez found for Bolivia (pers. comm.). E.g., the regulation establishing that 30 % of water board members must be women leads to the ridiculed practice of the ‘*fichas de género*’ [gender place-markers]: the appointment of some persons just because they are women, and using this as an excuse to, for the rest, not bother about gender-power differentials at all.

22 See also Vera 2006b; van der Pol 1992; Campilo 1993; Carafa 1993; Krol 1994.

agriculture and community water management, neo-liberal approaches often emphasize that women are needed to keep irrigation systems and local economies afloat. It is remarkable how international water development agencies – traditionally male bastions – now push for incorporating ‘gendered accountability and control’ and ‘female clients’ through the backdoor, since they are seen as instrumental to include Andean community livelihoods in the national and global market. According to the World Bank policy “... investments in human capital for women have a high pay-off” (Kardam 1991:52, quoted in Escobar 1995:178). Simmons (1992) also points at this conversion of women into ‘under-utilized resources’ in the new international development discourse: “... no country can afford to under-utilize and under-equip more than half of its human resources” (World Bank Annual Report 1990, in Simmons 1992:16). Women are seen to constitute an important ingredient of the social capital that can be mobilized to render irrigation operations more effective (see Molyneux 2002). ‘Inclusion’ in formal decision-making bodies and in markets is seen to be simultaneously good for women and good for the performance of irrigation development projects. According to a development policy officer explaining this policy shift: “Women have taken on another role, another perception in our minds, particularly in the minds of project managers: the idea that women are good to have around if you are involved in project development” (quoted by Simmons 1992:19). Drawing women into markets and meetings is how the neo-liberal approach can best be characterized (Zwartveen 2006), which can be achieved by removing educational and legal barriers. Once the barriers to women’s full inclusion have been overcome, they can compete and deliberate ‘as equals’ with others to access and control water. Making possible that women, too, are vested with individualized and privatized property rights is therefore seen as an important precondition for development, and for women’s ‘empowerment’.

The ‘universalist-feminist’ monocular regime

The third discourse on gendered water control and water rights in the Andean region is rooted in feminist scholarship of the eighties, and more specifically in its postulation of global, universal exploitation of women.²³ The analysis sees women’s lack of property and independent entitlements as one of the main manifestations and root causes of gender inequality (Mies 1986). Therefore, increasing individual women’s control over resources is identified as a crucial avenue for a better future. A main element of the underlying analysis is a critique on conventional household models, which exclude gender differentials in labor, resources and power from their explanation. Instead, the feminist analysis interprets intra-household differences as the result of structural inequalities.²⁴ For Andean peasant women, the strive for liberation is projected as a daily struggle on multiple fronts – against poverty and class subordination, ethnic discrimination and gender oppression in a male-dominated society (Bronstein 1982). As an alternative to the neo-classical household concept, the household and the community are portrayed as moral and political economies, in which distribution (of, among others, water rights and associated privileges and benefits) takes place according to principles of both legal and accepted legitimacy, but also reflects power relations (Agarwal 1997). While these days the very western-biased feminist discourse that strongly victimized women has become less prominent in the Andean region (and in the West), some new currents have re-oriented

23 Often, their analyses were made “from an unacknowledged but ethnically specific position” (Barrett & McIntosh 1985:281), with a baseless claim to universal applicability.

24 Household members are internally differentiated by material and ideological constraints that influence which objectives and whose objectives are actually realized. Household strategies or behavior are seen as the outcomes of processes of contradictions and negotiation in which certain members have more power to decide than others.

the universalist monocular perspective towards a strongly ‘Africa-biased’ view: they look at Andean households in order to show that these latter (need to) have separated intra-household economies.²⁵ Indeed, “the now recognized centrality of women’s labor to farming has led to portraying African women farmers as the archetype of the liberal emancipated woman: an assertive individual who is not socially or economically dependent on others ...” (Zwarteveen 2006: 133).²⁶

In terms of a feminist water strategy, both ‘Western- and Africa-biased’ perspectives often lead to preaching the importance of women’s independent titles. Assuring access to separate property rights for male and female water users would generate less internal household dependence and would thus be conducive to assuring each individual’s autonomy. Independent titles would also open the door for women to participate in water decision-making at all levels. This is for instance the analysis of the early study of Bourque and Warren (1981). They describe how irrigation in their Peruvian research location was considered a men’s job, one of a set of key tasks that serve as gateways to critical resources, including land, water, transportation and cash. Because of women’s dependency on men for their access to water, they argue, irrigation plays a crucial role in maintaining male dominance. Deere and León elaborate this line of analysis for land rights, pointing out that male migration has made women throughout Latin America the primary farmers in small-scale agriculture. Property rights in their name would ensure farm productivity, improve their access to credits and services, in addition to enhancing women’s bargaining position within the household and the community (Deere and León 2001).

The ‘Andeanist’ monocular regime

Where the first three approaches have a modernist (often occidental) rooting, the fourth approach is explicitly ‘anti-modernist’ (and anti-occidental). The vision is fiercely defended by groups who challenge the contents of the former three monocular regimes and claim to represent ‘the’ *cosmovisión andina*, the Andean worldview.²⁷ This position, very influential in on-the-ground water management debates, claims that the Andean situation cannot be explained by using global conventions and policy conclusions, but needs to be based on local Andean culture and history. For this, pan-Andean or ‘Andeanist’ paradigm (see chapter 4) is claimed as a frame of reference, one that emphasizes duality and complementarity as the essential characteristics of relations between men and women in households. Gender relations in the Andes, according to this view, can best be described in terms of reciprocity and mutual support, as they mirror the dual, balanced, complementary relationship between the masculine and the feminine in the mythical worlds of Nature and Deities (e.g. Pachamama and

25 E.g. in countries such as Burkina Faso, different from most Andean communities, women and men have their own, individual plots besides the collective plots. Zwartveen (2006:142) describes how labor input over these plots often follows gender lines, and production and income generation of each field is kept separate.

26 This image of female farmers may be questioned, even in the African context. First, because these ‘individual’ rights are often used by a women farmer to contribute not only to her own household survival but also that of her kin and the wider collective; and second, because the existence of separate, clearly identifiable male and female intra-household economies does not imply independence, since in most cases mutual cooperation among spouses tends to be strong, even when incomes are kept separate (Zwarteveen 2006:163).

27 Here it is important to distinguish between the many scholars who have significantly contributed to understanding ancient Andean worldviews, dualist ideologies and the way these notions influence current social relationships in the Andes (e.g., Murra, Zuidema, Platt, Ossio, Mayer, Gelles, Silverblatt, Castro, Harris, Urton, Sherbondy, Salomon, Skar, Rostworowski, Hocquenghem, Valderrama & Escalante, etc.), and the currently influential group of scholars and activists (headed by PRATEC) who construct an essentialized, almost static Andean identity, ‘internally’ based on complementarity and harmony, and ‘externally’ threatened by the ‘evil, outside forces of occidental society’. See, e.g., AGRUCO 1990; Grillo, 1993, 1994, n.d.; Rengifo 1991; Apfel-Marglin and PRATEC 1998. See also chapter 4, and for an analysis of ‘Andeanism’, indigenism and indianism: Almeida 1998; Baud 2002, 2006; Gelles 2006; Mayer 2002; Starn 1991; Trujillo 1993.

the Apus, and other sacred symbols and natural beings). “The human community in the Andes cannot be differentiated from Nature, and accordingly raises its family in harmony” (Grillo 1994:14). Men and women have different roles and abilities, yet this difference does not signify inequality and subordination – which are seen as properties typical of gender relations of occidental (liberal and imperialist) societies. “In modern occidental families there is competition between generations and between the genders. Grandparents, parents and children, men and women, oppose each other in the intense struggle to survive or to maximize benefits. This happens in a similar way as it happens outside the family, in society at large, between rich and poor, white and black, etc. ... The family no longer is the environment of love and care, but rather becomes yet another site for profitable investments” (Grillo 1994:8). In contrast, gender relations in the Andes is claimed to search for harmony between the feminine and the masculine. Men and women derive dignity and respect from adhering to their culturally assigned roles and places in households and community collectivities. “The objective of Andean marriage is to form a ‘secure’ partnership which should have a sustainable union of two opposite elements (man-woman), to form the ‘hiwasa’ or ‘ñuqanchis’ as one single indivisible category, the expression of a fundamental unity on the basis of which complementarity is constructed” (Cáceres 2002:40).

In this Andeanist worldview, the gender gap in rights to water (and land) is not a cause for concern. Women are ensured of a fair share of resources and incomes through family and community networks. As Grillo argues, “the love and respect our culture attributes to women is beyond doubt. Women are recognized as most valuable in families and communities, and only women can be at the center of both. The scientific tendency to construct women as individuals is grossly impertinent in the Andes and a direct consequence of the homogenizing tenets of imperialism” (Grillo 1994:14).²⁸ Women do not, therefore, need individual rights to water. Water rights are family rights, and control over water is vested in household and community collectives, rather than in individuals. Whenever gender conflicts occur they are caused by ‘outside’ influences, such as colonialism, occidental and urban ideologies, national legislation and development interventions.

The above description of the four main monocular regimes in Andean gender discussions is admittedly stereotypical and does not do justice to the detail with which many scholars study gender relations in the Andes. It remains nevertheless true that many existing studies and most debates about gender and irrigation can be quite straightforwardly identified as belonging to one of the four views. When comparing the four discourses, it is striking that there are similarities between the proposed strategies for change of the ‘feminist’ and ‘neoliberal’ – as well as between those proposed by the ‘engineers’ and ‘Andeanists’. The first two are in favor of supporting individualized rights of women, and propose changes in the current legal system to make this possible. A difference between the two is that the ‘feminist’ discourse links the legal possibility for women to own property with its redistribution, and thus couples legal reforms with water- or land reforms. Neoliberal approaches, instead, believe that water rights are best allocated through market mechanisms. Governments must ensure that men and women are formally able to participate in markets and the question of who obtains (most) rights to water is best decided through the ‘invisible hand’ – so that water is used there

28 According to Grillo (1994:15), one of the founders of the PRATEC group: “... the ‘individual woman’ is a phenomenon that is specific to imperialism and does not have any relevance elsewhere”. The construct of autonomous women is seen by Grillo as requiring the destruction of the human community and all affective relationships, which are then supplanted by formal property contracts and forms of social hierarchy and subordination that are hostile to the Andean culture.

where its marginal returns are highest.²⁹ The ‘engineers’ and ‘Andeanists’, by contrast, see no need for women to own property individually, arguing that their membership of household and community collectivities entitles them to the access and benefits of collectively owned properties. Where the engineers’ bureaucratic approach simply assumes that all benefits trickle down to the whole family and, typically, further disregards all gender issues, the Andeanists do pay special attention to women’s important roles, as idealized constructs, and fear that granting individual property rights to women would cause disruptions in families and communities, leading for instance to divorce and internal struggles.

In order to analyze the tenets and assumptions of these monocular views the next section explores the adequacy of these approaches on the basis of own field research and a review of a large number of gender and irrigation studies. For this purpose, it is necessary to base the understanding of water control and gender-biased entitlements to water on an analysis that goes beyond a simple distinction between the ‘haves’ and the ‘have-nots’. The analysis makes use of the conceptual tools detailed in chapter 2 and 3 (see also Boelens and Zwarteveen 2001, 2003).³⁰

11.4. Gender dimensions of water control in local Andean irrigation systems

The contents and meaning of water rights is not a ‘given’ but subject to change over time, and subject to discussion, negotiation and struggles. Water rights can be understood only in their particular irrigation and livelihood context. To open the ‘black box’ of water rights, chapter 2 provided conceptual tools. Chapter 3 added the notion of the conceptual ‘domains of water control’. With these tools, the section below, prepared together with Margreet Zwarteveen, reviews water rights contents and practices, concentrating especially on what in chapter 3 is labeled as the three ‘functional domains’ that constitute the triangle of water control in practice: *the socio-legal*, *the technical*, and *the organizational domain*.³¹ The socio-legal sub section concentrates on the gendered-ness of mechanisms for acquiring water rights. The technical and operational sub section focuses on gendered-ness of water operation and distribution practices in the field. The organizational sub section (which differentiates the household, the community and system, and the supra-community inter-institutional levels) analyzes how water organizations and their structures, rules and roles are gendered. The distinction between reference rights, activated rights and materialized rights (chapter 2) helps understand why water rules, schedules and other agreements that have been formally agreed in meetings of water users’ organizations are often different from actual practices in the field. What is bargained about, and what is open to negotiation, may also differ between the household and the community or water users’ organization. Two broad questions guide the exploration. One relates to the importance of water control for women, and for gender equity. How important is water for women, and how important

29 In relation to the privatization debate, as Ahlers (2005) and Zwarteveen (2006) rightly point out, some feminist scholars have similar arguments as the neoliberal school, arguing that privatization and private water property titles for women would improve women’s participation in markets, strengthen their bargaining position and opportunities to receive credit, decrease gender inequalities and empower women. As such it would improve farm productivity (e.g. Deere and León 2001 for Latin America).

30 As such, it is a first attempt to provide an understanding of the gender gap in rights to water that is not based on an *a priori* judgment of whether this gap is problematic or not. For our more elaborate analysis of cases, see Boelens & Zwarteveen 2001, 2003; Zwarteveen & Boelens 2006; Roth et al. 2005.

31 The political-economic and cultural-metaphysical ‘embedding domains’ (chapter 3) are not used in this categorization but provide the context of the case analyses, and have been dealt with in depth in other chapters.

are women for water? The other is about the linkage between formal rights and actual control. In all, the image of gendered irrigation realities that is thus constructed serves as a contrast to the ones produced by the four monocular regimes of presentation.

The socio-legal domain of water control and the acquisition of water rights

In most Andean irrigation systems, water rights are officially registered in the names of men. Legal systems, rooted in paternalistic Napoleonic law, granted few legal powers to women (chapter 8; Boelens et al. 2006b; K. von Benda-Beckmann et al. 1997). In line with the above polarized discussion about gender relations in the Andes there are different interpretations of the significance of such registration. Is registration in the name of men a merely formal, administrative, issue, which in itself does not convey any meaning as regards *who* in a household is endowed with the powers that a right embodies? Or is registration in the names of men a reflection of men's greater control over water? One way of exploring this question is to move beyond mere registration, and study the actual contents of rights. How are the mechanisms for acquiring water rights (see chapter 2) gendered? An inventory is given below:

- ***Concession*** of water use rights, granted by Andean countries' State administrations, is officially gender-neutral (Vera 2006a; WALIR 2002). In practice, individual entitlements are granted to 'heads of households', a status which is normally associated with men. Only single, divorced and widowed women who own land thus can acquire water right concessions (Stolen 1987; Campillo 1993; Radcliffe 2002). Official registration of water rights is mostly related to land titles. Stolen describes, for example, how in Caipi, Ecuador, when the hacienda was parceled out, all land titles were locally registered in the names of both spouses. The Agrarian Reform Laws made this impossible, because land could only be registered in the name of the (usually male) family head.
- ***Historic and socio-territorial rights***. Rights over water sources originating in or flowing through a geographical territory, which are granted to the inhabitants of this territory (either 'riparian rights' or 'prior appropriation rights'), are mostly granted to user groups or communities. Therefore, recognized membership of a community is crucial. Whether or not women are recognized as members depends on local definitions of community membership but in most cases, even though the State-sanctioned property-holders may be men, women are also locally considered as co-owners. However, this may differ, also according to local water availability conditions (e.g. Vera 2006a, 2006b).
- ***Transfer*** of water rights from one right holder to another:
 - ***Purchase and sale***. In many Andean peasant communities selling and buying water rights is not allowed or is possible only under stringent conditions, to avoid accumulation of water rights in the hands of a few people, and to avoid the loss of community control over water allocation. Transactions between right-holders within a community are usually allowed, particularly among relatives, but often have to be approved by the community water users' organization. If a sale is allowed, both men and women can buy and sell water rights. Gender differences in water trading occur mostly as a result of differences between women and men in their access to capital and markets.

- *Rental*. Rental of water rights on a semi-permanent basis is a current practice among tenants and sharecroppers. In principle, both men and women can rent water rights in this way, but local customs may differentiate on the basis of gender.
- *Barter*. Barter refers to semi- or non-permanent exchange of resources. For instance, when female farmers (e.g. widows) do not have access to enough labor for irrigation maintenance and construction activities they may authorize someone else to use their land- and water rights in exchange for labor, seeds and animal traction and divide the harvest (sharecropping ‘*al partir*’ or ‘*trabajar en compañía*’).
- *Donation*. Water rights may also be transferred in the form of a gift. Donating water rights is often an element of alliance-building strategies. The gender characteristics of donation depend very much on the context of these social strategies.
- *Inheritance*. Inheritance rules for water rights vary widely across and even within Andean communities. In most households and communities both sons and daughters can inherit water rights but there are also communities that practice patrilineal inheritance of water rights (e.g., Verzijl 2007). There are also cases in which subdivision into many small turns or flows is avoided by appointing only one heir who may be either a woman or a man. Water rights, being considered a ‘family right’, commonly stay with the wife and children when the husband dies or abandons the family - in exceptional cases these rights pass to the community or male family members (e.g., Vera 2006a).
- *Marriage*. Through marriage young couples and their families can get water rights. In some water scarce zones women have to marry for this purpose (Vera 2006a).³² Also males rely on this strategy, as one comunero in Manyaccla, Peru replied: “when I married, my wife’s water came to be mine” (Paniagua 2005:39). For poor households without access to land and water, marrying off one of their daughters to a propertied household is one mechanism to secure their livelihood, but often comes at a high price for the respective daughter. Without social protection from her relatives and friends, she is vulnerable to exploitation and envy (e.g. de la Cadena 1997; Arnold 1997). Women tend to lose such rights upon divorce whenever they are expected to return to their birthplace communities (cf. de la Cadena 1997; Verzijl 2007). As Gutiérrez and Cardona (1998b:14) describe, there are also instances in which water rights are divided between the genders in case of divorce.
- Acquisition of water rights *by force*. Both male and female small-holders are affected by historic incidences of water expropriation, particularly when the community’s collective rights were taken away by powerful intruders through coercive force, situations which subsequently have often become institutionalized in local power structures. When the use of force is applied within community contexts, female water users (single women, widows, female-headed households) may face extra difficulties whenever the community does not sufficiently protect the individuals within the collective (see e.g. Jácome and Krol 1994).
- *User investment*. By investing their own resources (mostly labor, but also capital, goods and intellectual and organizational inputs) in the construction or rehabilitation of irrigation infrastructure, water rights are earned by those to whom the investment is attributed. This is com-

³² At the same time, virilocal residence patterns upon marriage (e.g. Carafa, 1993; de la Cadena, 1997) may lead to women losing their inheritance rights when marrying, in favor of their brothers.

monly the family, or the formal head of the family (mostly men), or in some cases the individual water user (male or female) (see, e.g., Arroyo and Boelens 1998; Jácome and Krol 1994; Kome 2002). In some Andean communities the gender division of labor, which is based on notions of men's greater physical strength and which labels certain tasks as not suitable for women, reduces women's participation (Vera 2004; Gutierrrez and Cardona 1998a). In many other cases, as in the Peruvian communities of Santa Rita and San Marcos (Lynch 1991, 1993) and Cotahuasi-Piro and Quillunza-Huambo (Meier 2000), women are only allowed to take part in faenas when they are single, divorced or widows. If women do provide labor during collective working days (faenas, mingas), their contributions may be valued less than those of men (Harris 1985; de la Cadena 1985; Lynch 1991, Tuijelaars de Quitón et al. 1994).³³ Timing of work parties may further hamper women's participation for those who also have domestic and care-giving duties. The net result is that women often have fewer chances to participate in the creation and maintenance of water rights (Prins 1996; Jácome and Krol 1994; Lynch 1993), in other cases they do get water access, voting and representation rights, when this is a family-awarded right (Gutiérrez 2006), and in special cases they may be exempt from labor contributions.³⁴ In many communities gender divisions of labor change as a result of intermittent or permanent male migration and thus scarcity of male labor. In communities where this is the case, women are often allowed to engage in tasks that were traditionally confined to men,³⁵ and enjoy both water access and control rights.

This list suggests that there are a number of reasons to explain why formal registration of rights in the names of women is less likely to occur than registration in the names of men. Of importance is that water rights in most Andean peasant and indigenous irrigation systems refer and apply to family collectivities. Since men are considered heads of these collectivities, they are the ones in whose names rights get registered. In theory one could argue, as the 'feminist' discourse does, that registration in women's own names is important because it provides the legal backup and reference to the different powers and claims that are associated with a water right, and thus makes right-holders less vulnerable in negotiations about water at inter-institutional, community and household levels. Yet not all women in the studied irrigation systems would agree to the importance of formal rights. In some systems, male-biased registration was seen as merely a matter of conforming to external requirements, whereas inside the system rights were considered as belonging to families, not individuals.

Gutiérrez and Cardona describe the case of Combuyo in Bolivia, where water rights continued to be registered in the names of the 'heads of the family' (in most cases a man), in spite of high labor contributions of women to working parties. Female irrigators reportedly did not attach much

33 De la Cadena, for instance, observed for the case of Pusacpamba, Concepción, Peru, that although the sexual division of labor is complementary, the valuation of male and female contributions is not equal: "We have seen how women have to work two days that are counted as one" (de la Cadena 1985).

34 Sometimes, special 'right allowance' arrangements are made by the community for those persons (e.g. disabled, widows, single mothers) who cannot participate fully in the generation and maintenance of rights. For example, in the community of Marcahuaylla (Peru; see chapter 3) they were exempt from labor contributions while getting water rights in return for other contributions (Boelens and Temmink 1990). In Licto, women succeeded to locally institutionalize a 'pregnancy certificate', giving them the right to pregnancy leave without losing water rights (see chapter 13).

35 For example, in the Licto system in Ecuador, in a context of male migration and struggle for gender and ethnic emancipation (see chapter 7, 13 and 14), women's participation in collective labor days for construction and maintenance was valued equally to that of men, and female irrigation leaders were often in charge of the organization of both male and female workers for those *mingas* (Arroyo and Boelens 1997, 1998).

importance to this formal registration, because they conceived of it as a mere administrative issue. According to the authors, irrespective of who appears on the list of formal right-holders, rights are seen to belong to the family as a whole. Some women did even express a preference for registration in the names of men, “because it carries more respect” (Gutiérrez and Cardona 1998a). In Pungales, Ecuador, women were likewise found not to attach great importance to formal registration. Two female irrigators said: “We consider ourselves as the real right holders, because we have been working since the beginning of the project and everybody knows that we were the ones who have contributed labor. This is why we are the right holders, and he only is a right holder in name” (Jácome and Krol 1994:26). In contrast in Licto, also in Ecuador, women proposed a change in the normal registration procedures so that rights would be registered in the names of *both husband and wife*, instead of only in the names of the ‘head of the household’. One reason was that the inclusion of both wife and husband as members allowed for more flexibility: the woman, the man, or both would be able to attend meetings. But more important, when their husbands migrate, it would give women the power to deal with both the irrigators’ association as well as with the State agency and other ‘external’ agents. Joint membership also opened possibilities for women to occupy leadership posts in the organization (Arroyo and Boelens 1997:128-129).

Such diverse and even opposing perceptions of the importance of registration, and of the concept of ‘family’ or ‘household’ right, underscore the need to understand rights in the context in which they obtain meaning. The ways in which, and in whose names, rights are *formally* registered may well be relatively unrelated to *local* rules of water distribution, which in turn may have little bearing on *actual* water distribution practices.³⁶ In both official and local law water rights definitions (reference rights) may differ greatly from the ways they are implemented in practice through specific rules, procedures and gendered power relations (activated rights) and, in their turn, these rules and procedures may lead to unforeseen outcomes for the genders (materialized rights) (cf. F. and K. Von Benda-Beckman 2000, Boelens and Zwartveen 2001, 2003).³⁷

As a consequence, it is too simple in the diverse Andean context to embrace the concept of community-based and ‘family controlled water rights’ *in general* as a harmonious institution, whereby the male-biased registration of water rights is simply done away with as ‘only because of official imposition’ or is explained as a function of Andean complementarity – ‘males represent the family interests in the public domain’. Alternatively, Andean reality forces us not to extrapolate separate intra-household economies and gendered property rights from other regions of the world to the Andes, or criticize the notion of Andean family rights *in general*. The contents or compositions of this multi-layered family water right, and the way genders are or are not involved in important aspects of this right, differ per context.

36 Official registration rules are male-biased and may be incorporated in the *formal* regulations of local systems without however being practiced; local rules may grant rights to the whole family but in practice the use of this right may be male-dominated; local rules may grant water rights to the head of household while in practice it may be considered and practiced as a family control right, etc.

37 In some systems this male-biased registration is merely seen as a matter of formalization according to external requirements, while maintaining internal rules which consider and activate water rights as family controlled rights (by both genders). In other systems this male-biased legal administration has been internalized over the last decades or centuries and has become part of the local normative framework governing local irrigation systems. In a third type of systems male-oriented registration or conception of rights was practiced already from the beginning, and official and local normative frameworks reinforce each other.

The technical domain of water control

A difficulty when thinking about gender, water rights, and technical-operational irrigation system constraints and opportunities is that water needs and interests are often not clearly gender segregated. The degree and nature of men and women's involvement in the different field-related irrigation activities vary a great deal among households and among communities. The perception of irrigation as a male task may refer more to ideologies than to actual practice. In some cases, specific irrigation tasks are related to gender. For instance, Bunker and Seligmann (1986) found that, in a small scale system in Cuzco, men were primarily in charge of water application on the field and women were responsible for watching the irrigation canals. In the Bolivian systems studied by Tuitelaar de Quitón et al. (1994) and Gutiérrez and Cardona (1998a) the tasks of canal watching and securing delivery was done by the family members on a rotating base. Also in Ceceles, Ecuador, both men and women operate the rustic canal structures and watch the canal. It is often not possible to straightly identify water interests along just gender lines, nor can gender divisions in labor and roles as found in one locality be generalized for the Andes (Boelens & Zwarteveen 2001, 2003). All women, even in one community, do not necessarily share the same needs and interests regarding water, nor are women's needs and interests always different from those of men. The preferences of any individual as regards water scheduling and distribution are determined by many factors and are not just a function of the person's gender. How gender affects priorities for irrigation design and operation is, therefore, not something that can be predicted on the basis of prevailing gender ideologies that assign certain tasks to women and others to men.³⁸

In fact, as Zwarteveen (1997) argued, demonstrating that women have specific needs with respect to water has been (and continues to be) an important strategy of Women in Development (WID) and gender scholars to get women on the irrigation agenda. Most convincing in this respect was that women, as mothers and domestic care-takers, use water for domestic purposes. This strategy enables demarcation of a clearly identifiable, separate 'women's water domain', distinct from 'men's water domain'. Such demarcation helps in the task of 'making women visible', of formulating women's water interests and of devising 'gender components' to irrigation projects. However, while some water practices may be more gender specific, the irrigation reality is often not so neatly and universally 'gendered' as this strategy would have it (see Zwarteveen 2006). Instead, such separation reinforces, and is being reinforced by, those monocular regimes which portray men as producers and women as reproducers: it relates to the manipulative invention of 'gendered traditions' mentioned earlier in this chapter. Accordingly, irrigation technology is moralized and water rights normalized with an outright masculine-feminine role perception, and women's access to the presumed 'male water domain' of irrigation, often a nucleus of local power, may get even worse.

All this being said, three technical and operational issues around which gender differences are likely to occur can nevertheless be distilled from the various studies:

- In many Andean communities, women (more than men) are interested in being able to use irrigation facilities for other purposes than just irrigating: e.g. drinking water, washing clothes, watering vegetable gardens, revitalizing nearby bushes for feeding animals and firewood gathering, or bathing children. The proximity of irrigation canals to their houses makes irrigation systems a

38 See, e.g., Ahlers and Smits 1991; Arroyo and Boelens 1997; Bastidas 2005; Bennett et al. 2005; Gutiérrez 2006; Gutiérrez and Cardona 1998b; Jácome and Krol 1994; Kome 2002; Lynch 1991, 1993; Montalvo 2001; Tuitelaar de Quitón et al. 1994; Vattuone et al. 1996; Vera 2006a, 2006b; Vokral 1991.

much more attractive source of water as compared to other sources, which may be much farther away (Bastidas 2005; Lynch 1991; Vattuone et al. 1996; Tuijtelaars de Quitón et al. 1994). The use of irrigation water for such purposes places specific demands on the quantity, quality, and spatial location of accessed water.

- Women and men may also have different preferences for the operation and scheduling of irrigation water deliveries. Because of their domestic workloads, women often have less flexibility and time for irrigating. In some communities, women therefore prefer a continuous water flow and field canals close to their homes, in contrast to men who may prefer non-permanent rotation turns that would enable them to irrigate with a larger flow in less time (cf. Jácome and Krol 1994, Hendriks 2002).
- Many studies also report that women would prefer to avoid night irrigation.³⁹ They fear gender-based violence when they have to go out at night, while irrigation at night also reflects negatively on their social status as a woman and may arouse a husband's jealousy and anger. Night irrigation is often also difficult to combine with the care of small children.⁴⁰ By contrast, men may sometimes prefer night irrigation. In the sprinkler irrigation system of Penipe in Ecuador, for example, we found that men preferred irrigating at night to obtain higher irrigation efficiencies (less evapotranspiration at night) and to avoid sun burns to leaves of plants (Arroyo and Boelens 1997). Ooijejaar and Van Reedt Dortland (2003) found similar evidence in Yurraccaccay, Peru. In the words of a male irrigator: "Irrigation during the night is even better than during the day because there is less evaporation and the ground is less dry, so it absorbs the water better and is more efficient". But a female irrigator said: "I don't like to irrigate at night. It is very dangerous for women because men are drinking during the night and walk around bothering the women". Another woman said that she commonly lost night turns: "Sometimes I pass two turns at night, but in the end, sometimes I have to irrigate at night as well" (Ibid:54). In Bolivia, similarly, in spite of the dangers and problems, actual observations show that women (just as men) do go out at night to irrigate when it is their turn (Tuijtelaar de Quitón 1994).

This list suggests that women, like men, have clear opinions about the technical and operational requirements of an irrigation system. Whether and how these needs and the ability to satisfy them are gendered is a less clear. In some case studies women are observed to have their own strategies to influence water distribution and operation decisions in their favor (e.g., Jácome and Krol 1994), whereas in others (Van der Pol 1992; Bourque and Warren 1981; Radcliffe 1986) they don't. For example, in Alto Piura in Peru, female heads of households complained that they always had to irrigate at night, in spite of the official rule that distributed night turns equally. Since male irrigators had better relations with the irrigators' committee and the 'water delegate', they were often more successful in negotiating day-turns (Van der Pol 1992). In the feminized Licto communities, after the Ecuadorian State agency had planned night irrigation in its designs, the users together with an NGO successfully challenged this, included storage reservoirs and so avoided night shifts (Boelens 2002; see chapter 13).

39 Ahlers and Smits 1991; Arroyo and Boelens 1997; Krol 1994; Montalvo 2001; Van der Pol 1992.

40 In Pungales, Ecuador, female water user Clelia said: "When the husband is at home, he is the one who takes care of irrigation, but in homes where men migrate, women assume all the responsibility. For them it is really hard. Also single women have to take up irrigation more strongly. They must irrigate at night in order not to lose their turns. Since taking care of the children is mother's responsibility, she has to leave the children alone when she goes to irrigate, and so many problems arise when a child wakes up, starts to cry, when children are left unattended. As we use to say, only the bravest woman leaves at night" (in Arroyo and Boelens 1998:110-111).

Whether or not women's specific needs are taken into account when designing an irrigation system crucially depends on (the ideas and interests of) those involved in the design and construction process. Since women often do not form part of this process as decision-makers, the technical layout (e.g., the possibility to use irrigation water for domestic purposes) and the operational requirements (e.g., the need for night irrigation) of new infrastructure may, as a result, be geared more towards men's wishes. Not all is fixed by the design, however. Since these systems are quite small and relatively easy to modify, women (and men) may still be able to 'adapt' the system after construction.

How important is it for women to acquire technical control over water? Apart from certain gender-specific water use objectives they may have, and apart from the general advantages one has when he or she is able to control the water, in many Andean communities a most pertinent reason for women themselves to want more technical and operational control is male migration. It is not uncommon to see water rotation schedules decided at meetings of the users' organization but, as community leader Maria Paca (Santa Rosa, Ecuador) explains, arrangements where only (migrant) male water users decide about operational water control are not very effective: "Husbands migrate and come back after a year, others in three months, two weeks. So, they don't know when meetings and work take place. Meanwhile, women are there, in the community, and they know which day the meeting takes place, which days are working days, and so on" (in Arroyo and Boelens 1997:150). When only men are seen as the organization's members, and meetings are scheduled around times when they are present (often on weekends)⁴¹, decisions are thus taken by husbands but it is mainly women who have to implement them. Also, while male migration often induces many organizational and practical changes, user communities often may be quicker to accept changes in the decision-making structures than the very NGOs or State agencies that assist irrigation development.

The organizational domain of water control

Looking at the above cases suggests that the importance of formal water rights significantly depends on the social arena in which such rights obtain meaning and significance; its importance may be less at household and field levels, and more at community and supra-community levels. The next sections, therefore, focus more closely on the levels of the household, the community and the system, and the supra-community inter-institutional level, to explore the contents and expressions of rights in these social arenas.

a. The household level

How water is used, for which crops, how irrigation tasks and costs are divided and how benefits derived from the use of water are shared, are all decisions that largely occur within the household. Thus, it is here that a large part of the contents of a water right are determined. The assessment of whether this happens in a more or less 'fair' way is related to the broader question of how to conceive of households. The four monocultural regimes all visibilize the concept in a different, often essentialized, way. Although these views significantly influence policies and intervention strategies, in practice it is not easy to categorize Andean households and their functioning according to these stereotypes. Adding more complexity, what constitutes a 'household' in the Andes cannot be

⁴¹ Ironically, NGO and agency staff involved in irrigation projects tend to proudly boast about their commitment to contribute to a community's development by referring to their willingness to sacrifice free time during week-ends. This is, according to their interpretation, because 'during the week there is nobody in the community'. This interpretation reflects more general ideas that women are not knowledgeable about irrigation matters.

answered straightforwardly, but is time-, space- and context-dependent. The household composition is not fixed and its boundaries are constantly changing (Weismantel 1989). This also means that, within a community system, affirmation (consolidation) of internal water rights not only requires continuous re-affirmation of the rights themselves (see chapter 2) but also re-affirmation of the very household to which the rights are linked. Permanent or intermittent migration of some members, birth or people passing away, but also numerous forced or voluntary social relationships determine the actual household composition. Mayer correctly argues that the fuzziness of boundaries among households requires their members to provide “social and cultural work to affirm a household’s existence [...] The independent household needs to be constructed and asserted in every moment, at every step, and with every activity, against the tendencies and forces that want to slow or impede its formation or speed up its dissolution” (Mayer 2002:8).

Moreover, the very act of defining a household is not up to just the family itself, but is politically contested by others. Apart from bureaucratic State interests (e.g., tax-payment, recruiting of *corvée*-laborers, etc.) and the interest of intervention projects (again, *faenantes*, and the definition of ‘right-holders’ to land and water, for example), also the communities and user organizations themselves have strong interests in establishing the definitions: basically, Andean communities assign obligations and rights to households and not to individuals. So, although households in Andean communities are commonly ‘independent’ in the sense that each household internally can decide about the allocation of its labor, land, water and other resources, when it comes to community water control activities, often the latter sets restrictions as to age, gender or other criteria. Allocation of land and water rights to households in a community, therefore, will follow boundary definitions that are contested and need to be re-affirmed time and again. This affirmation is done both by the family (e.g., interested in more rights, less obligations) as well as by the collectivity that for its survival tends to stress especially the household’s obligations, and places the individual households’ rights within the overarching framework of its collective rights and the distribution of resources among all community members.

The dynamics of households make it difficult to generalize about the gendered effects of formal registration of rights in men’s names. Also, the household encompasses divergent ways of membership interaction. Members, with differential power bases, do not always have shared objectives and often strategically confront each other, negotiate, seek to materialize their interests, even when conflict minimization may continue to play a fundamental role. At the same time, members cannot act as free agents, each pursuing individual goals in depersonalized ways. Households do exist, and belonging to a household has a clear significance for its members, who are bound by ties of affection, kinship solidarity, mutual protection and collaboration, as well as normative role patterns. The balance between these ‘moral and political economies of the household’ is place-, time- and context-defined (see Cheal 1989). This balance, of struggle and affinity, of gender-specific claims and mutual solidarity, is shaped, as Mayer (2002:10) observes, within a framework of culturally prescribed normative roles, which a person should conform to and sometimes even may radically challenge, but at the risk of being labeled deviant.

Even though not all household members contribute equally to it or share from it, the production of irrigated crops is not considered an individual enterprise but seen as a joint responsibility of all that fits within the larger shared goal of household survival. In this respect men and women belonging to the same household in general do not have conflicting irrigation interests or needs: both want to optimize allocation of available household labor and resources to irrigation to produce a good harvest. Intra-household struggles over irrigation water itself are not common, and if they occur

they are often linked to or the result of larger conflicts between household members rather than originating in this resource (see Harris 1985; Carafa 1993; Krol 1994; Vokral 1991).⁴² The division of irrigation tasks often corresponds to the division of decision-making powers inside the household, or is delegated to those who actually irrigate. For example, in Pungales, Ecuador, intra-household decision-making follows diverse patterns: “While women usually control household revenues, irrigation is usually decided by the husband. When he is around, he takes the lead, even when he has been away for a long time. The wife then loses her autonomy and can either argue with her husband’s decisions, or simply accept them. In the case of Mercedes, she does not mind that Pancho takes over when he is around, because he also takes over a lot of work. Juana relies on her father for making irrigation decisions. When she wants to irrigate, she has to wait until he has finished. In the case of Nela and Alfredo, however, it is Nela who has a lot of influence in field irrigation decisions and Alfredo often asks for her opinion” (Jácome and Krol 1994:42).

Important in shaping irrigation work divisions are the composition of households and intra-household organization in relation to overall household livelihood strategy.⁴³ Women commonly have triple tasks in the house, the field and the community, and men’s availability often depends on whether and how long they have jobs outside of the village. An important effect of male migration is that women also increasingly get involved in those tasks that used to be seen as masculine. Male migration reduces the total amount of labor available as a result of which the logistical organization of tasks in the fields, offices and homes becomes more difficult. The care for small children, for instance, is an activity that is typically difficult to combine with agricultural and irrigation tasks, especially if the canals and the fields are located at some distance from the home (Lynch 1991; Montalvo 2001; González et al. 2003).⁴⁴ If there is enough cash, family labor can sometimes be replaced by hired labor. Women’s greatest agricultural participation, relative to men, is found among the poorest strata of the peasantry, those without sufficient access to land to produce their full subsistence requirements, and among those households where the man works full time in wage-earning labor. In terms of labor contributions, physical availability rather than gender seems to guide which household members work in irrigated agriculture.

Indeed, while in much of the Andes the tasks of field irrigation and canal maintenance used to be labeled as strictly masculine⁴⁵ – a vision reinforced by the ‘engineering’ monocular regime – this strong association of irrigation with masculinity no longer guides the present-day situation in many systems. This book’s cases and the studies’ review invariably report involvement of both men and women in irrigation. They also show that both possess irrigation knowledge, know the irrigation schedule and the timing of their turns, how to guide water to their fields and how to close the different outlets.⁴⁶ In Bolivian irrigation communities, children (girls as well as boys) at the age of five

42 In terms of water, intra-household conflicts may often relate to decisions about investments deemed necessary, the selling or renting out of water rights, and to questions of what would happen to the family’s water rights in case of divorce. Women, especially when their relations with their family-in-law are not very good, often fear that they will remain without any sources of income when their husbands leave or die. Krol (1994:44) for instance describes a fight between a husband and a wife about how to divide the irrigated lands after they separated. This study also tells the story of Narcisca, who felt insecure about her water security because her rights were registered in the names of her parents-in-law.

43 Lynch 1991; Arroyo and Boelens 1997; Jácome and Krol 1994; Vattuone et al. 1996; Bastidas 2005; Montalvo 2001; González et al. 2003; Bennett et al. 2005; Vera 2006; Vokral, 1991; Weismantel 1989.

44 In most cases, women take their small children along whenever they have to go to irrigation affairs, to the fields and to meetings (Montalvo 2001; González et al. 2003). One woman explained: “It is a problem with the small children, I do not have anyone with whom I can leave them, but I have to irrigate. Sometimes I have to take the child along, and I carry him while irrigating” (cited in Jácome and Krol 1994:42).

45 Bourque and Warren 1981; Krol 1994; Lynch 1991; Radcliffe 1986; Tuijtelaar de Quitón et al. 1994.

46 E.g., Ahlers and Smits 1991; Arroyo and Boelens 1997, 1998; Bunker and Seligmann 1986; Gutiérrez and Cardona

already know how to irrigate. When they are eleven, they understand how water is distributed and scheduled within the community (Gutiérrez and Cardona 1998a:21).

The evidence reviewed provides considerable justification for rejecting the ‘harmonious’ household model, without altogether rejecting the notion of a household collectivity. Clearly, not all household members are equally well positioned to defend their needs and interests. Although the insecurity of women’s land and water tenure does not normally lead to direct conflicts over irrigation, it may well be weakening her intra-household bargaining position. The insecurity about whether or not they will obtain a share of the land and water resources in case of divorce may make women reluctant to question their husbands. Women’s fall-back position is often much weaker than that of men. The fact that water rights are mostly registered in men’s names is one factor that contributes to this weakness. Other important factors include men’s generally stronger rights in land⁴⁷ and their greater mobility and chances of finding paid employment. Together, they make the ability of men to physically survive outside the household far greater, which in turn increases men’s bargaining power within the household.

b. The community and system level

The general picture that emerges from the various gender and irrigation studies in the Andes (which is not unlike the picture elsewhere in the world, see for instance Meinzen-Dick and Zwartveen 1998), is that the degree of female control of irrigation decreases the further one moves upstream from the farm inlet to the main intake of the system. Women may have quite some influence on decisions relating to on-farm water applications but as for the management at the level of the entire system female involvement is most limited. For instance, very few women occupy leadership posts in the water users’ organization.⁴⁸

The lack of women in formal meetings of water users reflects an ideological separation of the world into a male public sphere and a female private sphere. Men, as household heads or as land right holders, are considered to be the ‘logical’ representatives of households in irrigator’s meetings. In addition to male biased membership criteria, further obstacles to female participation are related to women’s lower literacy levels; the fact that more women than men do not speak Spanish; women’s lesser mobility; and women’s work schedule which affects the times they are available for meetings. Public decision making in the Andes have historically come to be regarded as typical male activities and abilities. To be outspoken, rational, and able to clearly articulate arguments to support one’s interests are qualities that are generally evaluated positively when found in men (Carafa 1993, Vera 2006a), but when found in women it may reflect negatively on their status *as women*. What makes matters worse in the irrigation sector (as compared for instance with the domestic water supply sector) is that involvement in irrigation itself carries a masculine label. In the case of Pungales in Ecuador, women explained that they felt reluctant to voice their concerns at water users’ meetings: “We are afraid to speak up, to talk and make a mistake, because when one makes a mistake everyone laughs, so what we do is stay quite... Men have less reticence because they have more experience speaking” (Jácome & Krol 1994:54).⁴⁹

1998b; Jácome and Krol 1994; Montalvo 2001; Vattuone et al. 1996.

47 Cf. Deere and León 2001; K. von Benda-Beckmann et al. 1997; Zoomers 1998, 2006.

48 E.g., Gutiérrez and Cardona 1998a; Kome 2002; Krol 1994; Lynch 1991; Paniagua 2005; Vera 2006b.

49 In the case of Combujo, close to Cochabamba, female participation in users’ meetings has become much more accepted because of high intermittent male migration. If male household members cannot be present at meetings, female users can replace them. A gender difference was nevertheless observed as regards the topics women and men were more likely to raise. Women were more likely to raise their voice about themes of direct concern to them, and less when political matters

As with participation in meetings, the qualities for assuming official functions in organizations are often much more associated with masculine gender attributes than with feminine ones. In the Combuyo case in Bolivia, although women's participation in the meetings was quite substantial, women were not deemed qualified to occupy the post of water judge: they would not wield the same amount of respect, and "the character of women is too explosive to solve water management disputes harmoniously". Both men and women referred to such gendered role characterizations to explain the lack of women occupying leadership posts (Gutiérrez and Cardona 1998a. Cf. Tuijtelars de Quitón et al. 1994; Vera 2006a). As a general pattern, despite their attendance of the *asambleas de agua*, few women occupy formal posts. Authors who subscribe to the universalist-feminist view see this as a manifestation of gender inequality. Andeanist scholars, instead, see the fact that public decision-making tasks are mainly confined to men as rooted in an overall complementary division of labor (e.g. Sánchez and Arriata 1997). Neither interpretation fully explains the diverse, complex realities of men and women in water users' organizations.

On the one hand, the fact that women participate less in user organizations is not as straightforward an indicator of their lack of possibilities to influence water control as some feminist scholars would have it. The relationship between formal participation and actual control is not a direct one. Women often have less formal and thus less easily recognized ways of influencing irrigation-related decisions, for instance through intra-household bargaining with men, and through female networks. In an irrigation system in Ecuador, for instance, women (in addition to participating in meetings) meet among themselves to re-schedule water turns (Krol 1994).⁵⁰ Indeed, the view that women are 'excluded' from water control decisions may well turn out to be ideological, resting on too limited a notion of decision-making as taking place exclusively within the formal and public realm.

On the other hand, the fact that women succeed in getting their water needs accommodated through negotiations with men or women in other domains cannot be straightforwardly construed to imply that more formal participation of women in users' organizations is not necessary. Gaining access to and control of irrigation through indirect and informal means may increase women's dependence on others. Such access may not always be very secure, while control over water that is not sanctioned by publicly devised rules risks to be influenced by unequal power relations. For instance, when women's control of irrigation is (partly) determined within the domain of the household, the degree of control women have becomes subject to the quality of their intimate relations with their husbands, sons (or sons-in-law) and fathers. This may be a vulnerable basis for control.⁵¹ Furthermore, in migration zones, many households simply cannot rely anymore on men as representatives in important meetings. How successful and secure are 'alternative' strategies for influencing water control, and to what extent are these themselves subject to forms of gender discrimination? And do women make use of mechanisms to influence water management that lie outside the realm of formal organizations *because* existing gendered norms and structures make it difficult for women to operate successfully within formal organizations? Answers to these questions cannot be assumed, but only

were discussed (Gutiérrez and Cardona 1998a).

50 Non-involvement of women in public water decision-making does not necessarily mean that the 'non-involved' are always excluded. E.g., in many communities male water users can decide about crucial issues, particularly involving monetary contributions, fees, etc., only when they have first consulted with their wives.

51 Although Gutiérrez and Cardona (1998a) find water rights in Wañawaka, Bolivia, to be mutually controlled by men and women, among others because rights were worked for by both, Stolen (1997) documents how some husbands in Caipi (Ecuador) sold family fields against the wishes of their wives. Jacome & Krol (1994) and Arroyo & Boelens (1997) provide more cases in which there was no intra-household agreement about irrigation related matters. See also Harris 1985; Carafa 1993; Vokral 1991; Valderrama and Escalante 1998.

be obtained through empirical analysis.

Male migration is seen in many Andean communities to be a triggering factor in increasing women's need or ambition to become active in user organizations. Because of the obstacles described above, becoming accepted as formal organization members and leaders is not easy. It involves re-valuing female identity, re-defining work divisions and rejecting rules that tie women to specific roles. In this process, women may have to sacrifice traditional forms of respect and protection. Typically, the sexual integrity and moral virtues of women who occupy public spaces previously reserved for men are questioned. They are accused of being 'public women', and risk physical and verbal abuse because of it (Arroyo and Boelens, 1997 and 1998; Meinzen-Dick and Zwarteveen 1998).

Women's struggle for a greater voice in water control shows that it is not just a contestation about resources but also, significantly, about norms, meanings and discourses. Women who would like to occupy formal positions in organizations face the need to actively construct counter-discourses and alternative interpretations to traditional and modern machismo-marianismo ideologies.⁵² Paradoxically, those communities where the emerging need for greater female participation in water users' organization is highest (i.e. communities with high male migration) are often also the ones that face stronger influence of white-mestizo urban machismo. The machismo-marianismo model reduces the normative legitimacy of more formal female representation in user organizations. In Ecuador, women justified their attempts to participate more actively in water users' organizations by presenting such roles as logical extensions of their accepted roles as mothers and wives. They also strategically 'borrowed' elements from 'educación popular' inspired discourses in legitimizing their breaking with traditional gender roles (see chapter 13; Arroyo and Boelens 1997, 1998).

c. The supra-community inter-institutional level

As the evidence in the above sections makes clear, water rights registration, rather than its importance for protecting right-holders' access to water vis-à-vis others in the household, may be fundamental because it opens possibilities for accessing irrigation-related powers at higher levels. First, these higher levels refer to the (inter-)community irrigation system, particularly since registered membership generally is a prerequisite to join in the powers of formal co-decision, voting and occupying irrigation leadership posts. Secondly, they refer to legitimacy in the eyes of 'outsiders' (NGOs, state agencies, donors, etc.), which is crucial in processes of negotiation and defense, particularly in times of liberalization and 'glocalization'.

Andean communities' increasing involvement in supra-local or (trans)national processes, among others, through (intermittent) migration, changes water relationships both within the community and towards the outside - with important gender impacts. For instance, since male involvement in water distribution has decreased in many communities, according to Lynch, men have willingly delegated their household water responsibilities and powers to women, and water control has become less important in intra-household struggles and in reproducing gender inequities. Instead, gendered water struggles now increasingly occur around attempts to influence irrigation decision-making at community and supra-community levels, and around access to 'outside' sources of support for

52 The general discourses of *machismo* and *marianismo* have local and rural adaptations. In migrant communities in the Andes it is quite common to portray women as the "carriers and defenders of culture" and men as 'carriers of modern styles of production and knowledge' (de la Cadena 1995; Radcliffe 2002). Such portrayal carries normative associations. Traditional culture, although simultaneously glorified, is also identified with backwardness. Modernity and knowledge, although criticized, are associated with progress.

irrigation (Lynch 1991:45-46). But also at these levels, male migration makes it ever more difficult to manage irrigation as just a masculine enterprise, or to circumscribe formal, institutionalized irrigation politics to men only. In many cases it has become virtually impossible to manage the system and organize the inter-institutional alliance-building process without the involvement of women. In many water user communities women have started to claim the rights to participate in decision-making and become water leaders. Although it is not a generalized situation, there are many irrigation systems now in which women can be seen to be active leaders and, as such, spokeswomen in the inter-institutional networks.

This issue is all the more pertinent because, in many Andean communities, the irrigation organization is one of the most important community-based institutions. These organizations are important gateways to outside resources and power alliances. When communities increasingly come to depend on such inter-institutional resources for their survival, women's participation in organizations that represent the community in wider networks becomes more important. Where male-biased registration initially carried little significance for actual water decisions inside the irrigation system, this may change when irrigation communities become more connected, politically and economically, to supra-community administrative structures, markets and/or water user alliances.

11.5. The organization of visibilities and invisibilities

Clearly, all four monocular regimes fail to do justice to the complex and sometimes contradictory realities of men and women in the field. All four tend to misrepresent gender and water control constructs in the Andean region, or rather, re-represent them according to their own projects. The production of water knowledge and rights and the visibilization of water user identities, including their gendered-ness, are based on situational perspectives of the visibilizers. Certain representations of water realities serve some groups and interests better than others. It appears that fact-focusing and fact-finding in these monocular projects is largely based on their political effects: which political agendas do they serve – whose interests do they promote? Indeed, their relation to reality is not just one of correspondence, but also one of simplification and instrumental functionality. The monocular regimes of representation *organize visibilities*; they allocate gender visibilities to women and men according to their discursive interests. Thereby they often naturalize and categorize in dichotomous labels of good and bad: they distinguish among 'traditional' and 'modern', 'developed' and 'underdeveloped', 'rational' and 'irrational', or among 'patriarchal' versus 'liberated' and 'pure' versus 'occidental'. A short analysis:

In spite of the great diversity encountered in Andean communities when looking at the gender dimensions of water rights, irrigation intervention strategies and methodologies are rather uniform across the region. Rigid funding procedures, prescriptive implementation modules and timetables and 'blueprint' goal-oriented planning do not allow for the flexibility, creativity and interactivity required to understand and accommodate social and gender relations. Projects are commonly based on non-validated assumptions about gender relations, often viewed through monocular spectacle of the 'engineering regime'. A self-sustaining bias is, for example, that *all* water users are organized in 'classic households'. The man is considered as the 'head of the household', responsible for all agricultural and irrigation tasks, and the one to whom the benefits of agricultural enterprises accrue – which he is expected to share fairly with his family members. Most households, however, do not match this 'ideal' and 'stable' picture of families. Yet, such assumptions serve to justify the fact

that most irrigation projects grant all resources, in the form of rights of access to and control over infrastructure and water, to men. Women are visibilized as performing mainly reproductive functions, and may incidentally work in canal construction or water application as ‘helpers’. A result of women’s visibility as reproducers and helpers is that irrigation project staff rarely identify them as the ones to negotiate with about the new project and about land and water allocation procedures.⁵³ ‘Masculine’ themes are discussed among men.⁵⁴

The fact that irrigation often continues to be understood as a basically technical question to be dealt with by (mostly male) engineers provides another impediment to creating room for explicitly dealing with questions of gender and other social relations of power. At the same time, most social scientists and organizers involved in irrigation development refuse or fail to analyze technical designs, irrigation schedules, construction plans, etc., which would give them crucial information regarding the social and distributive norms embedded in the designs of infrastructure and scheduling. The typical objective of irrigation engineers and managers is to make more water available by controlling the flow of water according to planned technical-spatial patterns and chronological schedules. Moral disapproval of openly interfering with the ‘private’ sphere of families is often used to justify this, or worry that such interference might ‘change gender and cultural relations’. Such fears are rather naïve, because they are based on the erroneous belief that if an irrigation project does not explicitly address changes in gender relations, such changes will not occur. But irrigation intervention processes, by definition, introduce or redefine the distribution of rights to water and other benefits and obligations associated with the ‘bundle of rights’. Modifications in gender relations are intrinsic to such processes and irrigation interventions can thus never be politically ‘neutral’. When projects fail to deal with issues of gender and power, risks are greater that project benefits will accrue to those who are already better positioned.

The same phenomenon of masking and neutralizing gender politics can be observed in the biases of the ‘neoliberal monocular view’, which visibilizes women as ‘accountable female clients’. As instrumental agents they would reconceptualize water and water rights as private commodities and subdue their household economies to the laws of value and the broader market system. Water and people’s relation with water are re-presented, from a previously largely un-commoditized aspect of Nature and collectively controlled resource, to decontextualized stocks of capital that are to be managed by and exchanged among individual rational decision-makers according to where water’s marginal returns are highest. Women are visibilized as playing an important role in the capacity to self-manage the system, bringing about modern, efficient water management, increasing the water and livelihoods values.

But the modernization and ‘free marketing’ process in irrigated agriculture has often failed to

53 See also Krol 1994; van der Pol 1992; Lynch 1993; Vera 2004, 2006b; and Zwartveen 1994b. One important source of power in water allocation negotiations is information. Project implementers normally depend heavily on local elites for arranging water allocation designs, labor mobilization and sometimes land expropriation. Withholding information from women and other less powerful actors is a forceful strategy to (re)distribute benefits and burdens unequally (cf. Bruins & Heijmans 1993; Van Koppen 1998; Zwartveen 1997, 1998).

54 Likewise, water rights, management posts and related support services and information are all channeled to men. This is reflected in most projects’ training sessions: often, even when ‘mixed male-female events’ are arranged, only men take part. When women do participate, they often listen while men discuss and make decisions with the agency technicians (Arroyo and Boelens 1997). Vera showed how, in Lullucha, Peru, project interveners actively constructed a gender division of labor with the men responsible for dealing with ‘the outside world’, and women increasingly in charge of the physical works of farming and irrigation (in addition to their domestic tasks). Women’s fear to speak in assemblies was not just a reflection of a prevailing division of tasks, but also the direct result of years of exclusive project attention to, and training investments in men (Vera 2004).

bring about the relationships and results most women themselves would have favored; moreover it has constructed new barriers and torn down their protective shields. First, the presumed participation-as-equals on the water market has significantly denied and invisibilized actually existing power differentials, both among genders within households and in society and the market place at large – creating (new) invisible, ‘masculine’ boundaries for women (chapter 9).⁵⁵ At the same time, within many communities, in order to enable presumably open, genderless market competition, the neoliberal reforms have destroyed many gendered spaces (inherent in vernacular Andean households, production systems, and communities) that formerly were ‘shielding’ and convenient for women.⁵⁶ The day-to-day consequences of both processes in the Andes were that often entire households, sometimes entire communities, lost their water rights or their water control, or that women were accommodated as shadow workers (with triple work-loads) in the male-dominated, commoditized production system of the household or nearby enterprise.

Therefore, what neoliberal views evaluated as progress, female (and male) comuneros themselves perceive as a threat to their subsistence. The current neoliberal commoditization process aggressively attacks symbols of Andean collective coexistence, e.g., communal lands and waters; non-commoditized labor and exchange relations, etc. In particular, the above process of male migration constitutes a high-impact commoditization phenomenon in most communities.⁵⁷ Existing patterns of labor division within families have been intensified, exaggerated or transformed due to the new capitalist economic conditions. As Ana Taday, a female farmer in Molobog, Ecuador, says: “There is migration, so every day women go down to work at the neighboring haciendas, and men migrate to the cities. In this sector of Molobog, for example, with a couple of cottages, only one man has stayed, don Juan Quishpe; the rest are only women. Women are the ones in charge of most of the work here, aren’t they? They raise the children, take care of the animals, and more than anything, they cultivate and work the land. As men migrate to the city, women have to do all the work. We work on the communal lands, we go to mingas, we work to sustain the family, in the haciendas we work irrigating” (quoted in Arroyo and Boelens 1998:405). While it has certainly also offered new gender opportunities for women, as was shown above, the migration process has expropriated a large part of the intra-household decision-making power over the division of labor. Moreover, many families in feminized Andean communities find themselves in a ‘break-down position’. The survival and the well-being of the Andean community are possible only through a disproportionate contribution by women.

For the above reasons, the neoliberal monocular focus on promoting individual rights over collective rights carries major dangers for both men and women in Andean households. It makes rights prone to loss and dispossession through market transfers (see also Ahlers 2004). Many Andean peasant women themselves would not easily identify with analyses that stress private female rights over family and community values, especially since their present water security importantly relies on arrangements that exist *outside* the formal entitlement structures and market rules.

This is also an important argument by most Andean female water users against simplistic

55 This relates to presumably gender-neutral social and market relations (e.g. invisible ‘boys’ networks’) which restrict women’s access, and presumably gender-neutral technology (e.g. the high-tech ‘toys for the boys’).

56 For example, similar to the opening up of community-protected domains (e.g. collective land and water rights) by the market and neoliberal legislation, female-gendered domains within Andean households, such as household budget keeping, raising of minor livestock or certain crops as social security mechanisms, etc., have increasingly become ‘gender-neutral’ and thus accessible to males or outside commercial enterprises.

57 Men leave in search of an income that, until recently, was additional to agricultural production; now, in many communities it is the opposite: income from subsistence agriculture has become additional to that of migration.

versions of feminism. ‘Universalist-feminist monocular views’ tend to unduly emphasize the separation of the genders, and promote individualized property rights for women as *the* strategy for achieving gender equality. The above evidence shows that this is rather short-sighted, fails to comprehend the many ways in which entitlements and control over resources are arranged in households and communities, and mis-recognizes interdependencies and complementarities in Andean irrigation systems. Household and community collectivities cannot be taken as manifestations of harmony and solidarity, but approaching them as the primary sites of gender oppression is equally erroneous. Collective ownership of water and irrigation systems does exist, and provides an important backbone and *raison d’être* for many indígena and campesino communities. There is even quite some evidence to support the belief that such collective ownership that is rooted in community norms and rules, and reproduced in everyday practices and negotiations, provides a measure of protection against male-biased State legislation or other ‘outside’ threats to water security.

Women’s liberation, understood as an elitist, modernist, ‘urban’ exercise, according to ‘occidental’ or ‘universalist-feminist’ views, has often generated strong resistance in Andean communities, which very much *worsened* the attention to unequal gender relations: ‘gender’ became a curse in many communities and institutes, fuelling precisely the power of masked masculinities. The arrogance of many modern, universalist women liberators, who refused to understand actual community relations and intra-household patterns and instantly came with preconceived problems and solutions, made Andean male and female comuneros regularly close frontiers and ban ‘the gender issue’ to the realm of ‘imperialism’. Besides, after centuries of colonization, enslavement, rape and torture (“generations of women were subject to entire appropriation” - Palacios 2004), for many indigenous women in the Andean communities the most important ideological model against which they want to react may not be that of intra-household male oppression but that of racial discrimination and class-based oppression. For this they need fellow-combatants within their households and communities.⁵⁸

Therefore, a good understanding of intra-household bargaining processes needs to allow for the possibility that decisions regarding the allocation of household resources and water control may sometimes result from on-going tensions and conflicts, but may also sometimes reflect intra-household consensus. Some feminist schools have also gradually come to acknowledge the limitations of an approach that interprets all differences between men and women as manifestations of gender inequality and subordination of women. Intra-household and intra-community gender relations and dynamics cannot just be characterized as patriarchal power moves aimed at the further exploitation of women on the one hand, and women’s resistance to these moves on the other. Complementarity, reciprocity and friendship between men and women do exist and are important ingredients of gender relationships. Moreover, many have come to recognize that ‘separate intra-household economies along gender lines’ that can be found in other regions, are not very common in the Andes. Other studies have shown that the neat distinction between masculine and feminine roles and identities characteristic of feminist analyses blurs on closer examination.

This strictly dualist perception also points at one of the major weaknesses of the ‘Andeanist’ monocular view. Anthropological gender studies in the Andes show that there are communities in the Andes in which not just Nature, but also humans can have more than one gender, and that men

58 Therefore, even though ‘internally’ the harmony idea often is severely critiqued, the outward representation commonly is unified and firm. An important drive for this harmonious self-representation is the political strategy, shaped during life-long subordination by outside rulers or landlords, to keep these authorities from intruding in local justice and taking over (water) control.

may have feminine gender roles just as women may have masculine gender roles. For example, Rösing (1997) shows how in the community of Amarete (Bolivia), the symbolic gender of one's field partly determines the actual gender of the owner.⁵⁹ Such studies underscore the insight that gender cannot be read as 'pertaining to women'. There is no *necessary* (or natural) relation between a person's bodily characteristics and that person's gender. Gender refers to the socially constructed roles and identities of men and women, and thereby to ideologies and meanings (as appropriate behavior in water control) and structures (as water rights inheritance and member and leadership patterns). Gendered water rights and roles changes over time and vary from place to place (see also Zwartveen 2006).

Andeanist monocular views also make a major mistake when confusing water *reference* rights and frameworks with water rights *in action*, and connected to this, they erroneously entangle relationships of equality and complementarity on the *ideological* plane and *actual* social relationships. Wife-beating and other forms of domestic violence, which were certainly part of daily life in the Peruvian and Ecuadorian communities I worked with, cannot easily be explained by Andeanist visions that visibilize women and men in strictly dualist ways. For example, Dolores Alcocer, one of the female irrigation organizers in Licto, who struggled hard to become an inter-community irrigation leader – much respected by all communities – was 'kidnapped' (*robada*) by a man of the neighboring community Sulsul and thereby forced to marry him. This practice – although not shared or approved of by most males – is not uncommon in Licto's indigenous communities. Despite her resistance and that of her family, the community and the water users' organization, they could not undo the robbery, which was defended by the male's family and community. Her husband did not allow her to continue as an irrigation leader. Sad enough, it was Dolores who had trained other women in the irrigation organization *not* to accept these kind of 'cultural practices' – among others by broadcasting and discussing the narrative "*Chabela's story*", in which the same kidnapping occurs (see Arroyo and Boelens 1997:35-40). Indeed, as Mayer observes about Andeanist views, "the seeming distance between Andean belief in harmony and conflict-ridden practice is puzzling" (2002:274). Moreover, not just practice but also "the world of ritual, both Catholic and Andean, is marked by women's subordinate roles" (2002: 13). Andeanist visualizations tend to forget the colonial roots of contemporary Andean cultures (Gelles 2006), and discursively deny gender violence in the pre-colonial cultures on which they base their gender and duality constructions.⁶⁰

Ironically, the way in which women and gender relations are visibilized in Andeanist representations may provide further justification for the exclusion of women in project decision-making. Rights are seen as collective family rights and women are thus believed to automatically share in the benefits and powers that go accompanied with these rights. The evidence presented here shows that this belief is not always justified. Moreover, while gender complementarity and reciprocity are

59 In Amarete, "a woman who owns a double masculine plot is, in line with her symbolic gender, called a *wachu* or *sayaña*, a man-man" (Rösing 1997:83). The same is true for men (who may have feminine or double feminine genders). In total, not two but ten genders are distinguished and divided over the biological sexes. Female gender has a lower status and less liberty than male gender, affecting both biological men and women with female genders. In rituals and every-day practice this has far-reaching consequences for both men and women: for both there is a strong division of roles, tasks and status according to which genders they possess. At the same time, biological men control the public sphere posts, while biological women control the domestic domain in Amarete.

60 Gender violence, obviously, is not restricted to 'white' or 'mestizo' Andean society. And the roots of this inequality and injustice cannot simply be portrayed as originating from colonial and occidental society, as claimed by PRATEC-type Andeanist currents: many events of mass rape and other acts of gender violence in pre-Conquest times have been documented. For example the notorious, brutal rape of the *akllas*, virgins dedicated to the Creator, by Inca Huáscar and his troops (Pachacuti 1993; Silverblatt 1987; Patterson 1991).

indeed important values in many Andean communities that provide an important normative framework to justify behavior, these are not the only values that people refer to when using and controlling water. Andean communities are not self-governing, self-reliant entities but incorporated in national and global economies and integrated in larger political structures. This is another reason why Andean communities cannot be fully, adequately understood when seen solely in the light of a uniform, pan-Andean, ideological representation of the *'cosmovisión andina'* or *'lo andino'* – much less by their romanticized versions. Water control in Andean irrigation systems is simultaneously governed by notions derived from the (various) local worldviews and production relations, alongside elements more typical of 'modern' capitalist market relations and ideologies and laced with cultural traits of the 'bureaucratic tradition' in irrigation. Traditional gender roles have changed and continue to change, with women taking on roles and functions that used to be reserved for men. Andeanist views thus cannot serve to justify the exclusive channeling of (rights to) water to men. They even risk undermining reciprocity values by introducing unwarranted gaps between the genders through unilateral empowerment of men, and by making women unnecessarily dependent on men for access to and control over water. Complementarity and reciprocity require a fairly level playing ground in which both men and women can interact as partners. This requires explicit *recognition* of existing differences between the genders, identification of the various barriers that reduce women's ability to control resource allocation and labor mobilization decisions, and recognition of both women and men as (potential) actors in irrigation management.

This analysis questions the general validity of all four stereotypical (but often powerful) discourses, which have in common that they share an overly elitist, inclusive approach: they know precisely what is best for rural Andean women, as a blanket recipe. They share their scorn for female water users, particularly for those who do not meet the terms of the monocular visions and refuse to fulfill their 'historic duty' (as respectively obedient helper of husbands; market-orientated producer; liberated, autonomous irrigator; or complement in a harmonious household). All-knowing monocular discourse elites determine how women must become visible.

The four monocular views also share an overly simplistic understanding of gender and water rights. They claim the need for, respectively, 'formally registered, male-held rights', 'capitalized, private, transferable rights', 'individualized, female-held rights' and 'family rights'. Despite the fact that real-life male and female irrigators tend to behave differently than predicted, this mismatch does not diminish the discursive power and influence of these regimes of representation. For this, the practice of blaming both water users and deterministic structures is construed. These cause women's incapability to behave according to how they *rationaly should behave* in the perspective of either one of the regimes: the first two blame it on users' backwardness and collectivism, the third on their incapacity to challenge the powerful patriarchic system, the fourth one on the influence of the occidental, neocolonial system which brainwashes their behavior. This obscures the fact that none of these views, through their dichotomous presentations, can grasp the different domains and gendered dimensions of Andean water rights, or the differences between reference, activated and materialized rights. This would, instead, require a contextualized understanding, based on particular water use, distribution and decision-making practices.

11.6. The right to remain invisible: fluid identities and underground resistance

Strategies aimed at contributing to gender balance in Andean irrigation communities would be well served by a stronger recognition of the significance of culture and discursive meanings in women's and men's self-representations and by understanding the strategies they use to legitimize their claims to water and decision making power. This implies that a judgment about a particular gender situation needs to take women's and men's own opinions and experiences into account, rather than just adopting outside frames of reference. How do men and women themselves view and experience their position vis-à-vis water rights? What would be the benefits of more formalized, securer rights to water for women? To what extent are women's possibilities for accessing and using the water they need constrained by their lack of reference rights, and to what extent have women devised alternative mechanisms for securing water? Since water struggles significantly involve struggles over discourses, meaning, and representation, the created identities themselves and the efforts to visibilize them are, aside from cultural-historical rootedness, profoundly political. Rather than adopting god-eyes and god-views from a presumed neutral position when looking at irrigation realities – as monocular regimes tend to do – local male and female irrigators in the Andes challenge these perspectives and at the same time use them strategically. Therefore, as the sections below explain, first, water users often actively shape the ways *they* want to be visibilized and therefore select from the co-existing monocular and other representations and, second, they devise their strategies to become visible or not at the times and places *they* choose.

Fluid identities, boundary-crossing and imitation

Grappling with these questions, the theme of water control and water rights in Andean irrigation clearly emerges as a 'transboundary' phenomenon. Unlike their categorization by scientific disciplines or intervention projects, for Andean water users, water rights necessarily cross all conceptual boundaries and domains (see chapter 3). Firstly, the question of water control requires crossing *disciplinary boundaries* between engineering and social sciences. Social relations shape the process of technical design and, vice versa, technical designs and water scheduling patterns strongly influence social interactions and distribution processes. Secondly, understanding water control also requires crossing conceptual '*gender boundaries*', since water rights and irrigation tasks in Andean irrigation systems often show great (and increasing) flexibility with respect to their division along gender lines. There is no 'given', static, pan-Andean sexual division of water rights and obligations. Thirdly, an analysis of water control requires crossing the *boundaries of normative frameworks* to view interactions among socio-legal systems, and the ways in which rules, rights and procedures are 'exchanged' between local and supra-local normative frameworks. Fourthly, it requires escaping the dichotomy of presumed *ethnic and cultural boundaries* in Andean communities in order to recognize the plural, multiple identities of water users and interactions among various ethnic groups. The gender dimensions of water rights, cultural norms, and local water management strategies cannot be described as simply 'indigenous', 'traditional', or 'exogenous' and 'occidental', but are to be analyzed as an expression and result of dynamic transcultural interactions. In a similar vein, female and male rights-holders themselves may choose to intermittently shift between indigenous, mestizo or other identities, according to the strategic context, the adversaries they have to face or the alliances they want to build.

Yet another fundamental way in which water control can be conceived as a *transboundary* phenomenon stems from the observation that both male and female irrigators in the Andean communities commonly cross *discourse boundaries* in their struggles for control over water. As was argued in chapter 6, aside from historically rooted, locally shaped concepts and truths, ‘imported’ or ‘copied’ norms and truths enter the arena through imitation mechanisms. As for water control, there are at least two contradictory processes of discursive imitation that simultaneously contribute to the way local Andean water users present their views on gender and water control relations. Male and female irrigators are subject to and protagonists of both processes of discourse appropriation: On the one hand, water-gender discourses are subtly imposed and internalized in the Andes and not only influence the ideas different scholars and activists have about Andean peasant reality, but also interfere with how Andean indigenous peasants visibilize themselves. Through a process of ‘mimetic desire’ (Achterhuis 1988; Girard 1986) people choose to follow certain discursive images and models, in order to become ‘equal’ to these images and models: this process subtly entices and pressures non-equals to standardize and thus ‘modernize’ (see chapters 6, 8, 9, 10). On the other hand, imitation can also be based on the strategic appropriation of power tools, persuasive arguments and images that discourses of dominant groups contain and represent. I referred to this as ‘mimicry’ (see chapter 8, 12, 13. Cf. Taussig 1993: ‘*mimesis*’). In struggles over water and in water rights negotiations, Andean water users select concepts, norms, procedures and arguments from dominant discourses (and counter discourses) to visibilize themselves with the aim to strengthen and legitimize their position and control over water.

Therefore, this process of conscious imitation and *discourse-shopping* does not necessarily refer to the actual ‘internalization of outside norms’. In the Andes, commonly, male and female water users strategically shop around among all four monocular regimes to defend their interests. For example, powerful mestizo men may refer to presumed traditional Andean norms to keep indigenous women from assuming leadership roles in irrigation communities, while these same men may refer to liberal feminist-inspired ideologies in project proposals to obtain external funding for irrigation development (Arroyo and Boelens 1997; Radcliff 2002). In the same vein, women who struggle to obtain more control over water may refer to a discourse emphasizing individual rights and autonomy and recognizing gender conflict, while the same women may emphasize community harmony and collectivity when defending proposals for new ‘indigenous’ water laws in dealings with State authorities. In current water policy struggles in the Andean region, many of which protest against proposals to privatize water, indigenous and peasant federations have little reason to rely on the State to protect their water rights, which is why they often use Andeanist-type arguments to insist on the recognition of their *usos y costumbres* (uses and customs) – a strategy they hope will provide them with the autonomy to decide on their own water questions in their own ways. Accounts of the Bolivian water war show how most women clearly chose to fight in defense of their collective water rights (Bustamante et al. 2005; Laurie et al. 2002), and identified the market and the State as threats to their water security. Likewise, as Ecuadorian, indigenous leader Nina Pacari phrased it: “The priority for indígena women is their struggle as communities and not just as women (...). We belong to a community, to a collective entity, which is why the struggle of indígena women is different from that of the women’s movement. It is a struggle of peoples in which indígena men and women demand recognition as people, recognition as collective legal subjects”. At the same time, in other contexts, she also points at the need to distinguish among Andean *philosophy* on gender and its *practice* in the field (personal communication): discourses and counter-discourses should be understood and analyzed as strategic tools against the light of the social relations of power and interests in which they

are used. On different occasions the indigenous women's struggle selects different (in this example, complementary) visibilities.

For these reasons, criticism by many researchers regarding 'indigenist' and 'essentialist' visions of the indigenous movement seems somewhat short-sighted. Firstly, it fails to analyze their presentations as the *political*, not scientific, tools they aim to constitute. Thus, a fundamental question should not remain unasked: the question of *who* visibilizes, focuses, and essentializes with what purposes. Slogans such as 'Black is Beautiful' and 'Sisterhood is Powerful' are based on unitary essentialisms and deny historic, complex interrelations of ethnicity, class and gender, but were (and are) quite effective for political mobilization of subordinated groups (Cf. Barrett & McIntosh 1985). Therefore, scholarly analyses, when studying also the *effects* of essentialization, might conclude that *scientific* essentialization of 'The Andean world' (as done, for example, by the PRATEC school) is, indeed, entirely mistaken, but that *social movements* may have many legitimate *political* reasons to – *at certain moments* – adopt unitary class, ethnic or gender labels, e.g. for enabling large-scale mobilization against racist oppression. (This does not imply the adoption of a cultural relativist position or deny the need to analyze whether such politically-motivated essentialization obscures gender, class, or other inequalities). As I have outlined in chapter 4, Andean indigenous women and indigenous movements react against their postmodern deconstruction: 'Let's tell them who we are before they come and tell us who we are not'. They claim the right to present themselves through their own 'scopic weapons', as a political-strategic tool, *not* as a scientific argument - in order to mobilize against subordination.

Secondly, critiques fail to open the black-box and see the difference among distinct manifestations of water rights, according to the level of contestation: in their water rights defense vis-à-vis 'outside' actors such as the State, other communities or private entities, women (just as other male water users) commonly defend the *collective water right* of the community and choose the corresponding discursive tools. But within communities, they are faced with the challenge of how to shape *individual water rights* that are embedded within the collective water right (see chapter 2). Most studies do not comprehend that these two issues constitute interrelated but *fundamentally different* arenas of struggle. Therefore they fail to grasp why women (like differential class and ethnic groups within the community), according to the inside 'individual-rights-arena' or the outside 'collective-rights-arena', apply entirely different tools of representation and concepts to visibilize their rights and their interests.

The right to remain invisible

In the opening quote of this chapter, through the legendary, invisible hero Garabombo, Manuel Scorza clearly symbolizes the dream of an oppressed campesino population in Peru: the dream to pose resistance against the oppressor by means of strategic invisibility, along with visibilization at the moments and in the ways of their own choice. Similar to the Andean myth (see also the 1598 records by Francisco de Ávila), after being killed by the landlords, gods gave the resistance fighter the ability to dissolve and *through this invisibility visibilize the invisible crimes of the dominant*.⁶¹ "They will post watchmen in vain ... I am invisible!". Intermittent visibility tactics touch the roots of local Andean resistance strategies:

⁶¹ The theme of resistance through invisibility is not uncommon in Latin American myths and novels, e.g. modes of female resistance against masculinity in *La Casa de los Espíritus* (Isabel Allende) or the link between invisibility and resistance in *La Mujer Habitada* (Gioconda Belli).

The issue is not just that women, and other actors who suffer from unequal power relations, claim the right to visibilize and represent themselves – challenging or strategically using powerful monocular representations. They also claim the right to keep secrets; they even may resist visualizing their ‘human agency’.⁶² They claim the rights to the power of invisibility when it suits *their* purposes. And to become visible again when it is in *their* interest; to visibilize what *they* consider necessary to visibilize. In times of globalizing truths, all-inclusive power mechanisms and generic visibilization policies, they claim the right to, in their way, reconstruct the connection between truths and reality, to capture the power to represent, visibilize and self-represent. The roles of accompanying ‘outsiders’ – scholars, activists, practitioners – in this struggle, would change from all-seeing engineers or all-enveloping anthropologists to more modest (but not uncritical) supporters of these *intermittent* visibilization projects of the women and other water users themselves: according to the latter’s strategic needs, at certain moments some issues remain secret and invisible, while at other moments there is a need for ‘particular visibility’: a ‘Human Rights balancing act’.⁶³

Moreover, rather than ‘making women and their rights visible’ – as a *generic* exercise – most female irrigators would benefit much more from, and actively pursue, the visibilization of currently invisible masculinities or, as Laurie and Radcliffe (2001) phrased it, the twisted hierarchies of masculinities in (water) policy formulation, administration and intervention. As Foucault argued, visibility is a trap. In chapter 8 I have shown extensively how neoliberal policymakers and scholars, as De Soto (2000), want to make visible (and thus tangible) the many, diverse, invisible ‘orders of local water rights unruliness’ in order to encapsulate, standardize and control them. Moore (1973) observed that those elements of the organizational and normative system that are most *visible* are considered most readily accessible through outside legislation: the formal parts of the system. The most powerful elements of local normative systems, however, such as invisible networks of contacts, informal norms, social positions, etc. can hardly be reached by official legislation, and, as she argues, these are precisely the ones that are most durable and effective.

Examples of reactions against ‘visibilization’ or defense of ‘invisibility’ may range from far-reaching strategies of movements, to the very local day-to-day invisibility strategies of female irrigators. For example, while night irrigation, as argued above, forms a major obstacle for most Andean female irrigators who cannot go out at night, for many of them passively waiting is not the solution. Jácome and Krol (1994), among others, describe how women farmers in Pungales, Ecuador, actively make ‘hidden’ arrangements to get the water which they otherwise would lose by not being able to practice their nocturnal shifts or because dominant irrigators do not respect their irrigation turns at all. Widow Elena, being elderly and alone, has great difficulties in following the irrigation schedule, which does not suit her ability; moreover, she cannot open the heavy intake valves. Therefore, she ordinarily irrigates at other times, outside here scheduled shifts, and also makes hidden arrangements with friends and relatives. However, she also chooses her *own* timing for ‘visible complaints’, so she spoke up at the irrigators meeting, to ask the engineer in charge to change her schedule – and

62 Which contains a certain warning against the popular ‘human agency schools’. For example, in his article on anthropologists in the dirty war in Peru, Orin Starn (1991) showed how the military were very pleased with the way social scientists detailed and visibilized community resistance. I argue that ‘Human Agency’ scholars have paid insufficient attention to the fact that, in modern power regimes, oppressed population groups claim the right to intermittently invisibilize their own strategies and human agencies. Aside from mimicry strategies, it is through invisibility that they can visibilize the invisible crimes, policy agendas and powers of the dominant.

63 It is similar to an ‘Amnesty International-approach’: political prisoners themselves strategically ask for visibility, while their details and networks of resistance against oppressive regimes need to remain in the dark. Research ethics of changing names or refraining from disclosing sensitive information also may belong to such strategies.

succeeded. Similarly, Narcisa, a young woman who has to irrigate unaided because her husband has emigrated to find work, refuses to lose her water rights because of having night turns. She makes undercover trades with others and has an extensive ‘underground’ network of social relationships with reliable people, whose shifts she knows accurately, and whom she coordinates with when she needs to. Other women irrigators have similar strategies, “women have more power in informal organizational arrangements, at informal levels within their families and local irrigation modules” (1994:56). But this does not mean that they leave formal visibility and its domination tenets unchallenged. Obviously, ‘invisibility’ cannot be promoted as an equally generic answer to dominant power structures and strategies that promote generic visibility. Rather, they react to and fluctuate according to prevailing forms of domination; to challenge dominant forms, clear manifestation may sometimes be crucial.

In the irrigation systems of Licto, Ecuador (Arroyo and Boelens 1997), and Lullucha, Peru (Vera 2006a), in many instances, female water users opted for a kind of ‘gender invisibility’ when they, together with their husbands, defended their collective community water rights vis-à-vis outside actors such as the State and landlords, but internally constructed their visibility fiercely as women – and as women organizations – who claim inheritance, membership, voting and leadership rights. More broadly, women also actively select *their own* moments and appearances. Palacios (2004) shows how indigenous women in Ecuador, as un-differentiated equals to men, have joined in all the nation-wide, massive uprisings to overthrow policies and governments that have affected their collective rights. But *within* the indigenous movement they are constructing their gender visibilities that challenge Andeanist beliefs about harmonious gender relationships, duality and complementarity, “in order to pursue their own political project” (Ibid:2). Here, in their protest against a uniformity based on masked masculinities, they claim the recognition of internal democracy, pluriformity and gender difference, in order to make internal processes of the movement coherent with its national demands.

This chapter has shown that prevailing discourses may shape users’ perceptions of their water control possibilities, but not in a straightforward, hegemonic sense. In their acts of resistance women go against equalizing, normalizing discourses and counter-discourses, and make use of them. Just as ethnic identity, actual gender identities are not pre-established or natural but continuously redefined. As I will illustrate in the following chapters, female water user leaders in the Licto irrigation system, among others, have engaged – consciously and actively – in constructing new gender identities. Thereby they have challenged those gender identities that were imposed upon their personality: identities reflecting either undervalued, ‘complementary’ persons under frameworks of male-headed family-rights (as in the ‘engineering’ and ‘Andeanist’ monocular regimes), or those representing imitations of men and markets, with individualized, private rights (as ‘neoliberal’ and ‘feminist’ regimes tend to defend). Instead, they claimed and materialized, among others, shared water rights that register both the *‘padre de familia’* and the *‘madre de familia’*, with shared powers, opportunities and responsibilities. In their struggle, women such as Rosa Guamán and Inés Chapi crossed many boundaries and broke many gender rules. To defend the system’s collective right outwardly and, in-house, put the less powerful and female water users on the stage, they selected varying visibilities, and not uncommonly, invisibilities. As Rosa commented (in Arroyo & Boelens 1998:400):

“Inés and I saw each other undercover, like two forbidden lovers”.

chapter 12

DAY-TO-DAY BATTLEFIELDS FOR THE DEFENSE OF WATER RIGHTS

IN WHICH I visit the ‘water arena’, which offers insight in why and how actual water rights definition is not restricted to lawyers’ offices, State agency proposals or engineers’ design desks: constituting the crux of water power, water rights are negotiated and enforced in processes of social struggle. While open, large-scale and sometimes violent water battles such as Bolivia’s Water Wars or nationwide mobilizations in Ecuador get the most public attention, low-profile or ‘invisible’ water rights encounters, ingrained in local territories, are far more widespread. These everyday water struggles, as I will make clear, are rooted in the multi-layered, often concealed foundations of local ‘water communities’. They provide the real-life substance of what water control and struggles are all about: the dynamic contents and diverse layers and sources of water rights, and the ways they are contested and given substance in plural legal contexts and power structures. In this ‘undertow’ of local livelihood strategies and community relationships, water rights are shaped materially and discursively, constituting functional tools and strategic weapons. The chapter explores how this foundation, void of any romanticism, constitutes a ‘mutual belonging-to’ among the community and the water source and rights system. Here, constantly, in the midst of fierce in-house contestations of rights arrangements, a collective ‘home base’ and ‘hydraulic identity’ is generated and consolidated. I will analyze the cases of San Mateo de Huanchor (Peru) and Ceceles (Ecuador), among others, to see how these undercurrents also provide and strengthen foundations for wider-scale resistance against domination and normalization, commonly not through violent or open confrontations but through covert strategies, concealed social and political spaces and encoded practices. They often take place, intermittently, in and outside the community realm. When operating in the public arena this is generally in disguised political forms: through ‘mimicry’ strategies, apparently ratifying dominant rules but sheltering behind formal norms, procedures and appearances.

Thus, while dominant water world players and discourses seek to dis-embed and normalize local water rights, penetrate and dissolve the complexity and ‘thickness’ of the water defense home base, and align water users and uses to outside interests, the chapter highlights how local communities resist and actively struggle to extend their maneuvering space. I will examine how water community foundations not only shield local norms, sustain collective action and enable ‘reactive resistance’ against encroachment: these hidden or mimicry-protected home bases of nonconformity also *constitute* powerful forms of ‘active resistance’ to normalization. The ongoing, dynamic, sub-surface *making* of local water rights repertoires represents a fundamental source of resistance against rights intrusion and disciplinary policies. Indeed, the creation of water rules and rights reflects a dialectical process through which people struggle and in so doing create the water world in which they live, a conscious and unconscious strategy to keep rule-making and enforcement firmly in their own hands.

Question: How do Andean water user communities resist against processes of water rights encroachment and the subordination and undermining of their water rights socio-legal repertoires?

12.1. Introduction: public and everyday water rights arenas

“Inside laws, there are the authorities, politics, money and corruption. So, the owner of the hacienda, owner of the money, owner of things, owner of friendships, even owned, at that time, the Minister of the Interior [...]. Even now, any action, any struggle, gets nowhere if we indigenous and our organizations don't get up and protest...”
(Antonio Laso, President of CODOCAL, Licto, Ecuador).¹

Although Andean history is full of conscious and unconscious actions by State authorities, local elites and national or transnational companies to encroach on local territories and neglect or destroy the prevailing water rights and management rules of the local commons, the latter – to varying degrees – have shown resistance to alignment or incorporation into the national normative system and subordination to uniform market rules. Both the Andean highland and urban areas increasingly witness events of large-scale, sometimes violent water conflicts where local user organizations face hydropower, agribusiness, mining, drinking water and other commercial companies. Many peasant communities and indigenous organizations perceive new, often neoliberal, water laws and policies as yet another in a sequence of attempts to take away resources that historically belong to them and that form the basis of their livelihoods (Boelens and Zwartveen 2005a; Castro 2007). Fierce contestation highlights the contested nature of water rights, and the fact that much, very much, is at stake.

Particularly in Ecuador and Bolivia, the countries in South America with the largest indigenous populations, relatively well-organized social movements have been able to change national-level water reform debates and constitutions. Most often, several social sectors and platforms operate as alliances, and the water rights issue becomes a public issue. This was the case, for example, in the Bolivian ‘water wars’ and the massive national mobilizations in Ecuador and Peru against neoliberal water rights privatization plans, which effectively resulted in a stand-still for implementation of such new water policies and legislation. Protests are directed against ‘the model’ as such and against many of its particular principles, often taking the results of the Chilean national experiment or more localized ‘water crime scenes’ as an example.² The next section of this chapter briefly analyzes these events.

Most public attention (of researchers, politicians, mass media and national and global activists) is paid to these ‘open’ water conflicts that take place at the provincial but above all, national, regional and international level, often headed by the peasants/indigenous in alliance with other civil-society social movements. Their claims are also more easily understood and ‘acknowledged’ since, generally, they are expressed in the universal legal and policy idiom: most often they are directed at changing the formal institutions and national legal and policy frameworks, or at defending those institutions and regulations that support their interests but which ‘modernization’ threatens to replace.

But there is a different water world of resistance and struggle, interrelated with the above but far more widespread *and* at the same time rarely observed. Probably its role in challenging prevailing political institutions and power groups that shape policies and mould official laws and rationality is

¹ Pers. comm. July 2002.

² For instance, as Castro (2004) argues, Latin America’s indigenous peoples have started to manifest their ‘indiscipline’ vis-à-vis the practices of expropriation and many groups question the very model itself. Cf. Bustamante 2006b; Gentes 2006; Guevara 2006; Palacios 2006; Peña 2004, 2006.

far more important. I refer to the local, everyday water control systems and rights repertoires, the home bases of water technical, normative and political operation. These were introduced in chapters 2 and 4 and will be further analyzed in the third section of this chapter. This huge ‘undertow,’ built on local territorial understandings, rights arrangements and hydraulic identities, receives less attention for many reasons: their localized performance, water rights languages and practices (for outsiders intangible and fussy), and probably also nations’ colonial legacy of prejudices against ‘backward indigenous or community water management’. Further, it may also be less interesting for many ‘critical’ observers and activists because these water communities apparently accept the discourse of universal progress, uncritically embrace the concepts of modernization and strive for water management formalization and water rights codification, ‘issues they surely barely understand’.

But these silent waters run deep. Rather than conforming to the naturalization of dominant water models, policies and regulations which would diminish or destroy their room to shape and practice their own water rights and management forms, as I will show they often use the *appearance* of conformity to outside rules, in order to build and defend their own ‘water community’. This immediately touches upon another reason for their slight public attention: typically, they strategically avoid ‘public action’ and open battlefields, precisely to defend their home base of water rights development and operation. Therefore, they also shield off against outsiders’ intrusion. As the intermittent visibility strategy analysis of chapter 11 explained, they select *their own* times, terms and ways of appearing onstage.

This chapter focuses particularly on this local-scale level of water rights contestation: the day-to-day struggles to defend and extend water rights and go against their normalization. This includes strategies to bring local rights claims, while rooted in household and community foundations, to higher, national or international levels. As was mentioned, section 3 analyzes water rights defense dynamics through day-to-day livelihood and production practices that shape the dynamic, multi-layered and often covert foundation of a ‘water community’. Next, the fourth section examines the multi-scalar defense by the community of San Mateo de Huanchor (Peru) against encroachment on their water rights by mining companies. Rooted in their water community home base, they combined a strategy of political-legal upscaling and deliberate, intermittent appearance in the public space. The fifth section, on the case of Ceceles (Ecuador), illustrates the connection of in-house and outward struggles for water rights definition and water access, in order to defend and extend the community’s water rights base. The last section reflects on the everyday strategies of water rights defense in the Andes.

12.2. From overt confrontations to covert water rights defense

In 1997, shortly before what would become known internationally as the Bolivian Water Wars, peasant and indigenous irrigator communities together with rural municipalities, the main water users of the Central Valley of Cochabamba, engaged in a major conflict when the municipal drinking water company started to drill wells in the Valley.³ This severely affected their already over-extracted ground water resources. For decades, communities had organized water distribution according to their ‘uses and customs’, with their own authorities and socio-legal frameworks, and now

3 Case description based on Boelens & Hoogendam 2002; Boelens, Dourojeanni & Hoogendam 2005; Bustamante 2006b. Cf. Assies 2000; Bustamante 2002, 2006a; Duran 2002; Duran, Hoogendam & Salazar 1997; Keeteleaar 2003; Peredo 2003; Bustamante, Peredo & Udaeta 2005.

determined that they could no longer allow others to encroach on the water rights they considered as theirs. When the government proposed privatizing the water works and drinking water sector's services in 1999, conflicts became ever tenser. After numerous small protests, the Valley became a violent battlefield in the year 2000. Pressured by the World Bank, the government signed a contract with a large foreign consortium, Aguas del Tunari, headed by International Water Ltd. (a subsidiary of the U.S. Bechtel Corporation) and enacted a privatization support law that allowed the international company to have exclusive water rights over all water in the district – including smaller systems in the metropolitan area and rights to exploit the aquifers. Another law was rushed through parliament so that the company could capture new water resources, and even charge water fees for cooperative wells that were to be expropriated. Directly after privatization, the international company considerably raised water fees, without any system improvement. In a strong alliance (called the *Coordinadora del Agua y de la Vida*) urban and rural water users jointly protested: the citizens protested against the huge increase in water rates, while rural municipalities and indigenous communities protested against the new law, because it affected their rights and could expose them to new encroachments on their water sources.

The social conflict blew up in February and April 2000, with several days of intense clashes between the so-called *guerreros del agua* (water warriors) and the police, which culminated in the declaration of a national state of siege. The government sent thousands of soldiers into the streets in order to break up protests and road blocks. As local media stated: “The voices of protest are on the rise. Statements made by many women and men from different parts of the city ... indicate that people have gained consciousness and are increasingly angry. They report that airplanes from La Paz are arriving to unload large numbers of soldiers. The city seems to be at war, there is broken glass in the streets, burned tires, piles of garbage, pieces of wood and stones in the middle of coca leaves. The people seem fearless, they have risen to their feet, and all they want is to be heard” (Bolivia Press 2000, Special Issue 7 April, 2000, quoted by Bustamante, Peredo and Udaeta 2005:84).

At the end of these Water Wars, leaving many people killed and injured, the government had to retract its decision and also commit to amending all the proposed law's articles that the popular alliance objected to. The Bechtel company filed a multi million dollar claim against Bolivia at the World Bank-dependent investment dispute court. It took four years of fierce international campaign against the multinational before Bechtel dropped the case in January 2006, afraid of affecting its public image.⁴ What happened in the Cochabamba Water War made strong international impact as an example of resistance against privatization of water, water services and its fundamental policy principles,⁵ and has been recently repeated in the city of La Paz where another international consortium, Aguas del Illimani, has been forced to cease its services after years of client discontent. At the same time, these protests led to the opening of a process of wider participation to formulate regulations and

4 In a period in which Bechtel's huge profits and poor services in Iraq also came under fire from public opinion.

5 A principle that is particularly contested is water rights trading, disregarding social prioritization. Chilean neo-liberal water policy is often presented as the model to be followed (chapter 9). For instance, to promote free trade in water rights, Chilean legislation does not establish priorities for particular uses (e.g. water for human consumption above industrial use), nor does it express norms to protect particular vulnerable groups. Peasant and indigenous organizations in the other Andean countries that were forced to adopt Chile's water legislation have strongly objected to this lack of prioritization in water allocation. For example, CONAIE in Ecuador advocates a Water Law proposal that prioritizes water for human and domestic use and for subsistence agriculture above water for commercial agriculture and industrial uses (CONAIE 1996; Pacari 1998). Also, in Bolivia and Peru, peasant and indigenous organizations fiercely protested against market allocation principles which would endanger water access by the economically less powerful (Ahlers 2005; Bustamante 2002, Perreault 2006). Another widespread act of resistance is raised against the privatization of public or common water rights, bringing them under control of commercial companies for profit-making purposes.

policies concerning water resources. Currently, under the government of Evo Morales, Bolivia aims to break away from its long inheritance left by colonial, authoritarian and neoliberal water rule.

While Bolivia's Water Wars have become an 'example' for many water user federations and global activist movements across the world, the reaction of the then Bolivian Information Minister to the water struggle was telling: "These protests are a conspiracy financed by cocaine trafficking looking for pretexts to carry out subversive activities. *It is impossible for so many peasants to spontaneously move on their own*".⁶ The negation of peasants' collective capacity for protests and resistance against subordinating water legislation and policy frameworks is characteristic of politicians and policy-makers in the Andean countries. First, the assumption is deep-rooted that water policy proposals, based on technical and economic 'scientific laws', are beneficial because they are universally applied. Next, similar to the Riobamba mayor's reaction in the Tulabug upheaval (see chapter 10), there is strong disbelief in the idea that resistance can be a consequence of *collective self-representation*: since Andean community members are too simple and ignorant to understand the contents of these water policies, the culprits can only be subversive elements who manipulate and push the brainless peasant and indigenous masses.

But it is not only the negation of local user collectives' mental and organizational capacity and the deemed supremacy of western scientific water rights policies which prominently come to the fore during such water conflict situations. The question of and struggle over the legitimacy of water rights frameworks is at the heart of the issue. The Information Minister expressed this central issue characteristically, accusing the alliance of urban and rural organizations and protesters of "a disinformation campaign designed to overthrow *legitimate authority* and the *rule of law*".⁷ In their water rights struggles, indeed, Andean communities are not just interested in more equal access to water resources themselves. Water rights, being understood not only as rights of access and withdrawal but also as authorized claims to use water and control decision-making about water management, need to be seen in their full array. Peasant and indigenous communities have many reasons to challenge 'legitimate authority and the rule of law', since it is precisely the *water authority* of indigenous and peasant organizations that not only historically but also currently is being denied; their water *usage rights* that are being cut off, and their control over *decision-making* processes that is increasingly being undermined. As was outlined in earlier chapters, therefore, the contemporary water struggle comprises the following key issues: access to water and infrastructure; rules and obligations regarding resource management; the legitimacy of authority to establish and enforce rules and rights; and the discourses and policies to regulate water resources. In the last two decades, as a reaction against ethnic discrimination, this struggle for water access and control rights has shifted increasingly from only a class-based to a class- and ethnicity-based (*'indigenous'*) struggle, especially in countries such as Ecuador and Bolivia.

In Ecuador, for example, in the mid-1980's, the indigenous movement arose and in 1986 the CONAIE was legally established as a broad platform.⁸ In 1990, a massive mobilization took the country completely by surprise: for the first time in ages the indigenous peoples massively stood up. In 1992, again, many thousands of indigenous peoples, after a long march from the Amazon region to the capital, took over the city of Quito. They claimed recognition of their territories and nationali-

6 Source: The Associated Press, 11 April 2000 (my italics).

7 Press communication by EFE Agency, 11 April 2000 (my italics).

8 CONAIE joins together 14 Kichwa nations and 14 other indigenous nationalities, all affiliated to the three regional federations: CONFENAIE (Amazon peoples), ECUARUNARI (Andean peoples) and CONAICCE (Coastal peoples), making also a bond among the *campesinos indígenas* and Afro-Ecuadorians (Palacios 2006).

ties, with autonomy for rule-making. Since then, Ecuador could no longer deny the existence of a national majority that since the early colonial days had been neglected and discriminated, but which now claimed its rightful share and a strong position in the national power balance. In 1994, after a large number of uprisings, the country was again paralyzed for several weeks by the indigenous movement. They fiercely protested against the new neoliberal Agrarian Development Law that proposed privatization of water and land rights, among others. In 1996, after broad consultation and many debates from community to national level, CONAIE developed its first national law proposal: to install a new Water Law (CONAIE 1996. See also Pacari 1998; Palacios 2006).⁹ The proposal was defended in Congress by the first indigenous deputies of the new indigenous party, Pachakutik. Although it was not accepted because of the unfavorable balance of powers in Congress – still dominated by national elites – the water law proposal triggered an ongoing debate about the need for Water Reform, and many new proposals and counter proposals were developed by both the government and grassroots sectors. Water rules and rights were now prominently on the national agenda. In 1998, CONAIE and other national grassroots platforms and campesino organizations strongly influenced the process of a major national undertaking: the struggle for a new Constitution. The result, a compromise that also includes many neoliberal learnings, gives recognition to the issues of collective rights, pluri-culturality, and forms of self-governance, which ten years earlier were considered unthinkable.¹⁰ Through massive mobilizations and debates the process of a National Constitutional Assembly became a reality, a process that currently is taken over and deepened by the Correa government.

While, in their initial phase (1986-1996), the indigenous movement struggled for redistribution and recognition from outside the political system – among others through massive strikes and mobilizations – in a second period (1996-2003) it decided to join not just the political system but also the government at local and national levels, to struggle ‘from within’ (Dávalos 2007). After winning the 2002 elections, CONAIE-Pachakutik appointed Ministers at important posts such as Foreign Affairs (Nina Pacari) and Agriculture (Luis Macas). But even with significant representation in Parliament and at all levels of local government, the prevailing, dominant power structures (i.e. Ecuador’s oligarchic elites and neoliberal business monopolists) successfully frustrated real changes towards re-distributive policies and practices, also regarding water issues. Severely ‘injured’ and divided, the movement stepped out of the Lucio Gutiérrez government in August 2003 to recover and, in a new phase, reformulate its strategies, to a large extent again ‘from outside the system’ (Dávalos 2007; Palacios 2006).

Whereas both these Bolivian and Ecuadorian overt battles and broad national (or international) alliances constitute important markers in the struggle for local (water) rights recognition and justice – and even call for reconstitution of the State and its legal apparatus – the respective legal resistance strategies have proven insufficient to re-moralize and re-normalize overall water resources management. Firstly, it can be observed that the implementation of legislative changes in Water Laws and Regulations, among others, seriously lags behind the beautiful Constitutions. Secondly, and more important, laws cannot act by themselves and require social forces to materialize them. With respect

9 The CONAIE proposal demanded resisting privatization of water resources; continued public and community control over water allocation; recognition of cultural and social rights; and representation of users, indigenous and peasant organizations within the institutional framework for water management.

10 Another important achievement of the indigenous movement in this process was Ecuador’s ratification of ILO Convention 169 on Indigenous and Tribal Peoples in Independent Countries.

to the latter I argue that, more than the large ‘public’ battles, often with a utopian flavor, it is crucial to focus on what happens in the ‘day-to-day battlefields’, the commonplace water rights arenas ‘in the field’. As I have stated, while the Water Wars of Bolivia have reached the front pages of all major newspapers in the world and some observers even saw in such events the start of World War III (which would be centered around control over water resources), such populist understanding fails to see that these wars, multiplied a thousand-fold, have already been going on for a long time, albeit not in ways as open or violent as in Cochabamba.

It is particularly this huge number of local cases that have received little attention, in the Andean countries and internationally. Even the many cases of systematic cruelty and institutionalized banality regarding water rights encroachment and injustices do not necessarily become ‘public issues’, attracting attention or provoking reaction by law- and policy-makers.¹¹ Most often, although part and parcel of these conflicts, the State and dominant water players have an interest in keeping their role out of the spotlights, and only take positions when they are forced to do so, when the problem has become a real ‘political issue’.¹² An important reason for claiming for more attention to these local cases is the *large-scale* injustices (from a cumulative perspective) committed against local rights collectives.

Water struggles for rule-making and redistribution in local communities also deserve attention for quite another reason: as this chapter’s introduction stated, they constitute the basis of Andean water control. They provide the profound substance of water rights generation and affirmation. And it is not just that the broader, open, public water struggles of subordinated peoples and communities in the Andean region cannot be understood without understanding these local, low-profile battlefields, but also that the former would not exist without the latter. They are basic to wider-scale resistance against domination through ‘piecemeal re-moralization’, more than abstract slogan-slinging presentations and overall claims to ‘water as a human right’. As I will highlight in this chapter, the shaping and defense of water rights is rooted in the often concealed, multi-layered foundation of local ‘water communities’. The following cases evince how, within this water community, for strategic rather than ‘romantic’ or ‘philanthropic’ reasons, the focus is on collective power not only as an instrument of domination (‘power-over’), but also as a force for protest and advocacy, a source of resistance and creativity. The capacity to generate and innovate (‘power-to’), organized collective action (‘power-with’), and identification, identity and self-esteem (‘power-within’, see Moffat et al. 1991: 18-20) are important inputs in the process of struggle and empowerment for local water user communities.¹³

11 As Toledo-Llancaqueo observed: “The problem of legal un-protection of indigenous rights to natural resources in Chile has not yet become a true *public policy* issue ... For a social problem ... to become an issue of public policy, it first has to be ... transformed into a political problem, in other words, become the expression of a social demand translated into the terms of the political game” (Toledo-Llancaqueo 1996:9).

12 When massive upheaval or popular protests did evoke overt reactions from the national government, new water rights proposals have often been halted but the underlying water governance structures were only slightly ‘smoothened’ – commonly, then, they were adapted to Devspeak (chapter 10). Bolivia, these days, is an important ‘test case’ to see if any real changes may be brought about.

13 Power-over has elements of what is described in chapter 6 as coercive, vertical power (as analyzed by e.g. Marx and Weber). Power-with sees power as acting in concert rather than as a relation of domination (power works as to create and result from a sphere of intersubjectivity, where collective action emerges that can work towards alternatives that challenge relations of domination). Power-to, different from power-over, is productive and creative. Power-within provides self-confidence and is a source for identification among the fellow water users, knowing that they are capable to build and reinforce their own normative systems. It is crucial to keep in mind that the modes of capillary, disciplinary power are also based on the latter characteristics (productive, creative, normative consciousness, etc.). Practices of ‘subjectification’ mean that subjects cannot simply be seen as autonomous human beings with transcendental consciousness (their thought,

12.3. Day-to-day water defense through ‘water rights pluralism’ and ‘concealed spaces’

Previous chapters have shown how ruling groups, through subtly or brutally-imposed systems of representation, have sought and seek to articulate local water management values, norms and practices according to their own interests. However, Andean communities – and subordinated groups within these communities – likewise have their own strategies and approaches to counteract this domination and achieve greater autonomy. Continuously and dynamically, they construct their own re-representation systems, with an interplay among various fundamental elements of these water control domains. They are not attempts to ‘restore traditional values, norms and practices’ (although historical norms do inform their strategies), but interweave many contemporary elements to build strong alliances between the old and the new, between their ‘own’ and ‘outside’ factors. So, local water rights incorporate rules regarding various ‘water use traditions’ in the Andean region (chapter 5) and embody particular combinations of an array of normative sources, both official and non-official (chapter 2). When inserted into local norms, the elements of each of these legal sources are ‘reconstructed’ to occupy their own places in the locally dominant mixture manifested as ‘local water management’ (Boelens & Albó 2007).¹⁴

Here, a major role is played by informal organizational agreements and water rights ‘in action’. They go beyond referential rules of the State and the formalized rights and associations of the users themselves – even including communities’ own regulations. Therefore, to analyze water rights in practice, a merely ‘functionalistic-instrumentalist’ approach is not enough. Without underestimating the truly significant functions of local rights and rules,¹⁵ a merely instrumental approach will necessarily misinterpret local law. For example, an analysis of cultural and even metaphysical water law domains is often neglected. I have illustrated how water rights are closely linked to cultural systems of meanings, symbols and values and, in many systems, water distribution is profoundly embedded in both human and supernatural relationships; both are viewed as elements influencing and defining water control. Expressly or implicitly, supernatural authority often reinforces the legitimacy of a particular human authority and action; and mobilization by communities of symbolic and metaphysical powers to control water and regulate water users’ behavior can be either unconscious or clearly pragmatic, such as for agricultural or political purposes. Such ‘functionality’ is often left out of ‘functionalistic’ analytical schemes.

As Greslou observes, “the fact that beliefs and customs related to water are those that have best survived almost five centuries of trans-culturation is significant: these rites have remained current, firstly because they are linked to production and secondly because they reinforce the social group’s cohesiveness” (1989:6). Moreover, I would add, in Andean water user communities they often constitute an ideological-political challenge of dominant power structures, albeit in an en-

identities and behavior are at least mediated by existing mechanisms of power that constitute them). This makes that the three complements to ‘power-over’ cannot guarantee that the capillary power of normalization will not invest in these power forms. They cannot ‘replace’ the working of disciplinary power, they may, however, be ways to develop conscious alert systems that analyze the dangers of normalization and challenge this process.

14 The logic and rules of peasant rights in Andean irrigation practice are manifested, above all, when there is outside intervention in an existing water use system. The conflicts and problems that usually accompany the intervention highlight the existence of unrecognized normative systems.

15 In a sense, local user collectives’ practices are far more ‘instrumental’ or ‘functional’ (see chapter 4) than so-called functionalist policies. The former are directly discarded by local users if they do not succeed in fulfilling their water control objectives; the latter, rather than orienting actual practice, function to mobilize and maintain political support and strengthen institutional alignment (see chapter 7; Latour 1987, 1994; Mosse 2003).

coded, disguised manner. At the one hand, as chapters 3 and 6 have shown, from pre- to postcolonial times, water-related religion, worldviews, myths and metaphysics in the Andes have been extremely functional for the ruling classes to manipulate and govern subordinated communities. Their political effort was to monopolize the powers ascribed to Andean and Christian divinities in order to rule the people and their (water) resources both materially and ideologically. As with the present-day functional power of political discourses, the dominant classes in the region always have understood the great power of myths and beliefs in the Andes. But at the other hand, simultaneously, this is precisely the reason why local communities actively reply and continue to practice (and re-develop) their own myths, beliefs and metaphysics (apart from, or interwoven with their own counter-discourses). In all their diversity and when localized and rooted, myths, legends, narratives, rituals and beliefs of communities and water user collectives offer the fertile soil and medium for common morals, values and rules. They provide part of the ideological background for local ‘distinctiveness’ and identification with their territories, water sources, and fellow water users. As such, they sustain collective action to defend or reconquer these sources, to resist intrusion and reinforce local rule-making autonomy. Communities and peoples who lose their myths lose their heart, particularly when they lose their myths of origin, constitution and future evolution. In many such cases, Andean communities produce an enormous variety of localization strategies ‘to bring metaphysical control back home’.

It is not just that nearly every community has its own religious repertoire, hybridizing Catholic and Andean religions and cosmologies (among others), they also actively claim back the water sources as symbols of origin and life.¹⁶ A powerful example, among many, is the way in which the uniform Bible myth of the Great Flood or Water Judgment has been reinterpreted and re-appropriated through numerous local myths, explaining origin, existence and relationships among local lakes, springs and communities.¹⁷ Interestingly, this challenges the powers of both (post)colonial and pre-colonial uniformization efforts. For example, the disciplinary Inca myth that politically-metaphysically constructs Lake Titicaca as the world’s origin (chapter 3) is nowadays contested by the inhabitants of Taquile Island. As Granadino and Cronwell (1996:29-31) tell us, they claim that local Mama Pukyu (Mother Well), belonging to Pachamama (Earth Mother), created earth’s inundation and thereby Lake Titicaca. Re-appropriation and strategic use for advocacy of norms derived from metaphysical control over water can be a powerful strategy for groups that don’t have much economic power to support their resistance.¹⁸ For this reason, José María Arguedas (1975,

16 Water property rights and identity constitute a powerful connection since historical times (see also chapters 3, 4 and 6). Sherbondy (1987:122) maintained that, according to Andean principles in Inca times, because of their inalienability, water rights were more fundamental, strong and indisputable than land rights. It continues up to the present day: as Perreault (2006) rightly argued, the tension inherent in the concept of ‘*usos y costumbres*’, relating to both their historic-traditional rootedness and their dynamic contemporary nature, makes the concept both deeply complex, often problematic, and immensely powerful. Oré mentions the importance of this identity link for current irrigation development: “The canal prolongation was an initiative of the Achirano indigenous, for whom the legendary canal was a symbol of their identity” (2005:72). Brown and Ingram also show elements of the link: “Individuals identify dams and ditches by names of ancestors who through the centuries helped maintain them – thus proclaiming their inheritance through their communities. This is not done in a romanticized fashion: rather, it serves as an important community focus for personal identity” (1987: 37). A similar argument is made by Gelles: “Irrigation structures the private and collective calendars of the Cabaneños during much of the year. It gives life to their terraced fields and to many of their conversations, ... water is a basic part of their ethnic and communal identities” (2000: 55).

17 See chapter 3 and 6; Cáceres 2002; Granadino y Cronwell 1996.

18 For this same reason I disagree with populist versions of historical materialism that call everything metaphysical, religious and ritualistic, *in general*, as the ‘opium of the people’. Of course, as I have shown, religion and supernatural powers are manipulated to dominate water user communities, appease them and break down their resistance. However, such a position ignores the importance and power that myths, rites and local narratives may wield to *also resist* normalization and domination by ruling groups and ideologies.

1980, 1987a, 1987b) observed that, to understand struggles for land and water in Andean communities, especially how intensely they are defended, it is necessary to plumb the depths of this cultural foundation, since their fight is not just driven by economic interests; "... other deep, violent spiritual forces kindle their ardor, agitate them implacably ..." (Arguedas 1977: 166-167).¹⁹

Still, as I have argued, most commonly this expression of defense is not through violent conflicts and large-scale mobilizations. Hidden strategies, covert actions, concealed social and political spaces and encoded practices are fundamental elements of and complements to public protests or massive public contestations.²⁰ Chapter 11 illustrated these alternating 'visibility strategies', intermittently in the public sphere and in the disguised or community realm. And even when operating in the public arena, this is often in disguised political forms: the practice of what I have referred to as 'mimicry', the sheltering behind formal norms and procedures and formalistic appearances, imitating people who are in power and apparently ratifying dominant rules but as a conscious resistance strategy. Here, the appearance of legal formalities is often an optical illusion. There are many norms and forms of water management that seem to the naked eye to be determined by a purely official legal or market-based system but which, upon a more in-depth analysis, prove to be quite the opposite, comprising part of the great 'underground' force confronting subtle, disciplinary mechanisms of domination. An example is the organizational structure of many water use systems in the Andean highlands, which are often formally set up as Irrigation Committees, Users' Boards, Irrigators' Commissions, Water Supply Committees or other such structures prescribed by national law or development projects. Even the means of representation and protocols and hierarchical procedures are often identical to externally stipulated norms, with legalized by-laws, notarized documents, etc.²¹ However, despite the supposed homogeneity and formality for the purposes of 'external representation' and 'formal protection', under the surface there is a vast organizational and normative diversity. Underlying this clear strategy of simulation there are living, active norms and rights different from and even opposing official legislation.

So, even though official structures and rights seem to have had a decisive normalizing influence, in practice organizational forms and water resource management rules and norms reflect political and historical processes, and the particular social and agro-physical requirements of each locality (Boelens & Albó 2007). And within their territories, local water user communities *actively use, extend or aim to create these relatively autonomous spaces*, not patrolled by dominant, formal powers, where they materially practice and extend their own water rights and discursively construct their counter-narratives. In these covert social spaces and concealed 'water rights territories', far beyond 'just' the metaphysical or symbolic contestation strategies, there is a confluence of and dynamic interaction among all water control domains to defend local rights and contest encroachment, surveillance and

19 See also my critical reflection on 'the reality of fiction' in chapter 14.

20 See also the concepts of 'hidden transcripts', 'offstage discourses' and 'infrapolitics' by Scott (1990). But where Scott (1985, 1990) gives elaborate attention to everyday resistance in both the hidden and public realm, his 'domination' analysis is largely limited to just the coercive, vertical power modes and their public and personalized forms of subjugation. I argue that, for this reason, his analysis not only fails to consider the modern, capillary modes of power (and especially the impersonal, equalizing and invisibilized forms of domination), but also the corresponding forms of resistance. Also see chapter 13.

21 This is not only a State-driven codification, formalization and control effort – an institutional modeling according to the State's image or 'the market's' interests (see chapter 8). It is also common for communities themselves to adjust to legal formulas in order to obtain formal rights for access to water and to reinforce their water entitlements, as well as to qualify for loans and public assistance. In practice, most communities have resisted the corresponding institutionalization process or adapted it to their own interests and organizational forms (see, e.g., Boelens and Gelles 2005; Bustamante 2006; Guillet 1992; Gutiérrez 2006; Greslou 1989; Hendriks 2006; Mayer 2002; Urteaga & Guevara 2002; Verzijl 2007).

repression.

Paul Gelles,²² for example, describes how in the case of Cabanaconde, Peru, during most of the yearly distribution cycle (i.e. in times of the crucial, dry period), water management is practiced in the self-controlled social arena, being in the hands of the Water Mayors and collective decision-making. The Water Mayor is a rotating political office and seen as a form of community service (*cargo*). In Cabanaconde, the Water Mayor oversees the canals, makes sure that water follows the established order, that intakes are opened and closed correctly, and mediates any conflicts that arise (Gelles 1998). The water users award him with prestige, authority, and in kind (coca, alcohol, and occasionally food and small amounts of money). Since the water from the local mountain is sacred (it not only takes care of fields and commoners but can also bewitch, make ill and take life) the Water Mayor must complete the appropriate rituals to assure and increase the abundance of water, its productiveness, and the personal well-being of the homesteads (Gelles 2000). For this purpose, they employ physical and metaphysical techniques, which also conduct water through the canals in a timely, proper manner. To hurry water quickly and adequately, the entire community observes and participates in the ritual happenings.

But, as Gelles observes, during a certain period of the irrigation cycle (in the rainy season) there are also State-appointed water distributors, the *controladores*. They implement the State Model of ‘modern, rational distribution’ as prescribed by Law, watering the adjacent fields sequentially (*de canto*). Hereby, they ignore the Andean dual classification of plots, which is the pattern that Water Mayors follow (and which also follows the *anasayan/urinsaya* pattern, see chapters 4 and 7). They are not fulfilling a major *cargo*, do not perform elaborate rituals or sponsor large social events as do the Water Mayors, but rather perform a civic duty, and are paid a monetary wage, not in kind. And even though villagers are well aware of the water losses generated by their own *anan/urin* field and water division, they argue that the State Model is even less efficient: “paying hourly wages provides no incentives to hurry the water along, and controladores even slow down to collect more fees from each irrigation plot” (1998:265). More importantly, under the State Model, local elites are enabled to use the *de canto* system to irrigate unauthorized fields, and irrigation decisions are subject to manipulation by powerful individuals (Gelles 1996, 2000, 2002). “Today and over the last fifty years, there have been attempts to completely replace the Local Model of distribution with the State Model. Though the State Model ... has gained ground over the years, the Local Model remains firmly entrenched.... Adherence to the Local Model must also be seen as resistance to the hegemonic ideology implicit in the State Model itself.” (Gelles 1998:263).

Peruvian law dictates the ways in which water users must organize and apply for water rights concessions (see chapter 8). But Andean water user communities actively challenge the State’s control over these water sources and, at least in their own concealed normative spaces and territorial places, commonly refuse to allow the State to determine local irrigation practices (Boelens and Gelles 2005). In these social spaces the local modes of culturally and materially organizing water rights and authorities embody a fundamentally different rationality than the one officially prescribed. And in communities as Cabanaconde, even though historically many elements of Andean dual organization have been appropriated by Inca, colonial and hacienda regimes in order to extract local labor and resources from the people (see chapters 6 and 7; Gelles 1995, 2000; Murra 2002), “the Water Mayors, a legacy of Inca and Spanish hegemony, today embody and implement the local ‘indigenous’ form

22 See Gelles 1994, 1995, 2000; his work in our joint programs ‘Searching for Equity’ (1998), ‘Water Rights and Empowerment’ (2002) and ‘Agua y Derecho’ (2006); and our joint publications (2003, 2005).

of irrigation management, one used, among other things, to ritually attain abundant water, fertility, and safety, as well as to resist State interference in local affairs.” (Gelles 1998: 265)²³

Clearly, in the framework of strategies for resistance and re-representation systems, rights to *access* and *control* water are weapons of resistance and instruments of self-governance and autonomy. Unlike their role in official policies (which present them as ‘loose, independent’ and even market-‘tradable’ resources), part of the strength of local water law lies in its profound interweaving with local community coexistence. The complexity of the water rights picture and the practices of allocation and distribution are intermixed within a multitude of social and political institutions and networks, some of them not very closely related to water per se (see chapter 2). As a common example, in the community of Ancoraimes, Bolivia, contributions to acquire rights-holder status in the water supply system consist not only of labor, dues and administrative inputs for the water system, but include “performing all duties”, i.e. taking part in community-service positions, cultural festivals, organizing civil-society activities, and taking part in social and political mobilizations to defend collective rights: strikes, blockades, shutdowns. Failure to participate in such activities to defend the collective well-being directly results in penalties *within* day-to-day water management (Boelens & Albo 2007; Laruta et al. 2007).

So, water rights are embedded in historical, political, economic and cultural relationships, which determine the nature, value and function of water. They are closely related to user communities’ ‘water identity’ as described in chapter 4: Community embedded-ness and creation of water rights, grounded in mutual dependence and intrinsic obligations for intensive co-operation among users in contexts of adverse power and agrophysical conditions, reinforce context-specific cultural and socio-territorial water bonds. The logic of defense and reproduction of ‘water community’ in the harsh Andean context, far from being just an ideological construct, relates to the material creation of hydraulic property linking individual action and property rights to the collective water property owners group. Jointly with the historical struggle for water, the collective defense of community authority and the development of the community’s own rules and customs, this socio-physical creation process is at the heart of collective action in water control.

In this socio-technical system and political-cultural setting, not only water but also words and ontologies acquire meanings that are different from their universal definitions. For example, as rightly shown by Laruta et al. (2007), ‘purchase and sale of water’ in Bolivian communities such as Luxru Q’achi (Ancoraimes) does not refer just to the market concept or to a commercial transaction. Crowned by advocates of neoliberalism and their free-market utopia for water rights, and demonized by anti-capitalistic currents mistakenly claiming that such sales would violate Andean customs and life (“Water is life, and is not for sale!”), buying water has very particular, contextualized connotations, because it is deeply interwoven into local cultural and socio-political relations.²⁴ Water sales

23 In the case of Cabanaconde “it is the cultural staying power of duality and mountain ritual – that is, the instrumental meanings and ritual efficacy of the local model of irrigation – that today has transformed dual organization into a form of resistance against interferences by local elites and the contemporary Peruvian State” (Boelens and Gelles 2005:324. Cf. Gelles 2000).

24 In chapter 4 I have elaborated on how Andean communities intensively (need to) relate to the market sphere, even more when irrigation development takes place. In conscious ‘peasant economy strategies’ this does not necessarily imply abandoning but rather re-developing non-commoditized community relationships. It is a low-profile community struggle to self-consciously shape new ‘market-community interaction’. For example, when irrigation was introduced in Pungales (Chimborazo, Ecuador), the implementing NGO advocated growing fruit for market, along with household self-supply food crops. However, these communities – with high rates of intermittent migration – showed no interest in large-scale fruit growing, because of the crop risk and because it would be labor-intensive, competing with their activities as migrant workers elsewhere. Contrary to outsiders’ plans, users began to grow alfalfa, apparently almost as a monoculture. How-

never have the homogenizing meaning that neoliberal politicians would like to give them, or the dangerous, globalizing, universalistic power we are warned against by the school of macro, radicalistic policies. In cases such as Luxru Q'achi, the community controls the value-setting process and transaction conditions, and ensures that sales take place within economic, ritual and political settings established collectively, not by any individuals (Boelens & Albo 2007; Laruta et al. 2007). Those communities working to manage water more self-reliantly are not attempting to dominate individuals but to ensure that individual families' ambitions cannot interfere with the community's sustainable future – but this mutual compatibilization does not lend itself to any romantization (see chapter 4).

To re-affirm and extend their water rights and livelihood practices *internally and outwardly*, water user collectives in the Andes, symbolically and physically, seal off specific fields of relationships so that certain social arrangements are reinforced or particular rights and resources are consolidated (cf. Long et al. 1986; Skar 1997; Van der Ploeg 2006). For example, as mentioned in chapters 8 and 9, most communities do not allow water sales to outside community territory (which would infringe the technical and normative system), or sales of water or irrigated land to incoming outsiders or non-members. In irrigation-dependent communities, more than any other resource, water is commonly seen as the last bastion in the defense of non-commoditized relationships. Forming the core of group continuity and nearly everyday inter-family interactions, it involves strong cultural 'community norms', unlike many other products and resources (e.g. livestock and most crops, except for basic staples, are habitually sold to outside traders; see Skar 1997). Obviously, these norms do not just refer to transferring the resource itself but to the entire process of decision-making about the collective resource and reproduction of the very resource system. As Long rightly observed, "one can argue that non-capitalist institutions act to restructure the monetary elements introduced into the system, and that so long as peasants retain their relatively independent basis to operate their economic affairs, then capitalist relations and principles will not (necessarily) prevail" (Long, in Long et al. 1986:20). In the two subsequent sections, relating the stories of San Mateo de Huanchor and Ceceles, we also see how this local 'relatively independent basis of operation' is the fundamental foundation for communities to engage in their own projects of water rights development and defense, strategizing these projects inside and outside their territories.

12.4. Community-based upscaling of water rights defense: the case of San Mateo de Huanchor, Peru

The comuneros and comuneras of the district of San Mateo de Huanchor, Huarochiri, Lima, have a long history of struggle to defend their livelihoods vis-à-vis the powerful mining (and drinking

ever, a more in-depth analysis showed that farmers' strategy was highly diversified: alfalfa was not a 'market monocrop' since families developed their own, broad range of different varieties of alfalfa to avoid the production risk, to protect the zone's meager, unstable soils, and obtain a crop that *fit perfectly into their working strategy of community efforts, family work and migratory employment*. Moreover, only part was for market – *flexibly, according to harvests, prices and household needs* – while the rest was for feeding their own livestock [research and field visits from 1992 to 1997].

Another very common example is the irrigation system in Patocochoa (Cañar, Ecuador). Advisory institutions had planned a major change in cropping patterns, from traditional corn to vegetables for market. However, aside from diversifying their crops, many families decided to enhance and intensify their maize crops. This guaranteed basic staple production when water was scarce. Furthermore, corn is not only a key food for family self-supply and non-market bartering, but can also be marketed in the region, thereby increasing rural homes' flexibility to make their own decisions about how to get by in a given year [research and field visits from 1992 to 1997]. .

water) companies that took interest in the waters of their territory.²⁵ The case provides insight into how water rights defense is and remains rooted in the historical, political, socio-territorial base of the community, but when confronted with powerful outsiders and intruders, seeks to extend its political and geographical maneuvering space. This does not mean that the strategy of striving for concealed, relatively autonomous spaces (as conceptualized above) is abandoned. On the contrary, it is considered the foundation (in many aspects, covert and ‘underground’) that creates the conditions and opportunity to ‘maneuver’ towards outside battle grounds. ‘Maneuver’ (Latin: *‘manu operare’*), in its origins, relates to ‘creation by hand’, and simultaneously shows both the rooted-ness and embedded-ness in the community (‘to cultivate’) and the aspect of creativity (*‘manure’*, to fertilize the land, Webster’s 1994:607). In water rights defense struggles it has also a very strategic, practical meaning: “a clever, often evasive move or action; a shift of position to gain a tactical end”. And although resistance cannot be neatly engineered, maneuvering is a conscious, carefully developed action: “to guide with adroitness and design” (Webster’s 1994:608).²⁶ For the villagers of Huanchor, ‘room’ to maneuver relates both to the geopolitical upscaling of their space (‘the political-legal battlefield’) and the defense and evolution of their socio-territorial place (‘water community and hydraulic identity’).

The district of San Mateo de Huanchor is just one of hundreds of cases in Peru in which water and environmental rights have been trampled, in terms of both quantity and quality. The environment and physical well-being / safety of 6000 inhabitants of five communities (San Mateo de Huanchor, Yuracmayo, San Antonio, San José de Parac and San Miguel de Visor) were poisoned by the dumping of tailings very near their homes.²⁷ Many thousands of tons of toxic materials have polluted the present and future of these villages, as has happened and continues to happen in many other places and countries of the Andean region. But, as we shall see below, residents did not stay in the sidelines.

In Peru, mining companies have almost hegemonic power, not only because of their great economic clout but also because of State backing and the legal and military-police systems supporting them. Despite their spokespersons’ lip service to environmental discourse, government supports mining almost unconditionally in practice, and this is commonly legitimized by constructing another complementary discourse: mining as the “national interest”. This interest clearly overrides the interests of rural / indigenous communities, water users’ organizations or the environment.

This encroachment on community rights by mining interests and practices, with tremendous official backing, is described (among many other such statements) by the representatives of the Latin American Network of Women to Resist Mining:

“When mining companies arrive, they generate and increase marginalization, abuse, displacement, violation of territorial rights, environmental deterioration, destruction of livelihoods, discrimination and inequality affecting Latin American women. We denounce the harassment, threats, persecution, intimidation, lawsuits and sexual abuse against women who resist mining. We call for a stop to these practices violating our human rights and also demand respect for the

25 Field visits, meetings and interviews: November 2005, and data collection follow-up till May 2007.

26 See also the elaboration on ‘room to maneuver’ in the works of Van der Ploeg (1991, 1994, 1998, 2003, 2006).

27 For details about the population’s super-critical exposure to heavy metals, particles and toxic fumes, and their relative concentrations in the water, air and soil, see ISAT (Institute of Health and Labor), “Environmental and health status of communities exposed to pollution by heavy metals in mining activities. Upper and Mid Basin of the Rímac River”, Lima, 2005.

physical safety of our children, husbands, friends and families. We demand that mining companies respect our rights of self-determination, health, access to sources of clean water, with sufficient quality and quantity. We denounce that women's just, legitimate demands in different indigenous and rural communities have been criminalized, forcing them to set up committees for dialogue, consensus-building, and negotiation under unequal conditions vis-à-vis transnational companies, who have the governments as their accomplices to protect their interests. Accordingly, dialogue committees have served only to further encroach on collective rights and citizen participation ... Moreover, these companies deny the grim impacts of their environmental pollution that poisons water, air, land and all forms of life ... In the most cynical manner, companies and governments deny their economic, social and environmental responsibility to the environment inhabited by present-day communities and coming generations ...".²⁸

Defending water rights plays a key role in demands and protests – “in view of mining threats to water resources, we demand for our governments to protect the different watersheds supplying our communities with water ...” (Ibid).

It seems to be no accident that there are several representatives of San Mateo de Huanchor on this international women's platform, just as San Mateo has representatives on several other such bodies at the local, district, national and international levels, regarding indigenous rights, small-farmer rights and water rights. The struggle and denouncements against abuse of their resources and threats to their safety have been a constant for these people; but now, in an increasingly globalized context, they have sought and built new scales of action, ever-broader, to reinforce and consolidate their *'defense network'*.

This networking is necessary, since their adversaries – mines, private and government bodies supporting them, and the 'paid-for' press – are using new discourses and 'global' techniques. For instance, the State accuses them of being 'ecological terrorists' when men and women defend their environmental rights and the survival of their communities and homes, a new dominant-power ploy. In past decades, such accusations were made in terms of national official vocabulary, but now they draw upon both the terminology and repressive responsive powers of the International 'War on Terror'. Other practices such as spying, threats and physical abuse have intensified against those demanding sufficient, healthy water, land and air in Peruvian communities. At the same time, official agencies and mining companies intermittently apply strategies of inclusive, participatory power: the importance of harmoniously including rural communities in national progress and well-being, promoted especially by the mining and other businesses that need rural water.

When one visits the town, the first story one is told is about the resistance by the local hero, Huanchor, against the Spanish conquerors, a legend that continues to symbolically nurture current resistance. After he was captured, he was slain, burnt, and his ashes were cast into the Rímac River, which runs through the district and has been the core of struggles to defend water since then, to this day. The people continue referring to the name of Huanchor even though the Spaniards christened their town as San Mateo. Resistance has not been quenched but continues burning in its underground roots, ready to surface suddenly and unexpectedly.

This was the case, for instance, in the 1930s. From the community's grassroots and concealed settings and relationships, this disguised resistance emerged ferociously when the people rose up

28 Statement by the First Gathering of the Latin American Women's Network to Resist Mining, Lima, Peru, 15-18 November 2005.

in protest against pollution by the powerful metallurgical foundry of Tamboraque, which had human and environmental victims and seriously affected the local small-farmer economy. Complaints about this company's environmental crimes were ignored by the Government, so the people rose up against the foundry. In 1934, the police came in to repress the people, massacring the unarmed villagers, which is another key element of the district's collective memory. To this day, an array of traditional celebrations and cyber-space technologies²⁹ reminds the people of this resistance by those who are acclaimed as martyrs in Huanchor's struggle, highlighting solidarity with these people.

Historical conflicts with abusive miners was also part of the shared history of this area. As mentioned above and reported by the Mayor of San Mateo³⁰, since 1998 the Lisandro Proaño mining company (which has belonged since 2001 to Wiese Sudameris Leasing) began depositing toxic wastes just a few meters from the town of Mayoc. Shortly thereafter serious health problems began, affecting the children first. Studies shows that the amounts of arsenic, lead, cadmium and mercury were much higher than allowable limits. For a decade, the residents have organized into (among other groups) the Committee to Defend the Environment and Sustainable Development – San Mateo de Huanchor (CODEMADES) and the Committee of Persons Affected by Mining in Mayoc, to denounce these mining practices, which have always been illegal anyway. The President of CODEMADES, Ruperto Cáceda-Vidal, explains that their demands include immediate removal of the toxic wastes from Mayoc; a judgment against the polluting company; indemnity for the victims of mining-related environmental pollution; and realization of a recovery plan for the zone's ecosystem.³¹

Among the people, behind the backs of State agents and miners, a series of actions and meetings began to first formulate their positions and polish their strategies, to then make their demands and resist the abuse.³² These actions sometimes emerged publicly by appearing visibly in CODEMADES and the Committee of Persons Affected by Mining in Mayoc. They organized local protests and large marches to complain to national government entities. However, the inertia of the Ministry of Energy and Mines, non-compliance by the mining company and the slow pace of the court process drove residents to reinforce their battles by moving toward the international battlefield. In February 2003, through their (national) alliance with CONACAMI, the Confederation of Communities of Peru Affected by Mining, they presented a complaint to the Inter-American Human Rights Commission (CIDH) of the Organization of American States (OAS), "against the Peruvian State for not guaranteeing the human rights of the people of San Mateo de Huanchor or providing medical assistance to victims of the pollution" (CODEMADES report by Cáceda-Vidal). The CIDH received the complaint and began working for the victims of the mining contamination in August 2004, "requesting the Peruvian Government, in six months' time, to transfer the toxic tailings to safeguard the lives and health of the affected population" (Ibid).

This combined resistance – in hidden and open settings, and reinforced legally and politically from local to international levels, got results. On 6 June 2005, a legal agreement was finally reached to close down the Mayoc tailings rewasher, and the mining company was also ordered to move the toxic tailings and totally remediate the affected zone. On June 10, the Public Assembly of the

29 For details about this resistance, reprisals and documents from that time: <http://es.geocities.com/sanmateodehuanchor>

30 Mr. Victor Hurtado (pers. comm.), and water authorities' meeting (Nov. 2005) .

31 Pers. com. Ruperto Cáceda-Vidal (Nov. 2005). Also see his report on the above Website: "Environmental conflict in San Mateo de Huanchor, rewashers in Mayoc", by Ruperto Cáceda-Vidal, CODEMADES. Additionally: News Bulletin No. 11, CODEMADES, May 2005.

32 E.g. cf. the story of leader Margarita Pérez, of Mayoc, San Mateo de Huanchor, compiled by Luis Vittor (23 January 2007, at: www.conflictosmineros.net)

Coordinating Group to Defend San Mateo de Huanchor, involving local authorities, rural communities, CODEMADES, the Committee of People Affected by Mining, Neighborhood Committees and Social Grassroots Organizations, approved the plan. Even so, leaders felt it was necessary not to wait for authorities and companies to fulfill their obligations, but to keep strong pressure up through surveillance, monitoring and, if necessary, complaining, from the community upward. They have set up their own, successful ‘inspection and vigilance mechanism’, embedded in the community’s social relationships, calling on “the entire population, local authorities and friendly institutions, with the press to help resolve the socio-environmental conflict”, to reinforce continual citizen surveillance and oversight over mining and government agencies. The collective goal was “for the fundamental issue (people’s health and the damage caused) to be viewed in national and international tribunals in accordance with the defense of our fundamental rights, as consecrated in the Constitution and international conventions” (Ibid).

At the same time, while the people continued and still continue pressuring against ‘the mining front’, new fronts and arenas have also opened up, and the multi-scale network to defend the people’s water in San Mateo de Huanchor is ever-stronger and broader. For example, leaders have actively participated in forming the “National Commission to Defend Water, for Life”. Since 2005, this national alliance has played an active role in the struggle against policies to privatize water rights and defend water resources as a human right involving national public security. At a more local level, the organization has concentrated on defending its waters from the powerful water supply company of Lima, which is trying to take away their sources. And, among these multiple initiatives, we also see their participation in, for example, the above-mentioned Latin American Women’s Network to Resist Mining, where representatives from San Mateo de Huanchor partner not only with entities belonging to that Network in Latin America, but also with international agencies:

“We demand respect for territorial rights and call for prior consultation and compliance with ILO Convention 169 [...] We request international financial institutions to suspend arrangements to finance mining projects in our countries, which have set up or plan to set up in aquifer zones, where aquifers charge and discharge, glaciers, high-diversity, ecologically fragile and agricultural or fishery areas. We urge our governments to stop authorizing the mining concessions they have granted or are considering granting in such areas; and to drastically penalize those companies that have polluted the water ... ”.

On the one hand they demand respect, but they also seek solidarity, through a strategy of intermittently appearing in public, in highly diversified ways – in terms of contents, partners, normative fields and scales – to expand their maneuvering room for struggle and resistance:

“We call for women’s organizations the world over to raise their voices and, in solidarity with Latin American women impacted and threatened by mining, to demand for mining companies and governments to consult with the people beforehand, to respect our right to freely decide how to use our territories, to respect our right to life...”.

12.4. Linking in-house and outward battles for community water rights: the case of Ceceles, Ecuador

Battles for rights access, definition and enforcement relate not only to outward water defense or acquisition but equally involve fierce, dynamic conflicts over the formulation of collective and individual rights within the ‘water community’. As the case of Ceceles shows, these ‘in-house battles’, which usually occur entirely outside the public realm or only occasionally emerge above the community surface, structure the foundation of water property arrangements. Thereby they also shape the tools and sharpen the weapons for ‘outward’ water rights defense.

Ceceles is the name of a highland zone in Licto district, Chimborazo Province, Ecuador,³³ encompassing a number of peasant communities. In Ceceles, the scarce rainfall is a limiting factor for farming. For peasant families, having irrigation water means the difference between a single, dryland crop of maize with beans or peas, barley and wheat, versus the possibility of growing – additionally – vegetables, fruits, and alfalfa for livestock the year round. Irrigation offers peasant families security for production and subsistence, and doubles or triples their annual production. It also makes it possible to diversify crops and livestock activities. Families in the Ceceles area have water for their plots thanks to the old Gompueñe ditch. This canal carries water to a zone located at 2950 to 2800 meters above sea level. All Ceceles communities are indigenous people. As common in most Andean communities, they have had hard-fought confrontations over the years with the mestizo hacienda owners, and this has deeply influenced the current distribution of water and land rights.

The four-kilometer earthen ditch brings water from the Gompueñe River, using a simple, stone-brush intake. The ditch dates back to when the hacienda built it some 120 or 130 years ago. At that time, the infrastructure was built by the landlord’s decision, using labor provided by the indigenous people bound to the hacienda (*huasipungueros*). Starting some 30 years ago, the indigenous people have gained access to land and to water from the irrigation system by purchasing land for which irrigation had been scheduled.³⁴ As time has worn on, the process of inheritance and sale of plots in the irrigation area has resulted in the scattering of land and water property rights among numerous indigenous peasant families, belonging to eight different communities who joined in the ‘Ceceles-Gompueñe irrigation organization’. At present, the system consists of a large group of very small plots totaling about 50 hectares under irrigation. The nominal flow of 35 liters/second usually fluctuates from 10 to 40 l/s.

Common property rights in Gompueñe

The Gompueñe system is a common property system – legally labeled as ‘private’ – handled by the communities themselves. There are interactions with the State irrigation agency; for example, they adopted the legal nomenclature and the State has allocated water rights to the system as a whole, as is common for ‘private systems’ in Ecuador. In practice, however, users refer to their water rights as ancestral rights (see chapter 2), due to the labor invested by their grandparents and due to the

33 Largely based on our joint publication, Boelens and Doornbos 2001. Action-research with the Ceceles communities was done throughout the period from 1992 to 1997, with shorter visits in 2002 and 2005. See also Doornbos 1996; Boelens & Doornbos 1996; Boelens & Hoogendam 2002.

34 This process has been gradual, as intermittent migration to the cities has provided them with somewhat more economic power, although they have never been able to rise above the basic subsistence level.

lengthy history of social relations with the ex-hacienda they were bound to: although in former days the water was not their formal property, they did consider it as such. They also base their claims on socio-territorial water rights: part of the river's water 'belongs to the inhabitants of Ceceles' because the river crosses through their territory.

Even though the indigenous households had acquired formal and informal rights, irrigation water supply is not secure, and they must constantly defend it from claims made by other parties, and even to prevent the State from allocating the water to other communities upriver.³⁵ After disputes over water with the hacienda owners, Ceceles has had to keep fighting with neighboring communities to maintain the rights they attained. This struggle has taken place both within the State's normative framework and in dealing with other communities on the basis of their own local defense rules.

Water rights in Ceceles-Gompuene are family-based³⁶ and grounded in the common property of the system and the water source (see Doornbos 1996). According to local communities' decisions about the contents of a 'water right', this entails the right to share in using water, the right to use the irrigation infrastructure, and the right to take part in assemblies, speaking and voting in system management decision-making. Water rights, and therefore voting rights, also make holders eligible to be elected to administrative positions. Local rules establish that rights can be inherited, sold and exchanged only within the users' group, provided that this is approved by the users' organization. Users' obligations are to pay their dues, attend assemblies, serve when elected and perform as leaders – which is a right and an obligation – and, above all, take part in community *mingas*. As in most Andean irrigation systems, hydraulic property creation mechanisms (chapter 2) are fundamental. The minga system provides labor to maintain the canal and is also the fundamental mechanism to recreate and consolidate water rights. The irrigators' organization, to ensure continued access to water, enforces these obligations through social control and by levying fines for failure to participate.³⁷

The Gompuene irrigation organization numbers some 235 irrigator families coming from the different communities. It is remarkable that, to operate the system, the Ceceleños have not appointed anyone to oversee the canal or monitor the agreed-upon distribution of the water. Therefore it is even more surprising to see that in this system, although water is very scarce during the dry season, scheduled turns are followed very punctually and generally without any squabbling. Each irrigator supervises the canal individually, and water is distributed on the basis of social control among irrigating neighbors. Each water user is a 'time-keeper'. In irrigation practice, the organization has no specific 'water judges': if any disagreements or quarrels occasionally arise, they are resolved at collective meetings, where community leaders handle conflicts and facilitate solutions. These are indicators of the strength and autonomy that the Ceceles organization has: they are known as a collective group that not only enforces compliance by each member, but has also earned respect from

35 The communities upriver apply for irrigation or drinking water supply (which is a top priority for allocation under Ecuadorian law). The Ceceles zone is located along the lower part of the Gompuene micro-basin, and although the Gompuene River sometimes runs completely dry, there are no fewer than 70 allocations to communities upriver. Water shortage during the dry season bears no relation to the flow rates legally allocated to these communities and, as a consequence, water is not only too scarce to meet the needs of the area's communities but, further, it has also been over-allocated by the State agency, thus fueling the inter-community wrangling.

36 For a discussion of the concept of 'family rights' – their (gendered) contents, adequacy and problems – in common property water control systems, see chapter 11.

37 Dues are very low because most investment is in labor. Therefore, as is common in Andean systems, no emergency fund has been created: any calamities will be addressed immediately by mingas or ad hoc dues. All expenses (mingas, fines, fees) and agreements are recorded in the book of minutes. The irrigators' formal norms make obligations proportional to water rights (the number of minga days depends on the number of irrigation hours a family has), but in practice each user sends one worker to the regular cleaning and maintenance mingas, regardless of their water rights.

all surrounding communities. These neighboring communities call the Ceceles people '*los bravos*' – 'the tough ones'. And the orderly, well-disciplined distribution in Ceceles by no means reflects practices in neighboring systems, be they governmental or farmer-managed.

In Ceceles, water is distributed by a rotation schedule indicating the time allotted to each user. During his/her turn s/he gets the whole flow, every two weeks. Irrigation is round the clock, by day and by night. The rule of thumb distributes water proportionally to the rights-holders' landholding, although this has undergone many changes over time. Because of the fact that families usually have a number of small, scattered plots and because of the limited size of their holdings, some families would receive a turn of only a few minutes. To avoid such unmanageably short turns, the minimum time allotment is five minutes – five-minute turns are very common in the Ceceles small-farmer zone.

Dynamize or dynamite? The struggle for 'new water'

According to the Ceceleños, the Gompue system's main problem is water shortage. A second problem users directly mention is the two-week irrigation interval: too long between waterings to be able to change the current cropping pattern in order to include more vegetables, or intensify production. Reliability of the current flow rate is also unsure, since communities upriver may some day succeed in their attempts to have some of the water allocated to them. To increase the old ditch's flow rate for the existing 50-hectare irrigation area, and *also* to irrigate some 150 ha of un-irrigated land in Ceceles above the Gompue canal, the Ceceles communities have been pressuring to be included, additionally, in another system, the Licto-Guarguallá irrigation project (see chapters 7 and 13). With a secondary canal bifurcating from that system, they could complement their current supply (see Fig. 12.1).

The Guarguallá project has a long history. Designed as a State-controlled scheme in the 1970s and with 'final designs' in 1989, as described in chapter 7, the engineers and planners of the national agency (INERHI) imposed their 'rational plans' from Quito, ignoring communities' rationality and reality. The Ceceles sector was an example of how zones were arbitrarily included or excluded from the irrigation project area. Despite strong socio-economic, geographical, and organizational arguments and historical commitments, the State agency excluded this zone after conducting the feasibility studies, but without any clear discussion with the local families, who were dumbfounded. When, in 1990, the sector turned out not to have been included as water rights holders, the people of Ceceles began their struggle to gain access to the Guarguallá water. At the background of the confrontation, there was a clear distinction between two entirely different ways of normative reasoning, as one Ceceles peasant put it: "It doesn't matter if they say the government *gives* water rights – we *have* water rights!"

Community dynamics challenges the rigidity of outside professionals' organizational and technological designs. On their own initiative, and to pressure for inclusion in the system, in 1992 Ceceles began building nine kilometers of platform for a secondary canal. A local leader explained: "If they won't give us access to the water, we'll go get it!" Projects often refer to these processes as acts of 'sabotage' perpetrated by the Andean peasants, supposedly caused by villagers' 'under-development and lack of education'. Aside from pressuring by building the canal platform, Ceceles threatened tougher measures, leaving the decision up to the government: 'you dynamize the system, or we dynamite it!' And, in fact, Ceceles leaders had already selected the strategic elements of the system that could be 'modified', such as the inverted siphons that would take water outside the Licto

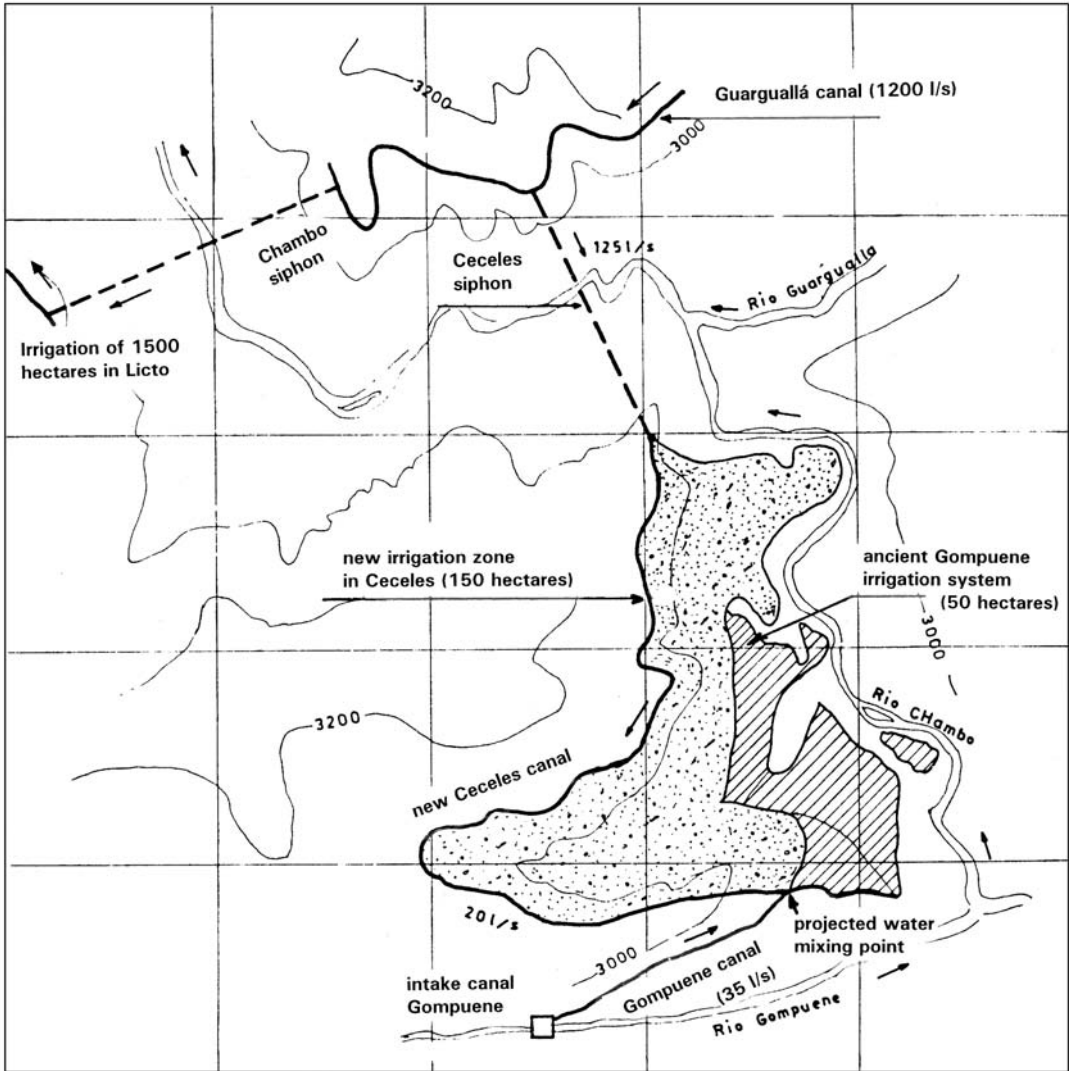


Figure 12.1: Map of the Gompue irrigation system and plans of the Licto-Guarguallá system
Source: Boelens and Doornbos (2001)

To build the platform, they hired their own surveyor to lay out the course and, for over a year, the future beneficiaries worked in mingas, digging the platform under extremely difficult conditions – even suffering casualties – and with no assurance that they would be included.³⁸ During this time, participants in the new ‘Ceceles Canal’ work had formed their user organization within community

³⁸ For example, in chapter 2 I have described their immense conflict with the neighboring Tzaticahuán communities who refused to have the Ceceleños working on a canal in their territory.

organizational structures and with leadership in charge of all the red tape for obtaining access to the Guarguallá water. The organization grew as work progressed, and made its own rules about work input and future water rights. Not only labor was invested – people also put in cash, attended meetings, made their intellectual contributions and took personal risks. This was based on one of the most important norms at that time: until the water starts to arrive, labor input must be equally invested by each future user, regardless of their land area. In the words of a community leader: “In the main struggle, we all work together as equals”. However, another rule they made was that beneficiaries would receive water according to their land holdings. The idea underlying the equal contributions was to assure equal decision-making rights, so, according to one of the commoners, no larger land-owner could ever say: “I put in more labor, so I have more say in management”.

The people of Ceceles received support from the NGO CESA (see chapter 7), which had been involved in implementing the Guarguallá system since 1990. The inter-community peasant and indigenous organization of Licto (CODOCAL) also took the position of defending the interests of all communities in the parish territory of Licto. In 1994, the efforts of the Ceceles-Guarguallá users’ organization, backed by the inter-community organization, the NGO and the funding agency, bore fruits: their zone was included in allocation and distribution of Guarguallá system water, after years of intensive institutional struggle. The State irrigation agency was finally ‘convinced’, both by the above power arguments by Ceceles communities expressed in the public realm and, most of all, the agency’s tacit recognition that – considering the strength of the ‘covert foundation and hidden community relationships’ – the State would not have the means or local presence to enforce decisions considered ‘unfair’ by the water user communities in question. Clearly, rather than being formulated through prescribed legal and technical designs, water rights and distribution rules are defined and materialized on the run and during a process of confrontation, as different groups or institutions with conflicting interests vie with each other. And there, rule-making and right-accessing depend on the resources, capacities and alliances that each interest group is able to mobilize.

The clash between the old system and the new one: from conflicts to negotiation about rights

Despite the fact that Ceceles was unitedly organized to work on the platform and fight for inclusion in the new system, internal divisions arose among users of the old ditch regarding the newly-acquired water. The problem that the Ceceles-Guarguallá organization faced in building the platform was that not all old-system users were interested in joining the Guarguallá project. Although only a minority of some 30 families did not take part – out of a total of 235 families using the Gompue water – this posed a stumbling-block for integrating the two systems. Non-participants had various reasons for staying out of the Ceceles-Guarguallá organization. Their main reason was that several had only very small irrigated plots, and owned no dry land above the Gompue canal. Obviously, they would reap very little benefit from investing their labor, especially since labor input was independent of land area (everyone had to put in the same amount of labor). Another major reason was a lack of confidence that the new water would ever arrive: “How many times have they fooled us before? This Guarguallá canal is another hoax!”. There were also cases of too few family members to do the work, or cases of absence of heirs who could benefit from the new water rights in the future. In other cases the irrigators were simply satisfied with the amount of water they received from the Gompue system.

Those who did take part in building the new canal were quite skeptical of such arguments. Chal-

lenging these excuses, they accused the holdouts of being ‘free-riders’ who were not pulling their own weight. “Later on, they will be wanting to join up, without having ever got their hands dirty. They are loafing while we fight for our rights and sweat in the mingas!” They were referring to the possibility of joining the organization at any future date, by paying an entry fee.³⁹ Participants were also afraid that, in the future, heirs of non-participants might ‘forget the history of how the rights were created’ and claim their ‘rights’ to water from both sources, although their parents and grandparents had refused to contribute.

The fact that not all holders of rights to Gompue water took part in the struggle for the new water meant that future distribution of water from both sources would be troublesome, because the irrigators in one single irrigated area and living in the same community would have to be differentiated in terms of their water rights: a majority entitled to both sources (Gompue and Guarguallá) and a minority entitled to only one source (Gompue). A crucial question arose: should the two flows be mixed or not? (see map) Mixing would increase the Gompue canal’s flow, and it would also give extra water to ‘non-participants’. Or should long-standing rights and access be respected, by building *two separate systems in a single irrigation zone, even irrigating the same plots*, with ditches running parallel for many kilometers, separate scheduling, different flow rates and different administrations and obligations?

Technical solutions and distribution principles in peasant communities, rather than being general or standard, are produced in response to different social relationships, contexts and encounters. In Andean irrigation, some ditches do, in fact, run parallel to each other for kilometer after kilometer; others carry two flows, mixed together and later separated; and in others the different flows have been permanently mixed. Each of these technical solutions has its own normative logic, based on whichever principles are considered most important, the prevailing power structures and negotiation processes in the respective community system. User-constructed and controlled canals are much more than just ‘ditches’. They are politically and culturally moralized creations (see chapter 7), embed local knowledge, skills, property codes, pride, and power relations, and result from historical struggles and collective action.

Therefore, the NGO that, along with the users, was to be the future supporter, co-responsible for irrigation development, agreed with the users’ organization to conduct specific interactive research, prior to intervening in construction efforts. The main objective was to find out about different normative systems and proposals and about existing water user practices and interests. Then, on that basis, with the user groups, they would seek alternatives for future distribution of the Gompue and Guarguallá systems’ water. Research revealed that the above ‘simple’ dichotomy between new canal participants and non-participants over-simplified the zone’s diversity of interests and groups, and that, likewise, there was a large diversity of technical-normative proposals for implementing the new distribution system. However, the various visions and positions gradually polarized, resulting in a dichotomy between participants and non-participants. Diverging opinions became increasingly deep-seated around three interconnected main issues:

1. *To combine the new water with current flow or not?* The ‘new water’ organization’s leadership favored combining, but the non-participants were resoundingly against this, arguing that it would

39 This fee for latecomers was the cash value of meeting attendance, plus dues and the cost of mingas held up to the date of entry. Even so, Ceceles farmers generally felt that their sacrifices, sufferings and personal risks taken could not be expressed financially. Ultimately, they felt that such entry of new members could not be considered as equal to the efforts of those who had taken part from the outset: “Money is only money! Do they think they are more important than we are, or are they afraid to share in our sufferings?!”

distort their current rights, since they were not going to join. Aware that, to combine the two flows, all users would have to take part in the organization, leaders tried to get everyone to join. The reason is obvious: otherwise, if *non-participants* shared in water distribution once the two flows were combined, they should have specific changes in their schedules (shorter turns, for example) since their rights are constrained. This would greatly complicate and confuse distribution and user-managed administration.⁴⁰

2. *To create two overlapping distribution systems*⁴¹ – with the consequence of having two irrigators' organizations in a single irrigation zone – or *to build an integrated system*? Non-participants favored the two superimposed systems, in order to ensure their original rights. By contrast, the 'new water' families and their leaders wanted a single distribution system, with a single administration. They also reasoned that two diverging types of water rights in one system would create two kinds of land: those with both sources of water and those with access only to the previous source – a very complicated situation. Leaders pointed out that, even with parallel field ditches, it would be impossible to prevent non-participants from using both sources of water in Ceceles' complex, scattered pattern of land tenure, because water from both sources would be running along their fields simultaneously.
3. When the new water arrived, *should existing rights be respected or should water rights be allocated according to new distribution norms*? This issue concerns all rights-holders, whether they participated in the new canal or not, since all 235 families have existing rights in the original canal's irrigation area (with volumes which, as explained above, are not exactly proportionate to land area). Leaders proposed that the new water would entail a new beginning, calling for clearness and transparency, and that everyone should give up their previous rights in order to distribute the total flow according to plot area.

Action research into distribution alternatives had an upsetting and catalyzing effect, and the latent conflict surfaced. On the basis of user groups' different proposals, a total of nine technically and socio-organizationally viable alternatives were identified. Each sought to respect minority groups' arguments. However, during discussions about alternatives, the majority feared that dividing themselves into separate systems would severely weaken their capacity for collective defense and survival. They requested a *single, undivided irrigators' organization*, managing a system in which the flows would be combined, and then distributed according to a single distribution system. In order to have a strong, sustainable organization, they needed internally clear rights and obligations, which could be enforced only within a united organization. For this reason, the 'new water' organization's participants proposed strong sanctions to enforce internal conformity and left the door half-open for non-participants to join.

However, when no consensus was reached, the Ceceles-Guarguallá participants turned to their heavier artillery: they threatened to not only deny non-participants access to the new water, but also to cut them off from the old Gompue water. Some even mentioned taking away non-participants' land altogether.

Unsatisfied, non-participants turned to the State agency's offices to find out whether it would be legal to combine the flows or – if worse came to worst – to deny them access to the water. They

40 It would also lead to a serious problem whenever, in the future, the flow from the Gompue canal flow ran dry: heirs of non-participants could insist on continuing to use the 'combined' water, as they had been doing all their lives.

41 This issue is related to the first one, but different. In the Andes, some communities combine flows, but later re-separate them, sending each portion to a different system.

sought legal arguments to defend their existing rights. These tactics of ‘legal shopping’ in other law systems are, as I have stated in chapter 2, a major strategic element of Andean customary law practices. But the group of participants was not flustered by attempts to muster State institutions’ support; as one Ceceles leader put it: “If they declare war, if they take us to court, who cares! No lawyer would be party to such a lawsuit confronting this community in its own home base and, anyway, how are they going to keep us from denying them the water in actual practice?” Participants had been building a strong water community rooted in self-confidence, shared norms and a dynamic hydraulic identity, so they did not at all fear confrontation ‘in the public realm’, knowing that they could operate from their home base.

Realizing that community’s capacity for defense and the future of their livelihood and irrigation systems were at stake, Ceceles leaders actively looked for a way out. Joining the Ceceles-Guarguallá organization was one of the few viable possibilities for the non-participants, but how to convince them and also respect the enormous investments already made by the participants?⁴² After many conflicts, meetings and discussions, the community leaders and members negotiated a final solution in the General Assembly: the 30 families would join the combined system, paying a discounted entry fee according to the amount of land that each family owned. It was agreed that there would be only one united organization, with a single distribution system. Flows would be mixed in the main canal.⁴³ This distribution replaced previous rights by the new rights. To obtain the new water, all would work equally in order to have equal rights to speak and vote. However, each family would receive water according to their landholdings, because, as put by one of the users, “there are no big landowners among us”. Additionally, to improve production possibilities, they decided to shorten the irrigation interval from every two weeks to a weekly rotation schedule. Creative rights constructions and conflict resolution went hand in hand as important resources to enhance autonomy.

12.6. Reflections

Multi-layered water community foundations and political-legal interaction

In order to understand legal pluralism in water management and the diverse, dynamic, contradictory nature of common property systems in the Andes, the examples make it clear that there is an obvious need to go beyond the dichotomy between official and customary law. The great importance of local normative systems in the Andes, in combination with the under-valuing and oppression that they have suffered for centuries from official authorities and State law, have often led to an uncritical, dogma-ridden analysis of the contents of peasant and indigenous law. This happens both in certain visions perceiving customary law as a still-life set of ancestral customs, fixed traditions and absolute historical rights, and in the currents idealizing the harmony of Andean life and community systems. Such analyses of customary law either overlook its internal contradictions or place it on a black-and-

42 Many non-participants felt that the membership fee was too high, especially for those who owned little land. The Ceceles-Guarguallá organization’s leadership was quite interested in admitting non-participants into the organization, but under what conditions could this be done? The entry fee reflected investment in labor, fees and organizational inputs from each participant. Reducing entry costs for new members would mean that they would not only join ‘without getting their hands dirty’, but also that the members who had participated would lose trust in the organization. One user explained this common feeling: “How could my contributions be worth less than a fee paid by these people who never helped work?”

43 Next, the enhanced flow would be divided into two equal parts for distribution to two zones of equal area within the system, as the users put it: “to make things clearer”.

white pedestal. As the cases show, however, a local definition of ‘equitable rights’ does not refer to a harmonious concept, or to peasant and indigenous dogmas, but to a dynamic political construct which reflects the divergent economic, institutional and cultural objectives and power of the societal groups involved. These groups, both ‘internal’ and ‘external’, contest and negotiate rules in the day-to-day encounters and arenas where their irrigation system develops. For peasant and indigenous water users, this dynamic process takes tradition and customs not as determining factors but as important sources of contemporary norms, as inputs to flesh out current rights.

Clearly, as argued in chapter 4 and illustrated in case histories such as Ceceles, Andean water control collectives are institutions of internally differentiated water users, multi-layered entities whose members are differentiated by property rights, gender, status, and often by ethnicity. At the same time they are bound by mutual dependency to develop, use and manage their water sources, by a sense of collective (culture-space bound) hydraulic identity, and they are determined to realize their interdependence and materialize their collective and individual water rights by engaging in collective action strategies. Water rights are, indeed, contested both within the user group and vis-à-vis third parties. But within the system’s territory and social spaces, in the event of conflicts, there is great collective interest in resolving them as well and soon as possible, in order to restore effective cooperation.

The conflict-ridden development of rules does not contradict the fact that there are fundamental, shared interests among user families in Andean community systems. Individual households are aware that their subsistence and survival can be secured only by reproducing their collective system: a forced, intensive and often daily collaboration among user families. This ‘collective contractual reciprocity’ (see chapter 4) is entirely different from market-type contractual arrangements and is built on trust, community morals, and long-term social cohesion. Grounded in a particular culture, history and livelihood strategies, it often forms the backbone of Andean community systems and plays a key role in the production and reconfirmation of water rules and rights. The various cases show how, in turn, these water control norms rooted in community rationality must guarantee collective action in order to sustain local water use systems. Here, each member’s rights and obligations are derived from collective rights and duties. Moreover, a family’s water rights depend not only on performing their obligations within the water use system itself but also on performing other collective tasks established by the community. This fact roots these rights, in multiple, complex ways, in the other components of the normative foundation of Andean ‘water communities’.

Although commonly concealed from outsiders or masked by the use of protective mimicry strategies (adopting formal institutional appearances) to resist State interference, this normative foundation of local water communities involves clear organizational patterns, operational rules and functional agreements with respect to tasks and privileges. But the issues of identification and hydraulic identity are equally important; the water community foundation dynamically interweaves the process of accessing and defending the water source; the location-specific set of rights, obligations and working rules; local definitions, values, meanings and symbols; mutual relations among members of the user group, as well as the relation of the human community to water and the natural (and often supernatural) environment. They provide a sense of ‘mutual belonging to’, in the sense of humans collectively belonging to that particular water source and system, and vice-versa. In this local water community foundation the expressions of and interaction among the five domains of water control (chapter 3) become manifest, providing identity to the group and legitimating their collective and individual water rights and water distribution practices.

The cases in this chapter make it clear that this collective foundation is a fundamental physical,

cultural, socio-legal and political space for maneuvering not just in the local water world but also in the broader battle grounds of water control. Whenever strong and stable, as in the case of San Mateo de Huanchor, as ‘nests of solid organization’ in the Andes, through multi-scalar struggles they enhance both their own water rights claims and provide the basis for wider political-legal networks, whether through horizontal alliances with similar grassroots organizations, or through vertical alliances with regional or national organizations and international institutions.⁴⁴

For this reason, despite internal disputes and differences, the first essential element is to achieve organizational unity, coherence and legitimate local authority within the waters users’ organization. Secondly, since local water users know very well that local rights repertoires are hybrid complexes and dynamically interact with diverse ‘outside’ normative frameworks, the question of how to (try to) *shape* this legal interaction becomes crucial for local water user communities. In Ceceles, for many years, people have fought for recognition of their own norms vis-à-vis official regulations: access to water and management decision power through the mechanisms of ‘creating rights through user investment’ and ‘recognition of socio-territorial rights’ rather than depending on ‘State concession’. After winning this pitched battle, Ceceles found itself divided by internal contradictions: the ‘non-participant minority’ demanded respect for ancestral water access rights, advocating the normative system that had operated previously in the zone. ‘Participants’ proposed respect for the norms of the community’s majority, and even suggested that the rest could be stripped of their water and land rights.⁴⁵ So, the two groups appealed to different normative systems to obtain recognition of their rights. Participants reasoned that, being the majority, they had the power to change existing rights and formulate new principles. As a defense mechanism, non-participants attempted to get official legal backing, trying to legitimize their claims by appealing to State institutions. Paradoxically, these non-participants appealed both to official rights and to their ancestral rights – two normative systems that are often in conflict or simply refuse to recognize each other.⁴⁶ The majority, however, made it very clear that – in this particular case which concerned outside rules that would weaken the community’s organization and rights system – they would not accept this particular legal interaction. Obviously, at the same time, they favored legal interaction with the State whenever it meant the backing, extension and strengthening of their collective community water rights and autonomy.

The outcome of the Ceceles negotiation was for all to join in the combined system, based on a transparent distribution schedule and a single body of water rights. The strong stance taken by the leadership showed that they felt the most important issues were to defend their autonomy, reinforce organizational unity and generate internal transparency, which could be attained only by a single water management system. These principles – autonomy, unity and internal transparency – were the grounds for their core reasoning. We see in this case that the struggle to create and defend water rights cannot be summarized as a simple dichotomy between ‘peasant and indigenous norms versus State law’, or ‘local equity versus outside injustice’. Nevertheless, most peasant families are clearly eager to defend their autonomy and collective interests by standing up to internal schisms in the water community and keeping out what they see as hostile elements of non-local normative systems.

44 As the examples show, hand in hand with inwardly reinforcing their local foundations, user groups also need to achieve vertical and horizontal strengthening and linkages in order to defend their water interests. In turn, to create effective strategic networks and alliances depends on self-confident, consciously organized, well-sustained local water control systems with solid foundations.

45 Local water user communities have an irresistible mechanism to enforce compliance of members: cutting off water for those who fail to comply with collective rules.

46 As the non-participants ‘shopped around’ in State law, they showed that the oft-mentioned contrast between official and ancestral rights is not always a valid or exclusive basis for analyzing normative contradictions.

Arguments wielded in this defense or resistance, as well as water communities' articulation of the contents and meaning of 'water rights', are often quite different, depending on whether they are for 'internal' or 'external' consumption. Water rights are strategic tools – their components range from physical to discursive elements – that aim to both defend vis-à-vis 'outsiders' (where the 'collective water right' is an important weapon) and arrange water affairs among members (where the multiple 'individual rights' are crucial). As a consequence, also local communities' own reference water rights (chapter 2) are commonly quite different from their *rights in action*. This adds to the complexity, intangibility and 'thickness' of water community rights foundations: Andean systems often make 'in-house usage rules' and 'external usage rules', according to their strategies for resistance or their need to manipulate representatives of dominant outside normative systems. In the next chapter I will conceptualize this as an important element of local 'con-fusion' strategies.

Struggles for water rights and resistance

From Bolivia's Water Wars to struggles by the Ceceles communities, from the national demands by the CONAIE movement to claims by the community of San Mateo de Huanchor, nearly all water rights struggles in the Andean highlands express that there is more at stake than only the distribution of the (powerful) water resource itself. They manifest that, besides the struggle over material resources such as water and infrastructure, at a second level of contestation there is the dispute about definitions and contents of water rights and management rules. Next, the third level is a struggle over decision-making powers and the legitimacy of normative systems and their authorities; and, at a fourth level, discourses clash to defend particular water policies, normative constructs and water hierarchies.

In San Mateo de Huanchor, for example, the fight was about the right to sufficient water for their basic crops and water taps but also about the definition of 'water quality' and the threshold values of cadmium, arsenic, mercury and lead in the water that their children were drinking every day. It was as much a struggle for the right to a healthy environment as a fight for the right to speak without being labeled and imprisoned as 'ecological terrorists'. And the discursive struggle necessarily had to confront both power mechanisms or strategies that were used intermittently by the dominant groups: people had to face and contest, alternatingly, the classic, oppressive, coercive power strategies of the State, mining companies and drinking water enterprises, and the modern, participatory, capillary powers preaching 'harmony', the 'wish to become included in progress' and 'the shared, national interests of all Peruvians'. Also in Ceceles, water rights battles took place at all four levels. The dispute was as much about the getting water to their fields as about defining water rights and legitimate water rights-holders. It was a conflict over acquiring new water rights and over achieving recognition for the legitimacy of their normative system authorizing those rights. Going up and down the above levels of water rights contestation, different interest groups sought to defend and control rule-making amidst conflicting normative frameworks and made it clear that actual water rights are not simply defined in lawyers' offices or on engineers' drawing-boards; they are negotiated and enforced in processes of social struggle. Indeed, for Andean water users these rights are too important to leave their definition and distribution to lawyers and State agencies: water rights not only give access to water and infrastructure but also constitute power relations that define control over decision-making for water management.

Not surprisingly, as I have shown in the foregoing chapters, dominant national policies and international policy discourses prevailing in the neoliberal era seek to dis-embed local water rights and

undermine local water community foundations and hydraulic identities: a process of penetrating and dissolving the thickness of the water rights defense home base, de-identifying with the local, and aligning with national or outside interests. Aside from legal strategies or agrarian and water reforms, conscious political-technical design of ‘irrigation command areas’ to include and master rebel places and spaces is a clear example.⁴⁷ But local communities respond to these processes of political domination and cultural homogenization. They strive to actively re-embed their water rights, and defend and reconstruct hydraulic identity. Their struggles should thus not just be narrowly seen as protests against the effects of new water policies, but require a broader historical and social contextualization. Water struggles in the Andes are also struggles for specificity and local autonomy, for the right to self-define the nature of water problems as well as to decide on the direction for solutions. Materialization of freedom, well-being and continuity in Andean communities, rather than through free markets or imposed State rule, depends on the very existence of these collectives and their (if necessary, masked) foundations. Rather than pushing for an individualized society to work for economy, water control in peasant economy is to be supportive to collective society. Therefore, their struggles also challenge the very rationality of reforms, and actively question their claims to neutrality and objectivity. Consequently, struggles do not just demand alternative ways to distribute water, they also demand new ways to think and talk about water (Boelens & Zwarteveen 2005b). Rather than ‘installing hegemony’, neoliberal and modernist water discourses also nurture resistance. Andean water user communities commonly see through ideological messages and turn them into demands against those advocating those messages. They strategically select and interpret those norms and proclamations (e.g. the modern issues of ‘democracy’, ‘decentralization’, ‘participation’, etc.) that suit their water rights interests.

Water control development and political-strategic recognition

Technological interventions alter the water property relationships underpinning community system functions. Therefore, it is common to find that interventions have negative impacts on the performance of existing systems, and they may weaken or destroy collective action by damaging or confusing the local normative system. However, this same rationality also offers an opportunity to accompany local organizations in their efforts to change and balance property rights. The dynamics of the process of creating and reproducing water rights, the inherent struggle to legitimize the community’s own authority inwardly and outwardly and, therefore, the tight linkage between the development of these community rights and changes in the power structure, imply that ‘working on water rights’ can open up major opportunities for either consolidating and reinforcing the status quo, or empowering alternative stakeholders (Boelens and Hoogendam 2002; Menchú 1998; McCay & Jentoft 1998). They can mediate and even provide support in local battles for water rights, so less powerful groups and organizations can gain access to water, to decision-making power over management issues, and to legitimizing their authority (see also chapter 13).

This challenge necessarily means shedding light on latent or emerging conflicts and power contradictions embodied in the present or future configuration of water rights. Conflicts generally play a major role in forming and strengthening local organizations and normative systems. Action-research with Ceceles users did not attempt to avoid conflicts, but to identify those conflicts, understand them

⁴⁷ Obviously, this is directly related to the conscious, modernist design and loss of vernacular spaces. See, e.g., Illich’s work “H₂O and the Waters of Forgetfulness” (1986). See also my analysis of “De Soto neoliberal legal pluralism” (chapter 8) and the subtle, neoliberal domination strategies to *include* (and thereby annihilate) local rights frameworks and spaces.

and help handle them so that local institutions could become stronger. It also means that, beyond the academic-analytical recognition of local water rights, an explicit political-strategic recognition of water rights is required (see chapter 5): not just analyzing the existence and manifestations of unequal power balances but also taking part in joint choices to collectively tackle these hierarchies and articulate a political-strategic vision for future rights development.⁴⁸ In San Mateo de Huanchor, a number of persons and entities, from the local to the (inter)national level, engaged in this effort and aligned themselves to the Huanchor water rights struggle, thereby reinforcing the community's strategic defense network.

A major challenge for any accompanying entity concerns the need to back the legitimacy of local water rights. Since they consist of sets of contemporary norms which are continually adapted, the institutionalization of explicit contents from local law systems in national legislation is both impossible and counter-productive; such rights contents would lose their identity and their proactive capacity for renewal (see chapters 5 and 8).⁴⁹ They make sense only in the particular context within which they are created. Rather than backing or legitimizing specific rules, the enhancement of local systems' authority to *make* such rules would strengthen both the rights foundation and the maneuvering capacity of local water communities.⁵⁰ The use and expansion of this 'strategic space', the water community foundation from which water rights along with infrastructure and organization are defined, created and consolidated, is key to local empowerment. Sheltering an internal school for rights and identity development, reflection and organization, they also offer a home base for the development of challenges and counter-discourses and the strategizing of wider water defense maneuvers.

Undertows, resistance and creativity

Despite the dominance of positivist water legislation, universalistic policy models and the strategic alternation of coercive and capillary power forms to discipline local water rights repertoires and user organizations, the continued existence of legal pluralism is in itself a clear sign that the normalizing project has not and never will be completed. Water rights diversity is an expression of resistance. The 'thickness' of local normative arrangements and their interwoven-ness with all other water control domains – physical and metaphysical, organizational and political – together with their relative anonymity, informality and embedded-ness in community exchange relationships and kinship networks, mean that water community foundations not only shield and sustain semi-autonomous continuity and collective action and enable 'reactive resistance' and protest, they also constitute forms of 'active resistance' to normalization policies and practices. A water community rights foundation is, what I conceptualize as an 'undertow': "a current beneath the surface of the water that moves away from or along the shore while the surface water above it moves towards the shore" (Webster's Dictionary 1994:1134). Both the concealed and the mimicry-protected home bases of nonconformity, the 'undertows of water rights' – by themselves and apart from communities' open, public protests

48 Contrary to most current water development and research practices that deny power and/or the situated-ness of analysis, talking and acting about water rights presumes a political positioning (Zwarteveen et al. 2005). Beyond recognizing the situated-ness of water analysts or interveners, accompaniment in water rights development calls for making the political positioning explicit (at least in the realm of the water user community).

49 See also Benda-Beckmann et al. 1998; Schaffer and Lamb 1981; Stavenhagen and Iturralde 1990.

50 Here, rather than stressing individualized or private water rights allocation, an important first step is to make room for collective concessions in the Andes – while giving particular attention and support to the least powerful groups. This legal backing can reinforce local creation and reconfirmation of strong normative systems.

or refusals to comply – are powerful entities and acts of resistance.⁵¹

Next, not only the *existence* of a variety of customary rights arrangements forms an significant base of resistance against encroachment, domination and disciplinary policies. It is particularly the constant, dynamic, sub-surface *making* of local customary rights which operates as a fundamental source of water rights defense and tool of resistance. It is a conscious and unconscious strategy to keep rule-making and enforcement firmly in local societies' own hands, while simultaneously building the invisible, mutual normative obligations that bind the group members together. The creation of water rules and rights reflects a dialectical process, a process through which people struggle and in so doing create the world in which they live. The outcomes, shape and contents of local water rights systems reflect this in-house and outward struggle (Cf. Chambliss 1993; Van der Ploeg 1990; Long 2001).

Local normative systems often feature strong resistance to changes that would reduce their autonomy. Communities such as Ceceles show that this is not a manifestation of conservatism, a resistance to change in itself. On the contrary, their challenge was not '*conserving* their own existing irrigation norms in order to maintain their autonomy', but just the other way round: '*changing* their own irrigation norms to maintain their autonomy'. They had to dynamize and adapt their existing rights, even though this might force them into lawsuits initiated by their neighbors, standing up to attorneys and the State. They also rigorously discarded some of their long-standing rights to make place for an innovated bundle of rights. Of course, some basic norms were kept, as explained above, especially the norm of organizational unity. Ceceles' people knew that their customary law had to be dynamic and innovative in order to respond to new challenges and guarantee sustainable, self-respecting coexistence in the future. They created new rights rather than just conserving the old ones, seeking a leading role rather than a merely defensive posture (Boelens and Doornbos 2001).

Water rights are a societal relationship among social actors, comprising part of a power structure and also constituting a power relationship in its own right. So, the struggles for water by Ceceles, San Mateo de Huanchor, the Cochabamba water warriors, and the CONAIE movement are at once struggles for power. However, this empowerment process in local water user communities is much more than just a striving for 'power-over', to increase their control over water resources and over the behavior and actions of the different actors involved in irrigation management. It also involves 'power-to', 'power-with' and 'power within':

The process of generating water rights within local water use systems and communities refers to creative capacity ('power-to'), combining three basic elements: users' creation and re-creation of water rights and their specific contents; the particular creation and adaptation of infrastructure able to materialize each family's rights; and the unique creation and re-creation of an adequate organization to handle the system and water source.

'Power-with' is clearly shown through, for example, the upscaling struggle and multi-scalar network mobilization for water quantity and quality rights in San Mateo. They joined together a large number of people and institutions from the local to the international level, all with different but complementary capacities and faculties, to defend their water interests. It is also shown through the

51 As I will argue in chapter 13, rather than *reactively* resisting forms of vertical, coercive power (based on laws and visible power and exclusion), these 'undertows' *actively* challenge modern, capillary forms of power (based on 'the norm' and inclusion). This is also my fundamental criticism of Scott's standard work (1985, 1990) which, while providing a powerful analysis of the 'hidden transcripts', not only omits modern forms of dominating power (and resistance) but most of all over-emphasizes the need to publicly manifest these hidden transcripts, arguing that only their open declaration means that "subordinates can fully recognize the full extent of their claims, dreams, and anger" (1990:223). I argue that in many instances, 'non-declaration' may be as or even more powerful and effective.

prioritization of the unity principle in Ceceles. They fought for a single irrigation system, even in the face of justified objections by specific groups – a single organization and a single body of rights and obligations linking all irrigator families. Their collective action is grounded in ‘contractual reciprocity’ and ‘hydraulic property’ that join the people of Ceceles and link each family’s rights to the body of collective rights. At the same time, unity, autonomy and collective rights, taken together, laid the groundwork for their battle to legitimize their normative system both ‘in-house’ and ‘outwardly’.

Resisting in order to be able to create – and creating in order to be able to resist: the Ceceles families are proud to hear that their neighbors call them the ‘tough ones’, who are not afraid of anyone. In a similar vein, families of San Mateo de Huanchor proudly regale visitors with tales of their legendary hero Huanchor, of their martyrs in 1930s battles with the armed forces – but most of all they explain their collective efforts and successes during the recent water struggles vis-à-vis the mining companies and the State agents. In both cases, as in all other community struggles outlined in this and previous chapters, the past and present history of their vying for access to water, their building and defense of their own normative systems, and their creation of water use systems interwoven with the local socio-cultural, political and physical conditions have not resulted solely in technological systems that, by means of functional organizations, bring water to their homes and fields. More than anything, these processes have led to the social construction of complex socio-technical systems, in interaction with particular contexts, grounded in the specific norms and capacities of their creators and defenders, based on collective power and rooted in undertows. Such local empowerment processes of water rights creation, adaptation, regeneration and diversification dovetail local resistance with creative advocacy, and provide form and substance to hydraulic identities, their ‘power-within’.

chapter 13

MIMESIS, MIMICRY AND THE SHATTERING OF THE DREAM SCHEME.

“She told me: ‘that poor, ignorant indigenous woman doesn’t know what she is talking about ... God forgive them because they don’t know what they are saying ... this Indian is a poor ignorant communist Indian’. And I replied, “look, I don’t mind that you say I am poor, because I really am poor, or indigenous because I am very indigenous – that won’t bother me, either – but I am not ignorant, ma’am – I know how to think!’

We truly *are* Indians, not just because of our clothing, our way of speaking Spanish, our own native language, but also because of our thinking. We are Indians who have been changed, who have been rejected and exploited and marginalized – but we have something in our veins and in our thoughts, the power to make decisions, and that is the strength that we have.”

(Inés Chapi, irrigation leader, Licto).

In this chapter I reach the end of this journey through the worlds of normalization and resistance. It crosses through the hierarchical but equalizing waterscapes where coercive and capillary powers interact to domesticate local water users; where hydro-political dream schemes are put to work to de-identify with locality, dis-embed local water rights, and contain their users within categories of obedience. But most of all, it focuses on struggles by the Licto communities to localize and re-moralize these technical, political and cultural waterscapes; on the life stories of water users and leaders such as Rosa, Antonio and Inés who challenge class-based oppression, gendered discrimination and the racist imposition of subaltern otherness – water users who also defy the age-old power game of mimesis-based self-correction and subjugation, the politics of whitening their minds and hearts.

In day-to-day confrontations over water control, Andean collectivities construct new water rights and diverse identities as strategic weapons in their struggle to acquire or defend water control autonomy. Selectively copying and incorporating outside structures, sources and symbols is inherent to their strategy. Often, indeed, control over ‘mimesis’ is at the heart of the subtle power game – strategic to both domestication and resistance efforts. Does accepting mean conforming? Who includes whom, and how?

Opposing the monocular regimes of representation and going far beyond ‘academic accuracy’, local water users’ political projects challenge the water and ethnic identities *assigned* to them. Far removed from abstract schemes of belonging, dictated by either Paternalist nation-State water administration, Modernist free-market water-client modeling, Motherist homecoming to Mother Earth, or Patriarchic ordering of gender, Lictesños illustrate that the new water rights and territorial identities are based on very concrete, everyday confrontations and experiences. In the struggle to decolonize the symbolic and political orders of water governance, it appears that re-embedding water rights, re-distributing the resources, re-moralizing irrigation technology, re-structuring the lines of command, and re-defining the methods and categories of identification, all go hand in hand.

When constructing their ‘political water community’, the Lictesños combine the forces of diversity in mutual bonds of rights and obligations, not as harmony but as a process of struggle and negotiation. To defy normalization, acts of fusing and confusing join as strategic twins in ‘resistance as con-fusion’, in the open, in the dark, and in the twilight zones.

How to respond to the fantasy-loss of hydro-political dream-scheme designers, with efforts to

‘bringing back home’ the creative imagination and collective construction of socio-technical design? How to turn universalistic, placeless irrigation systems into re-moralized water territories? How do local orders of organized rights complexity, built on non-centralized water practices and truths, actively generate the space and freedom they need to deviate? How can ‘unity within diversity’ and ‘difference within difference’ strengthen these orders? Why is swimming against the current commonly less strategic than deepening and extending the diversity of orders of context-particular non-conformity?

The Lictesños show us that to understand water rights – as effective and affective tools, as weapons, and as battlefields themselves – it is urgent to look beyond just reference rights and focus on the nature of rules in socio-technical and cultural-political action.

Question: Given powerful agents’ interest to influence and domesticate local water rules and rights and considering water users’ multiplicity of interests and identities, how does the water rights community emerge from plurality and how is ‘unity within diversity’ blended to counter-act normalization and defend endogenous water rights definition and reinforcement?

13.1. Rosa

“An aunt who died recently, she told me where she really came from, why we had changed our way of dressing. It happened that my great-great-grandmother was from the community of Lluishi. She had remained unmarried, but in those times this was not permitted because the whites of the town imposed an order that an Indian woman couldn’t stay single. As she did so, she had to pay a fine, a kind of tax paid by single people. But she didn’t have any money, so they captured this woman, whose name was María Guayña. As she couldn’t pay, she was taken out of prison by the Rivera family. The landlord or some other devil possessed her and she had a child, hence the change of our clothes. There was a *mestizaje*, they changed my mother’s clothes, her language - everything changed. But not on my father’s side; he is from the indigenous community of Tulabug and my father’s family still wears an *anaco*”¹.

So begins the story of Rosa, one of the grassroots leaders in the Ecuadorian highlands of Licto district.² Her life is characterized by the struggle to liberate marginalized families from oppression by the blanco-mestizo landlords and other power-bearing groups in Licto town. Rosa shows that the topic of water justice cannot be narrowed down to a dichotomous struggle between the economically powerful and the ones who have been dispossessed, or between the ‘outsiders-oppressors’ and the ‘insiders-community’. Realizing equitable rights, among others in water control, requires more than collective organization to defend against outside interests; it also demands a struggle for internal justice and democracy – gender equity being a fundamental issue here. Rosa’s struggle against white-mestizo racism and gender oppression, moreover, was not limited to the encounters with the subjugating structures and practices in her political environment. It was as much a fundamental conflict with herself, against the whitening of her own mind and being, against the internalization of a racist self-conception as ‘inferior to the whites’ but ‘superior to the Indians’.

“Within my own family I have seen how the indígenas are scorned, but without considering that we *are* indígenas. I searched for my reality, to know who I really am, and through this identity I have pledged myself to a task”.

The foregoing chapters have shown how whiteness and power are directly related throughout Andean history, and chapters 6 and 7 have elaborated on how, in the zone of Licto, there has been a classic process of subordination of indigenous communities to the haciendas, to the mestizos and whites ‘of the town’. Not only the fruits of their labor, but also the members of indigenous families were expropriated, e.g. as laborers, servant-girls or victims of sexual violence. Similar to the accounts of Edith in chapter 7, Rosa saw how forced *compadrazgo* relationships and the obligation of being feast sponsors (*priostes*) further marginalized peasant and indigenous families.

“The situation of the *indígena* was like this: they imposed a feast on him, for the Catholic feasts they would appoint him – and this still happens today – as the sponsor of San Pedro for example, and the unfortunate peasant, whether he had the money or not, had to provide all the supplies for that celebration. When the indigenous peasant rented the inn he was in charge of

1 Indigenous woman’s clothing.

2 Section 1, 3 and 4 are based on Arroyo & Boelens (1997 and 1998), Boelens (2002), my action-research with the Licteños from 1992 to 1997, and our meetings in 1998, 2000, 2002, 2004 and 2007.

purchasing four or five casks of *chicha*, some three or four big pans of rice and potatoes, in order to feed all those folks, and once people were fed, he could go. Guess who enriched themselves! And this person, to be able to go from the inn to the church, had to pay a tax, so that he could talk to the priest. All this was arranged, so indigenous people became poorer every day. This way the feasts of San Pedro were held, the feasts of All Souls, the Child's festivals, the parties of the foremen.

If they caught you drunk on the street, the commissary or the town's political administrator locked you up in prison, and the following day you had to clean up the streets, do forced *minga* work, fix the water, or simply work in the lands of the governor or whoever it was. The peasant was really mistreated. There was a chieftainship whereby two families had control of the whole situation in Licto town, dirty deals were made with the town's administration board, the parish priest, and the doctor. In order to arrange for a baptism you had to go to this family, so that they would speak to the priest. In order to get health care you had to ask this family make an arrangement with the doctor. It was an imposition, a crushing burden, a very terrible oppression.

I feel indígena, my parents are indígenas, and we saw the abuse and the injustice that was there. My father was a carpenter and they would order him to make things and always the town mestizos took away his work. The town's governor would force him to deliver his work to the mestizos and they would never pay my father. They put him in jail instead of paying him anything – all this, it hurt me so deeply!”

Rosa has always lived in the town of Licto, not in the surrounding indigenous communities, but her commitment lies with them. In spite of the fact that she does not dress like an indigenous woman and understands but does not speak Quichua, she does not identify with and is not seen as a ‘mestizo’.³ Sometimes, a few indigenous male peasants, who envy her for her position as a woman leader, call her ‘white-mestizo’ but all community members know that this is not fair. It is not only the blood but, more than anything, one's self-identification, struggle and commitment which determines ethnicity in rural Andean zones – just as forced and forceful confrontation with ‘the Other’.

“We were not brought up with shoes. It was a question of poverty but also because they didn't allow us to wear shoes. Because we didn't have a right to dress ourselves, to put on clothes as we wanted, because the mestizos tore our clothes to pieces. My mother's family was always identified as ‘*cutos*’. *Cutos* were the indígenas who were brought to the service of mestizos or whites, who then changed their clothes. And to differentiate them from both indigenous and mestizo people they cut their hair, they were shorn, no matter how. They no longer wear an *anaco*, or a *poncho*. They are different from the Indian, the peasant, the indígena, they are also different from the mestizo. They no longer identify themselves as indígenas.

We used to say, why us, why did they do to us whatever they wanted, with my grandmother, my great-grandmother, they abused them, they did with them what they pleased. But we shouldn't be embarrassed, we should feel proud of being Indians! We couldn't use braids, the mestizos could, we couldn't, because if we identified ourselves with them, they insulted us,

3 Like the concept of ‘indio’, the word ‘mestizo’ has multiple meanings (see chapter 6), ranging from the biological mixing of bloodlines to the normative notion of ‘whitened oppressor’ (in Peru: ‘misti’).

they hit us. My brother sent me two dresses, and just because I wore a dress at school, they didn't give me my Christmas toy. The teacher didn't give me the toy and she didn't let me enter the school, just because I wore that dress and slippers. They gave us the name of *cutos*, and we had to dress as *cutos*. When they saw you with shoes they said: 'take a look at the Indian, she certainly shows off her feet', they yelled at you. All those things, one accumulates. We were already sick of their abuse, saying to us just anything. Why are they going to tear our clothes, why are they going to hit us, because they indeed mistreated us".⁴

As the first pages of this book have explained, in such locations as Licto the word '*cuto*' referred literally and in a figurative sense to 'dogs with their tails cut off'. In spite of all being indigenous, peasants and *cutos*, in spite of all suffering under the same discrimination and economic misery, it is not equal for men and women. Even economic and ethnic oppression and suffering are not evenly distributed along gender lines. Hacienda owners and other bosses, for instance, dealt with indigenous women as they wanted, being the lowest captives in the chain of oppression.⁵

"We were domestic maids at the Coast, where we looked for work, with my older sister. We were going to work in a house and my older sister got pregnant by the boss, and she had many problems.⁶ My sister stayed sick after the pregnancy. It hurt me very deeply, I never said anything to my parents, but it remained inside me. Then I said, this situation must change".

The Church has always played a fundamental role in the life of Rosa, both in negative and positive ways. In Licto, the Church oppressed both indígenas and women.

"Religion was quite oppressive, I suppose it must have been this way during the Conquest, it's the image I have. I remember a day when the cunning priest thought he was so smart – he came with the Bible and he stood in the middle of the assembly. He said: 'who of you, illiterate Indians, Indians who don't know even what a vowel is, dares to raise voice against the second God of Earth, against God's minister?!' How they characterized us! For example, the priest said in his sermon: 'please, don't mix with Rosa Guamán, because it is the same as getting along with sin, they are communists'."

This was the Church of the powerful, of oppression. On the other hand, with the progressive Church, under the direction of Monsignor Proaño, the 'Archbishop of the Indígenas', Rosa got to know Liberation Theology. Some priests helped the women of Licto to become both craftspeople and to develop their own critical capacity. When she was 17, Rosa took her first steps in popular organiza-

4 According to Choquehuanca's description in 1833 (in: Méndez 2000: 33), indigenous people were not allowed to wear Spanish clothes: mestizos would beat them horribly and order them to take off their socks and shoes. The argument was that "indigenous who dressed like Spaniards would get prideful and disobedient". As Rosa and Inés (chapter 7) relate, 150 years later this was still common practice in Licto.

5 According to Palacios (2004), women's sexuality and their very bodies were consumed, used up and ultimately lost under the hacienda system. The hacienda *pater* would take Indian women and abuse them, as the owner of their lives, punishing and protecting them.

6 Albó wrote about Bolivia: "The paradox is that, from the rural communities' viewpoint, being a domestic servant is one of the very few ways available to young ladies to get ahead and learn about other ways of life. It is the equivalent of mandatory military service for young men. In both cases, the main opportunity that society provides for them to get 'civilized', after schooling, is a highly discriminating environment, which brands them – male and female – with an indelible experience of aggression or, in the best possible case, humiliating dependence" (1997:14).

tion. Starting with groups of youngsters and local committees, she spent an important period supporting the center for women with young children. At 21 she had her first daughter; “my daughter was just two months old or so, they had been electing the board and elected me as President. I began to discuss with the women about what we could do: do we only want to receive food or do we want something different?” But some husbands did not want women to become skilled laborers. In order not to give them reasons to complain, the women looked after children during the courses, and they got up very early and did not go to bed until late in order to carry out all domestic tasks.

“We were pregnant, carrying our child in our hands and in our bellies. Our husbands didn’t want us to go anymore but we went anyway. We even got beaten up, because they said that women were made for the kitchen and nothing more. We sat down to talk and we said: why do our husbands say that to us, why do they treat us like this?

We didn’t have any trainers, we had the nuns, but they think differently. We have a different situation, we live in a different reality. The nuns don’t live like us, like mothers. What I have learned, more than to do handicrafts, is to value myself somehow, that is, to see that, yes, we can! Because the town men always told us we were stupid, foolish, that we were not worth anything, they always belittled us. They don’t understand that we also want to be somebody. I always thought and said: ‘I’ve got to be someone!’ I have achieved more than just handicraft abilities and that, more than anything, helps me to be a link in order to speak to other women, to share with other women. The main thing has been that we value ourselves”.

Power groups in town realized that these women were a threat, both to their power position, the white-mestizo hegemony, and, at the same time, to their macho values that regulated social life in Licto town. Repression was intense and directed at their being women, indigenous, and lowest-class peasants.⁷

“In the town a really hard fight went on. I have suffered the aftermath, because I began to lead and people began to look at me. We no longer centered only on the family, no longer was the change present only at home, but in the whole town. I was pregnant with my fourth daughter when my husband arrived and said to me that they were going to set our house on fire. The priest had denounced us, saying that we were communist agitators and what not, and they came to get us with an order for our arrest. He had warned the town people by telling them: ‘Either I leave or you send Rosa Guamán and Inés Chapi away’. Well, he is a priest, he is Father God’s priest, then the town’s people said, no, it’s better that they leave, they were going to set my home on fire, they had armed themselves with sticks. I was already eight months pregnant then, I got really scared. I went to the hospital, I was in bed, I almost died, because I was ill. It may have been because of the tension; anyway, my delivery was premature because of this situation”.

The authorities and the Church of Riobamba intervened and, for the time being, calmed down the physical threats. But, perhaps more than the economic and physical repression, the psychological repression has been the hardest. Women’s occupying of public spaces previously reserved for men

7 Similar to what De la Cadena (1995) found for the Cusco region, both male and female tend to (self-)identify women as ‘more Indian’ and men as ‘more mestizo’, which refers not just to ethnicity but also to class hierarchy and social status (see also chapter 11; Boelens and Zwartveen 2001; Vera 2004).

actively challenged the prevailing norms (see chapter 11), at both the household and broader levels. As a reaction, typically, women's moral virtues were questioned and they were portrayed as 'public women'.

"They told us: 'those mannish women that don't obey their husbands, they don't respect home or the Cross of God'. Then they said to us that we were like men, that's what I really came under fire for, because I began to participate in something very different from what my mother did.

Hideous cartoons left in my husband's workshop humiliated me. They knew they were touching me in my most painful part. It hurt a lot. When I had my fourth child, then my husband showed me the cartoons. He said to me: 'this is what you have earned. Look, from now on I don't want you to go on like that, why don't you stay home'. We realized that we could no longer live like that. Inés and I saw each other undercover, like two forbidden lovers. I read Domitila Chungara's book about Bolivia and it helped me a lot in my thinking. Strengthened with her ideas, I rushed with much more force to organize women groups. We also began a network of peasant women of different towns at the provincial level".

Indeed, as the last chapters have shown, a variety of (in)visibilization strategies together with the construction of a broader political network often proved to be crucial in local strategies that challenge submission and normalization. Moreover, the development of water control – and thus, the power of water – came to be a core issue in the region, feeding both the lower classes' dreams of resistance and, opposite to that, the aspirations of State institutions and Licto's upper classes to reinforce their control through a hydro-political dream scheme. As chapter 7 has explained, the situation was complex: the State project, already there for several years, was managed without any user involvement, so that the most powerful, with more contacts and information, would seize the water and the irrigation management. Besides, the town's white-mestizos possessed the best lands of the project area, precisely at the head-end of the system. This would enable them to take all the water in times of scarcity, drying up the sixteen indigenous communities downstream and strengthening the latter's dependence and submission vis-à-vis Licto town.

The third section of this chapter will outline the defense strategy that the communities set up to claim and define the system's water rights and acquire the corresponding decision-making power. Here, the dynamic re-appropriation of the ancient mechanism of 'water rights' creation by minga labor investment proved to be fundamental. The peasant-indigenous inter-community user organization gained strength, even to the point of constituting the major force in the entire zone. And all this even *before* the arrival of any irrigation water. The town's white-mestizos had no answer, they saw their power position affected and tried to manipulate the town's people: 'Don't worry, when the water arrives we will just go talk with our buddies at the irrigation agency and we'll get all the water. It is not necessary to work in mingas. For Pete's sake, how can we work with the Indians!'

The analysis of Rosa, Inés and other women in Licto town was more serious, and based on precisely the contrary, on supporting the communities' struggle for organizing around water control. "I have been in difficult economic, psychological and family situations, but I have said that I will shoulder the struggle for irrigation, irrigation is major, we have to show that we are not made just to obey, but we are also made to decide, we are made to change and we are made to generate". Bit by bit, these women had gained respect among the poorer groups in town and summoned all the town's neighborhoods to create a democratic organization in Licto too, just as had been happening in the

surrounding indigenous communities.

“They didn’t know how to get organized for irrigation. I suggested that it should be done by neighborhoods, with a representative for each neighborhood. For the central neighborhood they appointed me; there were seven neighborhoods. We had already worked for years in order to change the board. We had all those problems, I thought that the town really didn’t see me yet as a person who could serve them, but at that time they appointed me as the central neighborhood representative, which had more mestizos than the others, and I was surprised”.

The seven delegates had to propose the internal distribution of the directorate posts. Men were afraid that they would be unable to live up to the requirements of the posts and face all the problems, and they said that representatives from the two powerful families should be asked. But the women were opposed to this.

“Our male fellows said: ‘*Compañeras*, we should call Don Esteban, the co-operative manager; we are not going to be able to do anything’. He and his family were always the ones who manipulated us. Then I said: ‘Excuse me, my friends, if you are not worth anything, well I am, so here we are going to elect the dignitaries’”.

That is how Rosa became the first president of the Licto Irrigation Committee, approved by all neighborhoods. It is rare in Ecuador for a woman to be elected within an irrigators’ organization, except in cases where she replaces her husband. It is even rarer to elect a woman *president* of such a ‘masculine’ organization. There was much protest from the priest, the town’s administration board and the white-mestizo families – she was publicly embarrassed, “¡You shut up, you ignorant Indian, just shut up, you annoying Indian!”. They tried to disqualify the new president saying that an Indian could not represent the town of Licto and that, besides, she would steal the organization funds.

“They didn’t want to accept it, first because they have lived dominating us, and second because we are women. ‘How can a woman be in charge of such an irrigation committee. *Never an Indian, much less an Indian woman!*’”.

A strategic step was taken when Rosa, the other women and the poorest peasants of the town decided that the Committee of Licto, similar to all other surrounding communities, would have to join the indigenous organization (CODOCAL) and their inter-communal irrigation organization: the Water Directorate. Licto’s women and lower classes saw the irrigation project as a way to obtain their main objective of emancipation and equity in the town itself.

The peasant-indigenous organization accepted the application with some distrust: what interest would the town’s mestizos have in joining the indigenous organization after so many years of deceit and oppression? But they accepted. Political-organizational strategies were defined by both sides: Licto entered into the irrigation organization accepting the communities’ criteria regarding water justice and democracy, and Licto’s women and poorest strata achieved a union with the indigenous communities to back up their fight against the town’s internal oppression, successfully confronting the abusive powers. They mobilized and organized themselves, not for an abstract goal but in order to realize very concrete aims and objectives related to their common future: water control – even though strategies and human investments were not necessarily always based on ‘rational choices’

and not all results are measurable. “I think our children are not the same as before, so we always have to think that the fruits appear in the long term, and are often not measurable”. For the Licto women, beyond abstract analysis, gender and ethnic relations are dynamic constructs that are shaped and reshaped in people’s ordinary life, in concrete space and time, according to the peculiarities of each local reality. In the Andes this means, for example, that gender analysis and practice most often cannot be separated from class and ethnic reality.

“From the time when we began to organize, we knew organization was costly, and certainly, it has cost me a lot. The aim is not to achieve fame or power, it is necessary for our people. But likewise, the time I’ve been in the organization has been one of great happiness in spite of the suffering, because I have met many women and I have seen how they start to speak and defend themselves. This is my happiness. With the organization we see a different future, it means social change. Before, families were dispersed; now there is unity that joins families, where irrigation is discussed, but also other topics. Young people, who had never participated, now develop in a conscious way: a big family is being formed.

Once my father said to me: ‘Rosa, I think that what you’re doing is the best I have waited for in my family. Pity that you’re a woman’, said my father, ‘If you’d been one of my male children I would have been even prouder. But, even being a woman, I know what you’ve done, and you’ll never surrender. I don’t want you ever to be humiliated by these horrible mestizos because they’ve always humiliated us’. This I kept in my mind, because I knew how we were mistreated, humiliated and marginalized. That’s what my father told me. ‘Rosa, don’t you ever surrender. You have succeeded in breaking what we were not able to break’ ”.

13.2. Decolonizing water community, culture and identity

“Attach any branch you like, but attach it to a strong trunk”
(after José Martí, *Nuestra América*, 1962(1891):18).

The foregoing chapters have shown how the economic and cultural politics of colonial and post-colonial States and elites have generally been directed at obstructing or appropriating local forms and rules of water control. Both the classic ‘exclusion-oriented’ policies and the modern ‘inclusion-oriented’ strategies, in contemporary nation-states often joining as twin brothers, have been and continue to be used to establish ‘hydro-political dream schemes’ that reinforce the dominant orders. Alignment to these schemes, which are both imaginary and real (i.e., with real, everyday forces that aim to socio-technically materialize this water policy dream) has, among others, the objectives of extracting surpluses from communities and legitimizing the authority and cultural supremacy of external political-economic power groups, in conjunction with local elites.

As Gelles argued, “secular, bureaucratic, monetary, and supposedly more rational and efficient State models of water management claim to provide universal benefits, while in fact extending State control and the cultural orientations of national and international power holders” (2000:160). In the last decades, neoliberal policies, sustained by national and international institutes and powerful water players, have joined the battlefield, imposing market rules and privatization of water rights on the communities. Together, they attempt to externalize water control and shape the internal ‘needs’,

counteracting collective action and deepening the existing power differentials (Boelens & Gelles 2005). Expert networks have strengthened these universalistic water management models and discourses, which fight against ‘water control irrationality’ and base themselves on water and market efficiency, governance rationality, scarcity alleviation, and secularity (chapter 10), however, largely denying the fact that symbolic power in their water political-technical discourses remains as important as it was in the mythological water constructs of previous eras.

This way, modern water culture is a scheme of belonging and a frame of reference that identifies with a set of globalized, continually changing water governance norms, which act to measure and either exclude but preferably correct the ‘different’, the ‘other’, the ‘ab-normal’ or ‘anomalous’ water meanings, values, and practices (see chapter 9). I have argued that hydro-political dream schemes have strategic functionality in this modern water-power culture – and though they are an illusion at the same time have great actual force, particularly when both the dominant and the subordinated players believe, *know*, that playing the game is mutually beneficial and worth the effort. Not surprisingly, this modern water-power game is full of symbolic instruments (see Cohen 1986) to legitimize its political authorities, reproduce its hydro-policy vision, strengthen the underlying economic and water property structures and install its water control and rights principles. Chapters 6 to 11 have extensively illustrated how, for its capillary working, it conceals the water-power relations that sustain the water control model but also adds its own symbolic force to those power relations (i.e., “symbolic violence”, Bourdieu and Passeron 1977:4. Cf. Foucault 1995).

The disguising effect of symbolic power and the ways it actively produces misrecognition of existing water user communities and their rights repertoires materialize in the politics of recognition that are applied by Andean nation-States. These are informed by both cultural politics (the links among superiority/inferiority, authority/obedience, and who has the right credentials to establish rational, legitimate water rules and rights), and distributive politics based on political-economic power relations (the issue of water property rights, accumulation, and the material (re)distribution of water wealth). The ‘domestication chapters’, again, have shown how the two neatly intertwine, making the dichotomous, academic question of ‘cultural recognition *or* economic re-distribution’ a false representation of the fundamental problems that marginalized water user groups face. Rosa’s story is one example of how, throughout the colonial and postcolonial history of the Andean region, class, ethnicity and gender have been politically constructed as a complex – either to subordinate or, as I elaborate below, to resist subjugation.

While the walls of cities as Quito and Lima still show occasional slogans as ‘*Build the Nation – kill an Indian!*’ such outright expressions have been replaced by more subtle common language. But the typical reaction of a Quito taxi driver to my question regarding the 2002 national elections that would bring the indigenous party Pachakutik to power make clear that racist and rigid categorical thinking is very much alive “*But how are Indians going to tell us what to do? Indians are Indians, blacks are blacks – period!*” (pers. comm. July 2002). Before colonialism had created the ‘indio’ as the subaltern other, ‘*runas*’ pertained to numerous ethnic groups, but after centuries of racist indoctrination, more than just an ideology, ethnic discrimination has been interiorized in everyday life, of both the upper classes and within the popular sectors of society.⁸ As Gelles rightly argues, “today, popular and national cultural discourses present the Spanish-speaking, white, West-facing minority as the model of modernity, the embodiment of legitimate national culture, and the key to national

8 But colonialism was unable to erase the practice of territory-bound self-referencing. “Nowadays, rural people do not define themselves as Andean or Indian – despite their common past – but habitually turn to the name of the place where they were born, using the name of the ravine or the town” (Flores Galindo 1988:19. Cf. Albó 2003).

and personal future. This heavily influences irrigation development” (2006:86). Fundamentally, the stigmatization of Andeanity and Indian-ness, and the inherent imposition of subaltern otherness, have powerfully combined with subjugating self-definition, mimesis-based self-correction, and the capillary politics of ‘whitening redness’.

Indeed, even though explicit racist and superiority-inferiority schemes have largely disappeared from the public water development scenery, chapter 9 has shown that there is a fundamental continuity among colonial civilizatory projects and the modern, neoliberal water development project that aims to normalize the endogenous (‘thus anomalous’) water users and water rights. And although less explicit, this civilizatory continuity also prevails in many of the other water development approaches, whether rooting in radical-socialist, liberal-humanist or philanthropic views. Fanon argued that, on the unconscious plane, colonialism did not seek to be considered by the subjugated “as a gentle loving mother who protects her child from a hostile environment, but rather as a mother who unceasingly restrains her fundamentally perverse offspring from managing to commit suicide and from giving free rein to its evil instincts. The colonial mother protects her child from itself, from its ego, and from its physiology, its biology and its own unhappiness which is its very essence” (Fanon 1963:211). Indeed, typically, the modern water schools aim to protect the local water user communities and families from their own being and identities, from the perverse, inefficient and irrational water rules and rights that they have created.

Essentialization, as I have shown in several chapters, was not limited to just negative stereotypes of water user communities and their rights repertoires but equally to positive ones. This resignification of Andean cultures “from obstacles to progress to beacons of goodness” (Starn 1994:15) becomes manifest in divergent regimes of representation:

On the one hand, dominant discourses in the Andean water world tend to systematically neglect or ridicule the contemporary local water cultures (actually existing water user communities do not form part of the official water culture; rather, they are to be included in this official culture) but pre-conquest water Cultures, particularly that of the Inca, *do* form part of it. “Indians are therefore accepted as distant glory and backdrop. Indians are ‘wise’ if far in the past and abstract ... They are stupid or ‘stubborn’, and an ‘impure’ ‘vandal’, in the present.” (Méndez 2000:19), or in short: “Incas yes, Indians no!” (Ibid. Cf. chapter 10; Baud 1997).⁹ Historically, this Inca glorification was taken up by criollo society precisely when they forbid the indigenous peoples to refer to Inca symbols and traditions: Inca mythology was to be reproduced but in a controlled, non-subversive manner (Flores Galindo 1988). Thus, ancient Inca culture was not just re-styled by official rhetoric and politics but also entirely depoliticized. For elites it provided them with a usable past and a tradition of the superb Empire, legitimating their current political projects, such as rationalizing water management ‘*as the Incas had done*’. Interestingly, ‘official’ water culture and modern, hydro-political dream scheme politics neatly combine with the exaltation of glorious Inca past; particularly the Inca’s water control discipline, calculability and orderliness is brought to the fore, not its exploitative sides. And when ‘the Indian’ is represented, it is “condensed in abstract ways, in the Sun, the Highlands, the Mountain Lakes: images with no meat on the bones” (Ibid:266). Chapter 8 argued how, indeed, the denial and essentialized ‘recognition’ of local water rights and cultures join hands: they reflect naturalized representations, as static folklore or as subordinate to official water culture, in order to contain the intangible diversity and control the dynamics of unruliness. Consequently, policies are oriented to-

⁹ As Baud stated, “the ‘dead’ indigenous culture is glorified whereas day-to-day indigenous culture is systematically despised and economic and political discrimination against the living indigenous peoples continues” (Baud 1997:25). See also Albó 2002; Almeida 1998; Baud 2006; Gelles 2000; Flores Galindo 1988.

wards a non-existing image of ‘Indianness’, a stereotype; or towards the assimilation and destruction of indigenous water rights systems where dynamics and plural nature are denied. The past and current ‘customary rights and identities’ are all contested fields since ruling classes and States include them in their hidden repertoire of dominance but give them a new, essentialized meaning in order to avoid resistance and to present the illusion of historical continuity - as if they would not have subjugated indigenous and peasant communities.¹⁰

On the other hand, quite on the contrary, as a reaction against ‘we exist, but only in their terms’, against the external regimes of representation that claimed to re-present the past, the present and the future of The Other in order to control their resources, their behavior and their imagining, and as a radical response against the many academic theories and political philosophies that constructed or deconstructed their identities and claimed to speak for them (see chapters 4 and 6), indigenous movements themselves also have proudly accepted and elaborated essentialist Andean Otherness.¹¹ Far from internalizing ‘whitening racism’ and far beyond the wish to ‘prove being civilized and equal’, (neo)indigenist and indianist views stress the continuity between the glorious past, present and future – an idealistic return to their roots as ‘First Nations’, the ‘*pueblos originarios*’. Indeed, beyond neo-colonial Paternalism and beyond equalizing Modernization, this ‘return to the lap of Pachamama’ may be characterized as ‘*Motherization*’. The use of ancient symbols and hybrid myths – such as the utopian resurrection and recomposition of Inkarrí (see chapter 6 and 14) – play an important role in this revalorization and reification of Andean identity.¹² Here, not just academic-analytical but also strategic-political arguments visualize and ‘construct facts’. While in the process of identity formation empirical validity and analytical consistency are never based on solely historical and material experiences, the political and social effectiveness, in many instances, may legitimize this political construction of Andean identity (as done, e.g., by the indigenous movement). But such representations of history and current reality (particularly when it analyzes all ‘evil’, ‘degeneration’ and current subjugation as having solely Western and imperialist causes), become problematic when they are claimed to be accurate scientific representations of Andean social relationships (particularly when, *again*, intellectuals from outside the communities impose this ‘otherness’ on community members, as a precise inversion of ‘the occidental’),¹³ or worse when its objective is to legitimize violence.¹⁴ As Flores Galindo rightly argued, “Utopias can inspire passions strong enough to drive or

10 Patterson (1991, 1997) characterizes this phenomenon as ‘archaism’, i.e. the incorporation and imitation of the old in the new context; in the Andean region it constitutes a powerful strategy of dominant groups who, in order to subtly include the indigena and peasant subalterns in their model and mode of control, pretend continuity of the past (presented as a heroic utopia) while that order is destroyed. At the same time it masks this destruction in order not to show the new mechanisms of power. Baud observes how it is rooted in the elites’ indigenismo; “they created an image of the Indian in order to provide themselves with a past and a future, and to also legitimize their position” (1997:18).

11 Often, this ‘return to essentialism’ (Almeida 1996) is rooted in the fact that indigenous intellectuals feel that constructivist notions of ‘invented traditions’ (Hobsbawm 1983), ‘imagined communities’ (Anderson 1983) or ‘ethnicity as a strategy’ denies their roots, identity and culture, that it is not the dominant discourses but *they themselves* who are being ‘deconstructed’. They feel that they are accused of ideological manipulation and that their pertaining to a ‘community’ or ‘indigenous identity’ would be invented as well – that they are seen as powerless to control their cultural definition (Cf. Almeida 1996; Roseberry 1995; Starn 1994; Baud 2006).

12 As Flores Galindo remarks, the ‘Andean Utopia’ construct is distinct from most others since it is placed in historical (reified, Inca) reality: “The contents of this construction have been changed to imagine a kingdom without hunger, without exploitation, where Andean people will once again reign – the end of disorder and darkness” (1988:47. cf. chapter 7).

13 E.g., the influential PRATEC group (see chapters 4 and 6) promotes a construct that “ignores the colonial foundations of Andean culture, the plural identities of many Andean peasants, the multiple social realities they transit through and the ethnic and class hierarchies they inhabit in” (Gelles 2006:88)

14 As in the case of the Shining Path and its definition of *Pachakuti*, burning and turning the world upside-down (see chapter 3). As Arendt (1969) observes, reflecting on Fanon and critiquing Sartre, “it is certainly not new that those who ... are oppressed “dream at least once a day of setting themselves up in the oppressor’s place” – see, e.g., the powerful illustration

drag multitudes beyond their immediate circumstances, they even may try to take Heaven by storm or steal fire from the gods. But this idealism readily turns into fanaticism and dogmatic rejection of anyone who does not share in them” (1988:418).

Remarkably, while the above processes of (essentialized) Andean identity construction fills numerous books and continuous, fierce scholarly debates (just as they tend to legitimize (inter)national federations), in all the years that I have worked with Andean communities and their dynamic water cultures and identities I have seldom encountered these ideological representations *in the field*. Water users do not struggle for the return to Pachamama, and rather than hoping for the recomposition of an imaginary Inkarrí they aim to, for example, actively re-compose the components of their own living water use system, building on their own forces (see chapter 14). Yes, they do strategically use history, their imagination, they do aim to invert symbolic orders, and they certainly do build ‘functional traditions’ in which they strategically select from a large repertoire of past and contemporary norms and values, social and material resources, water control and livelihood tools, and images of otherness. But their political construction of identity and ethnicity is *not* made a reality in an abstract, pan-Andean, ideological sense. As in the case of Rosa, the political projects to challenge the identities assigned to them (Said 1978, 1993; Kearney 1996) and construct their own schemes of belonging root in concrete, day-to-day confrontations and experiences. Their water culture is not pre-established by forced categories but by the multiple interactions and encounters – both in the realm of economic-materialist expropriation and in the fields of cultural-ethnic, gender and political discrimination – that together shape their political water project.

In this simultaneous struggle against assigned identities and for the particular self-construction of identity, for the Licto peasant-indigenous collectives, families and individual persons both ‘identity’ and ‘water rights’ are strategic tools that are created against the light of the social relations of power and interests in which they are used. Therefore, differences in water rights repertoires and distributions are not just created by ‘differing local perceptions’ but particularly reflect distinct historical and current power plays. For the same reason, Licto identities are particular but not just ‘local’, since they need to be understood also by reference to their positioning within the wider structures of water governance, meaning, and power that were outlined in chapter 7. But unlike the above indigenist counter-identities that simply invert the negative identities assigned to them – which, paradoxically, again makes them into straight, ‘containable’ categories – processes of local identity formation such as the ones that take place in the Licto struggles do (as I further detail below) not so much produce counter-truths but alternative truths and identities. The latter, also because of the inherent processes of boundary-crossing and discourse-shopping that were elaborated on in chapter 11, are ‘incomprehensible’ – i.e., literally, they cannot be grasped, included, imprisoned.

“We have to produce new forms of subjectivity through refusal of this kind of individuality which has been imposed on us for several centuries” (Foucault, in Rabinow 1984:22). Persons such as Rosa, Inés and other female and male leaders in Licto show that the conditions of class, gender and ethnically subjugated water users in the Andes do not deterministically shape their future. This does not deny the power of the domination and normalization strategies presented in the foregoing chapters, nor does it escape the powers and methods of ‘subjectifying’ local water users.¹⁵ Rather, it

by Arguedas, “*El Sueño del Pongo*” – but their efforts to materialize this commonly “turned dreams into nightmares for everybody” (p.8).

15 As Foucault argued, “I have not denied – far from it – the possibility of changing discourse: I have deprived the sovereignty of the subject of the exclusive and instantaneous right to it” (2002a (1972):230).

shows that, paraphrasing Albert Camus, the greatness of men and women lies in their decision to be stronger than their condition. Or as Frantz Fanon argued, the body of history, with its discrimination and oppression, does not entirely determine human action. “I am my own foundation. And it is by going beyond the historical, instrumental hypothesis that I will initiate the cycle of my freedom” (1967:231). But as the Licto case below shows, as in the earlier Ceceles and Huanchor cases, this goes far beyond just an ‘ideological struggle’ or a ‘change of mentality’. It relates to visions and culture as much as to water infrastructure and artifacts, techniques of registration and control, and most of all, to the precise articulation among these elements in power-knowledge-truth triangles, in the particular practices of the above water control settings.

Clearly, for Rosa and her fellow indigenous water users, ethnicity reflects both a set of oppressive relationships and a way to escape this. Like class and gender, ethnicity, indeed, structures their opportunities and limitations, but as this chapter shows, they also aim to actively structure ethnicity – just like class and gender. And they do it in many ways, using water control as one of the vehicles. For them, plurality is much more than the sum of its constituent parts. Being different and diverse, constructing difference, and acknowledging diversity within unity, as a creative condition for resistance and the generation of unity within diversity – a ‘political water community’ where interests can be discussed and negotiated.

13.3. Delicto de Licto: de-moralization and re-moralization of water rights and infrastructure

Localization of norms and re-appropriation of development

In the first stages of the Licto-Guarguallá irrigation project, as chapter 7 has detailed, the INERHI planners and designers had made no attempt to include community norms or rationality in the design, ignoring community territorial boundaries, the existing inter-community organization CODOCAL, and peasant families’ customs and knowledge. In order to materialize their standard design, they never discussed, negotiated or defined the project’s basic criteria with the future users, such as rights and obligations, criteria for access to the system, organizational structures, technical designs, etc. But despite this neglect of the interests and vision of the minifundista communities, and notwithstanding the fact that the project engineers *did* strongly relate to other future water users (i.e. the local white-mestizo elites), some indigenous community leaders considered the project as a means to not only change their agroproductive situation but to also challenge existing power structures. Water is a powerful factor, so they figured that, to achieve better prospects for their communities, ‘they would have to get inside, one way or another’.

The challenge was enormous. Besides the State agency’s water design monopoly, professional biases and racist attitude towards the indigenous peasantry, and apart from the age-old oppressive power relationships under Licto town’s white-mestizo rule, another fundamental obstacle was fragmentation and envy among the communities themselves, caught as they were in the elite’s divide-and-rule powerplay. The socio-political panorama changed dramatically, however, when in the course of 1992-1993 CODOCAL elected new, strongly committed leaders. They wanted to solve conflicts among communities and bring them together within a unified peasant-indigenous organi-

zation. They got support from the NGO CESA¹⁶, which joined the Licto-Guarguallá project from the early 1990's. At the community level as well, more and more voices expressed the need to gain control over irrigation project decisions, both in indigenous communities and, as Rosa explained, in the poorest, most oppressed sectors in the town of Licto.

The sixteen communities, totaling 1300 families, established a water users' organization, the Irrigation Directorate, strategically, within CODOCAL's inter-communal structure and rooted it in their multiple community organizations – *not* based on the hydraulic sector formula prescribed by law (see chapter 7 for the 'techniques of governance'). The Irrigation Directorate quickly elicited significant recognition from the newly awakened indigenous communities. Each irrigating community had its representatives on the Directorate. As the president of CODOCAL put it:

“Our irrigation system will never be like the one our neighbors have. The engineers have done everything over there and the peasants had no right to participate in decision-making. There, the State decides who is to irrigate, how they must irrigate, when the canal will be closed down for cleaning, how much they have to pay for the water, and all that. Actually, they have *no* peasant irrigation organization and there isn't any peasant struggle to claim their rights. Our system is going to be different – we are fighting for an irrigation system controlled by peasant and indigenous families!” (Antonio Laso, Tunshi San Javier).

Antonio Laso, being an irrigator in the neighboring, State-controlled Chambo System, knew that top-down constructed water control utopias easily turn out to be nightmares. In the paternalistic-utilitarian tradition they 'create utilities and provide services' in order to generate the greatest happiness for the greatest number of irrigators but without allowing them to create their own water control and rights society. Being an indigenous leader in an environment where elitarian and State's utopian promises always have neatly combined with oppression and encroachment on indigenous rights, he argued:

“Here in the indigenous world, fortunately we do not expect the Ecuadorian Government, or any outside authority or institution, to give us everything. Whether there are advantages or disadvantages, we have worked and fought for years for our vision, our hope, to be on the move. We have set a goal, and we can achieve it: some day we are going to attain our objectives, so we have the hope to work and fight”.

In late 1993, INERHI sent CODOCAL – responsible for 'organizing the users within the communities' – the Regulations, with the official by-laws for administering and organizing governmental irrigation systems, 'to sign it and legalize the users' organization'. However, with support from CESA, the leaders of the Irrigation Directorate analyzed the Regulations, article by article, translating the technical and legal jargon into farmer-friendly language. The leaders realized that signing those by-laws would mean surrendering all decision-making power to the government, accepting an artificial irrigation organization, disconnected from their Andean organizational structure, and establishing a system of water rights that would deny the criteria that they had formulated in their last assemblies. Moreover, this official approach, in practice, would favor some powerful white-mestizo families and others who refuse to sweat and get their hands dirty by working on the system. In the words of one

¹⁶ The Ecuadorian Center of Agricultural Services, see chapter 7.

of the comuneros: “There was always that slavery of having the indigenous people do the work – the humble folk – and then they just take the water from us without contributing themselves. ‘The law says so, that any land within an irrigation system must have water’ – that is what they have always wanted”. The Water Law’s techniques of governance and the agency’s water allocation practices would indeed strongly favor the wealthy minority.

As irrigation leader Inés Chapi explains below, the definition and enforcement of their own water rights ideas was crucial in the water struggle. “We said, all right, we are creating regulations here, regulations to say what the rights are, what the obligations are – we are not just working idly, as if we had nothing else to do, or too many drinks”. Thus, rather than accepting the organizational blueprint and simply paying for the water at nation-wide rates the users made their own, context-adapted regulations. Rather than accepting ‘a constitution as the act of a government it was an act by which the people constitute a government’ (cf. Arendt 1990:146). It was based on a fundamental principle: The right to water and management decision-making is earned by those who work in the communal labor work-parties, who participate in the water users organization, and who pay their dues according to collectively established contribution rates. The crux of the indigenous peasants’ protest and proposal was that only paying the fees to the State would not be enough for obtaining water rights: ‘rights cannot be purchased – they must be earned’.

Various chapters have shown how this mechanism of water rights creation (and re-creation) through collective, reciprocal labor parties is fundamental in many places in the Andes. Historically, in many cases, the ruling classes have expropriated this *minga* or *faena* relation from the communities, using it for their own class interests (see chapter 6). But ironically, today, many of the norms, symbols and organizational forms of local user groups that served the extractive purposes of imperial and post-colonial states and landlords, are being strategically re-appropriated and adjusted by these same communities: precisely to resist surplus extraction and control by ‘outside’ powers (Boelens & Gelles 2005).¹⁷ In the Licto communities’ proposal, by creating infrastructure, the water users establish their individual water rights and create their common hydraulic system ownership. This bonds irrigators together and is at the heart of their collective action (see chapter 2). Moreover, it guarantees that local collective bodies have effective control over the development and application of their own norms; and it establishes their right to dispute the very legitimacy of normative systems and authorities imposed by external political forces. Users’ own concept of authority (from ‘*auctoritas*’, ‘*augere*’, to augment, increase, enlarge) was literally based on the act of foundation, creation and extension; as Arendt observes for another context, indeed, “by virtue of *auctoritas*, permanence and change were tied together ... foundation, augmentation and conservation are intimately related” (1990:201).¹⁸

Parallel to constructing their water rights framework, the communities, with support from CESA, now carefully analyzed the INERHI technical and organizational designs and collectively discussed

17 Therefore, local Andean water rules, roles and identities are constructs that cannot be reified, but neither can they be denied, as commonly happens in either mainstream Eurocentric or radical deconstructivist approaches.

18 But unlike Arendt’s analysis, Licto’s history and authority are ‘rooted’ and (necessarily) based on change within continuity. Arendt’s neglect of considering the native American ‘founding fathers’ and peoples (e.g., the ancestors who built common property relations, authority and territory) and her following of the ‘Founding Fathers’ in their presentation of American *pre-colonial history* as if based on the Roman empire (creation of a usable past, which neglects the indigenous governments and property systems that had to be materially and discursively destroyed to build ‘the American Revolution’) weaken her important conceptual work. See also chapter 9: Arendt’s falling into the trap of the ‘*leyenda negra*’ results in her neglect toward its inherent violence. The ghost of Juan Ginés de Sepúlveda and his ‘justification of war against the Indians’ (omitted in Arendt’s work) played a key role in *all* liberal and socialist revolutions in the Americas, not just in South America.

their probable consequences. This resulted in a fundamental critique to both the design process and its contents, and led to grounded proposals for change: *'protesta con propuesta'*. But the government agency's technical and administrative officers would not agree to such elemental changes in 'their system'. In addition to having to discard the designs and norms in which they were professionally heavily invested,¹⁹ they would have to agree to the design criteria of 'outsiders', indeed, that of 'Indians', which was entirely counter to professional prestige and the prevailing racial logic in Ecuador.²⁰

Nevertheless, after two years of fierce struggle, local mobilization, including strategic federation with the national movement,²¹ the countervailing power of the indigenous communities had grown strongly and the agency had to accept that the project was destined to fail and, even worse, was in danger of becoming a *political* fiasco: social peace, public image, and election votes were at risk.²² INERHI was forced to redesign the system together with the communities and the NGO. But even though they agreed to change the infrastructure design as far as possible, they refused to discuss the 'illegal' organizational and normative proposals of the communities. Nevertheless, the communities prevailed: in spite of the fact that the State agency was unwilling to ratify the rules formulated by the indigenous organization, the latter quickly enforced those rules as the internal, guiding principles of their own system.

The users formulated an administrative counter-proposal to the above INERHI Regulations, which in users' eyes mainly had a 'outward' function, directed 'to officialdom', serving their mimicry strategy and the purpose of obtaining legal recognition. But along with it, the Irrigation Directorate began preparing internal regulations: 'living' regulations that would have to 'grow' along with the generation and implementation of the irrigation system. Except for fundamental criteria, the internal regulations were dynamic: they responded to practical needs that are often unforeseeable and included new arrangements that still had to be 'tested' in practice – very different from static State law. Also entirely different from the hydro-political dream scheme laws, the users' alternative allowed for political debate and decision-making from the household (see below) and the community to intercommunity level with powerful 'checks and balances' to its own authorities – both in its institutions and regulatory principles and, of central importance, in the day-to-day community practice of social control over the leaders.²³

The water rights norm became the solid foundation for the system's management, and, indeed, much more. The norm became an all-purpose tool that indigenous communities could use both to

19 Although mainly limited to designing at the drawing-board, during many Licto project years they had churned out a huge volume of detail designs.

20 To defend their professional position, they came up with precise 'irrigation efficiency' calculations, based on abstract methods and lacking any empirical investigation. Without investigation they also came up with intense counter-arguments. E.g., "In our country, indigenous women have no objection to irrigating at night – that is when they usually irrigate". Clearly, discursive re-presentation is at the core of the water struggle.

21 See also the film "The Right to be Different" (Wageningen University - Agrapen 2003).

22 An important change took place when the top national irrigation boss, the agency director, got involved. Fearing a political drama, he ordered his staff to redo the design, together with CESA and CODOCAL. It shows that State, NGO and other institutions are not monolithic, but made up of heterogeneous interest groups, according to (among others) the positions they occupy: those in political positions are mainly concerned with maintaining social peace, presenting public success stories and obtaining votes; technical staff are judged according to how their designs meet engineering principles; project economists are evaluated according to their planning and budgetary management, etc.

23 Chapter 4 elaborates on this (mostly healthy, sometimes excessive) 'inverted' vigilance in most Andean communities, of the members checking up on their leaders. Here, institutions such as (bi-)annual leadership rotation play an important role but even more fundamental are the Andean 'mutual bonds of obligation', and the practice of critiquing leaders in community assemblies 'for what they did or did not achieve'.

challenge the State-prescribed water control and to break free from their historical domination by the town's white-mestizo families:

“They think that water belongs to the Government and they will just get water without doing anything for it. Indigenous people say ‘No, if you want to be included in the water you have to work – to have water rights you have to work’. There is a saying that we popularized: ‘water is for people who work for it’, so that is the way we think. Participating in minga work-parties, participating in meetings, in general assemblies, in commissions going to Quito – this has been a weapon wielded by people to have water rights.” (Inés Chapi).

As Antonio Laso affirms, on the basis of this criterion, they have managed to organize all the indigenous communities, most of them located at the system's tail-end; “Users have generated their own rights, through their work, through their struggles”. But the idea was not to exclude the mestizo groups at the head-end forever. On the contrary, the political-organizational strategy was that, first, the tail-end indigenous communities would have to unite in an irrigators' association with its *own* principles and capacity for negotiation and alliance-building; second, once solid and strong, this organization would ‘invite’ the town of Licto to join in the organization, but under justice criteria already established by the communities.

Obviously, this organizational strategy faced great resistance from power groups in the town of Licto. As Rosa made clear, they tried to discourage others from associating with the organizing efforts of the indigenous. Among other ploys, they have leveraged their historical position as suppliers of information from the outside world, manipulating and inverting the criteria formulated by the indigenous organization, such as the idea of ‘capping irrigation water rights’. They waged a campaign, knocking on every door in town, to scare those poor people who might be the likeliest to join forces with the indigenous: “Watch out – the rules in the new irrigation system say that only families with *over* three hectares will receive water”.²⁴ But their position became weaker every day. In June 1996, the indigenous communities organized a massive march *through* Licto town, precisely on the day of Licto's *Fiestas Patronales* (“The parade is not for Indians”). The banners read “*Water is for people who work for it!*” and “*Licto people, participate and you will be entitled to irrigation*”. This invitation was a fierce slap in the face of white-mestizo power. The strategy of the peasant-indigenous organization materialized at the moment when also the ‘subversion’ process in Licto town took shape, whereby the lower-class in town wanted to unite with the indigenous communities in order to face down the abusive power relationships, together taking over the irrigation intervention.

“Rosa said that Licto would be left without water, all the communities were organized and Licto was not. We hired an amplifier and a car to drive around calling people to meeting. Then, we formed the Irrigation Committee. They made fun of us, they mocked us, oh Lord, saying: ‘these fermented ladies, what do they know? These crazy-heads, what can they do? These ladies whose husbands can't keep them under control, what water are they going to give us? What about the water intake, which isn't even built yet?’ Those were their mestizo comments, since they thought that people wouldn't back us up.” (Inés Chapi).

²⁴ Inés Chapi: “There were people from here in Licto working for INERHI who told their families ‘why work?!, you are fools, your labor is wasted, the water belongs to the State – someday we will get some’.”

But, as Rosa explained, given the historical and ongoing abuses, the communities had worries about this novel ‘multi-ethnic’ alliance. Inés: “At the beginning, some didn’t want to accept us; they were resentful, saying that ‘Licto towns-folk exploit and humiliate us, so they will want to mistreat us in the irrigation organization, the way they trampled us before. We should not include these Licto people’. Nevertheless, the indigenous leadership’s strategy was clear: unity within diversity meant that the Licto town water users should not be excluded.

“So, Antonio Laso, President of CODOCAL, said: ‘whatever the other Licto people have done, whatever the mestizos have done, all our neighbors can’t be forced to pay for it; we can’t leave them out – we need to organize, whether we like it or not’. Antonio has been very firm about this, saying: ‘we cannot deny membership to anyone’. That is why we earned acceptance for this irrigation organization” (Inés Chapi).

Since then, in a process of ups and downs, the Licto irrigators’ organization, now including the town, has earned increasing respect from the poor, the indigenous, the development agencies and the State, and the recognition of ever-more mestizos who have ‘made the best of a bad lot’ and applied for membership in the irrigation organization. As Antonio remembers:

“Winning over the mestizo people has been a long process, where first of all the consciousness of all the communities, after inter-community organization first of all, began growing stronger. The struggle became a reality, with labor parties, participation in uprisings, in strikes [...] until the National Government provided the funding to continue working on the irrigation system. This made the mestizo people feel that we are organized and we can succeed in any project we plan. Our organization has shown, with results, some important projects benefiting the mestizo people and benefiting the communities. Then the mestizo folks finally began saying ‘it is worth it to get organized, it is valuable to be united, it is good to be solidary. Can’t you see how the Indians make headway, how they work and how they pursue successful projects?’ As I have said, getting the mestizo people of Licto in order has required many sacrifices. The rules in irrigation are that anyone who works, anyone who supports our struggles, any who participates, anyone who is solidary – has water rights. This has been a very sacred rule, a very worthy example. Another rule, is not to just expect the government or supporting agencies to provide everything but to provide our own counterpart contribution, our own struggles. This has set an example and helped them begin to forget their racism, and relinquish their complacency. Now, everyone wants to work together to get Licto and its communities ahead.

I think it is the awareness of the mestizo people, who said: ‘come on now, here are the indigenous people, willing to fight, hard-working, making sacrifices, and proving themselves with results’. So now *we are part of them, we are part of them* – this has been a reality, a triumph.”

Also within many indigenous communities there has been a gradual process of reorientation toward community co-existence. This by no means implies that internal contradictions have been overcome, or that some ideal ‘Andean harmony’ has been attained and, besides, introducing irrigation always generates new contradictions.²⁵ In the Andes, moreover, construction of water rights and the appro-

25 As has become clear throughout the chapters, local Andean water rights justice is not necessarily ‘better’ than State-based

priation of the system through collective efforts by irrigator families is an extremely tough reality that would be hard to romanticize. Nevertheless, in many Andean communities this is seen as a necessary prerequisite for the new social relationships on which to base the collective management of the new system. As Ana Taday (Molobog community) observes:

“We were like dogs and cats, fighting with each other about the land from the hacienda – we hated each other; we couldn’t stand the sight of each other. The assemblies were one big fight. Mingas, working for water, was what reconciled us. We work together now in the mingas; we hold the water sessions together now. We eat together, and we are back together like before all the fighting. Of course the sessions are tiring, but yesterday at the assembly we were joking around, chatting, with the people we couldn’t stand to even see before. The mingas have brought us back together.”

The creation and maintenance of collective hydraulic property, grounded in shared history, symbols, and struggles, linked family and collective rights to their new, collective water cultural identity. And although social control (to mutually check accomplishments of mingas and quotas, or water turns) forms a necessary part of collective water control in user-managed Andean systems, this in no way is comparable to the collective utopias – or rather dystopias – that are presented by outside or presumed ‘pan-Andean’ ideologies. It is a form of common ownership and collective control that explicitly incorporates heterogeneity, as the indigenous communities clearly showed by joining the mestizo villagers in the system.

To materialize this collective control, the struggle to ‘localize’ the formulation and application of rules and rights proved to be (and still is) a core issue. Not only the definition of the water rights’ contents and the right-holders universe, but also the rules establishing how to acquire these rights, and establish legitimate authority, were at stake in the game.

Unlike many development interventions, users’ ‘localization strategies’ certainly did not have any intention to restrict the water struggle to just the *local* water battlefield. While Licto’s localization of water development and decision-making power vis-à-vis ‘exogenous modernist models’ finds its roots in the local context, Lictesños certainly did and do not aim to exclude ‘outside’ knowledge, relationships and assistance. They aimed to capture external and even ‘global’ opportunities and adapt them to the local conditions, under local autonomy and control. This way, the fantasy-loss that characterized the State’s hydro-political dream scheme was contested by reconquering, or literally ‘bringing home’, the capacity to imagine the consequences of socio-technical design.

This fantasy-loss was also contested through the active construction and re-construction of ‘territory’ inherent to their localization efforts, i.e. the generation of a cultural-political and socio-productive place with landscapes and waterscapes for which people feel responsible, in which they are morally involved, in contrast to the non-places and placeless irrigation systems that are fostered by universalistic expert networks.²⁶ As was shown in, for example the Tunshi struggles (chapter 6)

repertoires but, by definition, gives more attention to the particular circumstances of users-in-their-context. Next, Benda-Beckmann observed (for another region) that often, “the exclusive character of water rights is softened by relational, moral and religious principles that oblige holders of water rights to use only as much as they need and to share with those in real need” (2007:264). It does not deny occurrences of internal gender oppression (chapter 11) or those based on class and ethnic differentials.

26 In chapter 7 and 10 I have described how, for example, the epistemic community of mainstream irrigation scientists, engineers, and water policy-makers have joined hands with the economists to incarnate spatial techniques and artifacts that, despite being power-loaded and time- and context-particular, are presented as neutral, universal, time-less, space-less, and

and the Tulabug expropriation encounters (chapter 10) – which are Licto communities, too – for the Licto-Guarguallá comuneros and comuneras water control space is not ‘irrigation command area’ or an emptiness filled with an ‘exchangeable production environment’, as imagined by the dream scheme designers. Rather than being a homogenous, hydro-geometrical location, a universal patch of the globe, equal for all, water control space is actively created by local water cultures, rooted in history, in current hydraulic identities, property relations and livelihoods, and in future community and territorial continuity. Aside from its material appearances, to a large extent, water control space is *invisible* – particularly for ‘outsiders’, i.e. those who do not see the locally prevailing norms, the social relations among water users, the historical struggles for water, the different ‘kinds’ of water, those who cannot see the ‘attached-ness’ of water to territory and to local community. This same water control space invisibility, as I will argue later, feeds its force and ability to resist against the politics of both bureaucratic water policies and neoliberal water marketing regimes that aim for de-linking or de-territorializing ‘water’ from community and from local history (Cf. Castro 2002, 2004). As such, it is an important, countervailing weapon against both visible, coercive domestication regimes, and invisible, capillary modes of power.

Where natural water sciences together with (monetary or new-institutionalist) economist approaches often have created and represented space as a neutral, homogenous continuum that can be re-ordered and subdivided into whatever calculated planning would maximize water efficiency and the economic rates of return, also many culturalist approaches in the Andes have misrepresented and denied water culture and territory: their presentation of Andean ‘culture’ as an almost autonomous entity or ethnological ‘discipline’ have often neglected its spatial and technological dimensions. The interaction among peoples, places, techniques and production actively shapes culture and identity; and vice-versa, local water cultures give particular form and meaning to this interaction.

The re-moralization of irrigation infrastructure

“Tools are intrinsic to social relationships. Each person relates to society through actions and the tools effectively mastered to carry out those actions. To the degree that one actively masters one’s tools, their shape determines his/her self-image”
(Illich, *Gender*, 1994: 90).

In the long process of ‘taking over the system’, the dream scheme black-box was opened by the users and its contents, i.e. irrigation designs, water governance techniques and the (assumed) modes of aligning them, were increasingly challenged. New ‘social requirements for use’ had to be included into the infrastructure, challenging the intended use (and thus the distribution of benefits), and finding alternative ways to organize its use. In many cases, designs and artifacts had to be entirely renewed. Also, new ways had to be set up to align the complex of infrastructure, community-based user organization and water rights. This process of ‘re-moralizing’ infrastructure and ‘reworking’ irrigation artifacts by the users obviously implies first its ‘de-moralization’ – a phenomenon that commonly is defined by the engineers as ‘demolition’ or ‘tampering’ and by the water users as ‘re-design’.²⁷ Similar to the processes described in chapters 11 and 12, this was done both, and intermittently, in the open realm of inter-institutional debate, users’ mobilization and the active neglect

void of context.

27 Vice-versa, in much irrigation literature and thinking, when ‘experts’ implement hydraulic adaptations these are called ‘rehabilitation’ or ‘modernization’.

of the planned socio-technical order, and in the hidden spaces of ‘community undertows’, such as through the continuation of local authorities and organizational patterns, ‘subversive’ rule-making, the ‘nocturnal reworking’ of irrigation technology and artifacts, etc. For instance, the latter became manifest, dramatically, in one of the Licto zones, Ceceles, where the neglected irrigators threatened to nocturnally ‘de-moralize the system’ by blowing up the main system’s siphons: dynamiting and dynamizing (see chapter 12).

But the sound critiques and counterproposals of the CODOCAL - CESA alliance, regarding system design and construction, convinced the Swiss donor and other relevant actors in the institutional landscape; and the massive federation and uprisings to defend their rights and technical and organizational proposals forced the State agency to reconsider its plans. The latter, moreover, had to largely withdraw from system construction due to lack of State funds and the communities took over with the support of the NGO.

Gradually, CESA and the CODOCAL communities drew up the outline of a redesigned system. Wherever possible, the canal layout and canal dimensions were changed. Rather than only responding to technical criteria of soil quality, field slope and production capacity, now they needed to technically enable, and adapt to, irrigating the areas of the *right-creating* families and communities – even if this concerned steeply-sloping minifundio plots. The technical layout also needed to adjust to the socio-territorial rights basis of the users collective, for example by including communities such as the ones of Ceceles.

The State modular design was analyzed as a powerful tool to break community authority and reciprocal social relations, and align users to State hierarchy and external lines of command (chapter 7). Therefore, although communities had no problem with a hydraulic-block design for water distribution purposes, they could not agree to blocks crossing community boundaries and muddling their own authority and assembly structures. They were also opposed to granting decision-making power to the modules. Water management power would have to be organized according to structures embedded in community and inter-community levels, respectively, the Community Irrigation Committee, the (inter-community) Irrigation Board, and the General Users’ Assembly. Then, the irrigation modules, with only operational functions, needed to be designed *within* the communities, who would maintain their decision-making and leadership choice prerogatives. Canal layout and dimensions needed to re-arrange according to this community-embedded hydraulic block design.²⁸

All this implied a radical change in the designing approach, from a productivist to a socio-territorial and rights-creation based approach. This remoralization was even more drastic in the irrigation scheduling patterns. Being key instruments for ordering users, natural resources, space and time, they had to be re-arranged entirely according to local demands. The decision to get rid of nocturnal irrigation and include night storage reservoirs resulted from gender, class and ecological concerns (see chapter 7), aside from arguments related to increasing operational flexibility and simplicity, user group independence, and water security, when generating a buffer storage capacity. As Inés Chapi relates:

“The whole system was designed to irrigate 24 hours a day, which was impossible because so

28 The design of a larger number of modules (115 instead of 60) with a smaller size made it possible to: a) reduce the modular flow and decrease minifundio erosion risks, b) allow for greater local control since the (highly-parceled) modules now contained less plots; locate all the modules *within* the community boundaries (see also Olazával et al. 2001; Rasing 2002).

many men emigrate from these communities, leaving this work for the women, who stay home with the children and livestock. Women were going to have to irrigate, and it was going to be burdensome to irrigate around the clock, with small children, and many would have had their turn at 11 or 12 o'clock at night [...] Also, there is sloping land in some communities that is not going to be easy to irrigate. So, it was decided to hold water in large night reservoirs, so the water could be used 16 hours a day and stored the remaining eight hours.

The white folks would not have had such trouble irrigating 24 hours a day, because they give their land to sharecroppers or workers making a day wage. However, in the communities, we have to do the farm work ourselves.

For everyone to have irrigation, from the canal or the reservoir, irrigation starts from the last plot and goes up, so those at the bottom are not left without water. We did the same for Cachiguayco, in Santa Rosa, because they were at the tail of the system. So, the system has nine reservoirs and there will be enough water for everyone. ”

The process of remoralizing irrigation technology involved clearly visible changes related to, among others, the technical domain of water rights. Aside from the above changes, it included the overall distribution plan; expansion of the flow rate to 1200 l/s and increase of the irrigated area to 1650 ha (to incorporate the ‘overlooked zones’); redesign of the modules; cadastral field maps and layout and properties of tertiary and field canals (established during collective field sessions), etc. A visible but less ‘perceptible’ component of remoralization refers to the need to change the social contents of irrigation facilities, e.g., when reshaping field division boxes and gates or watering schedules, which strongly relates to the organizational domain of water rights: how to organize people’s labor around the artifacts in order to enable them to materialize their rights. Remoralization of technology also involves ‘invisible’ components – in terms of ‘what can/cannot be seen physically’. Such is the case of embedding hydraulic property relations – collective and individual water rights – in the system infrastructure, a process closely related to the socio-legal domain of water rights.

For this reason, to entangle the technical, organizational and normative designs, whereby the creation and re-creation of rights would orient and synchronize with the creation and re-creation of organization and of infrastructure, the Lictēños actively challenged the rigid, linear project sequence. They argued that the formation of an irrigators’ organization and rights arrangements, as phases *after* the infrastructure had been designed and constructed, meant pushing them, the organization and their living rights into a technical mould that was pre-established by outside concepts. In practice, therefore, as is common in user-controlled systems, rather than concentrating on just the infrastructure itself, they fostered the ongoing interaction between this infrastructure system and the organizational and normative systems (cf. chapters 2 and 4).²⁹ The movement and direction of this interactive ‘wheel’ (see figure 13.1) was taken firmly into users’ hands.

It soon appeared that common training methods were not useful to generate deep discussions and exchanges: the population, mostly illiterate women, took no interest in the project’s leaflets and

²⁹ Organizational and construction activities were linked to the generation and upkeep of water rights, in which transparent records, a day-to-day updated cadastral mapping system, and visualization of investments and rights (e.g., through ‘annual certificates’) were tools considered to be extremely important by the users. To re-create (and consolidate) rights, communities subdivided the main and secondary canals in stretches, each community being responsible for cleaning and maintaining a section proportional to its number of water right-holders. Individual users also re-create rights by attending assemblies and paying quotas and fees. In Licto it was decided that the less wealthy should pay less (up to 3 has: 1 fee/ha; 3-5 has: 1.5 fees/ha; more than 5 has: 2 fees/ha).

flyers, and the classical and ‘highly technical’ courses offered in training classrooms were useless to them. Many of them could not understand topographical maps and the basic irrigation system documents. ‘Farmer-to-farmer’ debate and capacity-building, supported by special assemblies and exchanges with other user organizations in the country, were a major step forward. The act of building and using portable models of the system, of the communities and the irrigation units, enormously encouraged and intensified further discussions within the Licto communities. For many families without transport facilities, especially female users, it is hard to get around, regularly go to the main intake or even visit the last, tail-end communities, several hours distance away. The models were taken to all the communities, so users could analyze and give their opinions about how the overall system would affect their own community. Leaders, together with female irrigation organizers who had been appointed within the farmer organization, explained the system details in the Quichua language. Community

discussions and inter-community sessions elicited critiques and proposals to change certain aspects of the system. In each new construction phase, new techniques were developed to interactively design the system with the users. Particularly the hydraulic models, miniature tertiary units (locally called the ‘living models’) to be compounded and ‘put in motion’ by the whole community proved important to elaborate and discuss various design alternatives.³⁰

Rather than striving for moralization of technology as an abstract or universal process, in the eyes of the users it could only focus on concrete water control problems and solutions, which are real, contingent, dynamic and complex. This contingent design process does not deny coherence, on the contrary: local users’ demoralization and remoralization of the previously universalistic irrigation design in Licto aims for *the active context-embedding of coherence*, under local decision-making authority. Fundamentally, to build this socio-technical coherence, they need the *space and freedom to deviate*. It requires space and freedom for non-centralized ways of water knowledge and truth production that, although obviously bound by power mechanisms and societal interaction, do not depend for their validity on any endorsement by approved, universalistic regimes of thought.

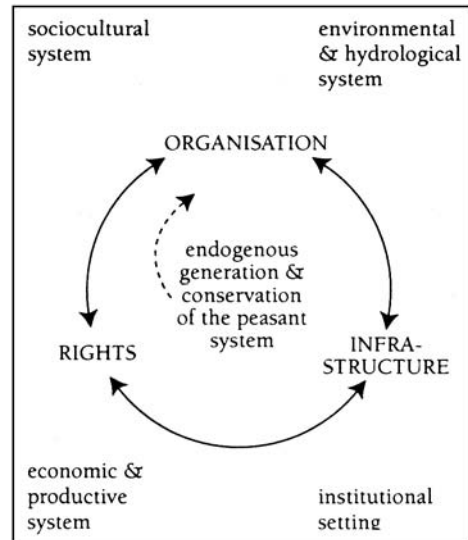


Figure 13.1: Interdependence among infrastructure, rights and organization development
Source: own elaboration

30 These alternatives are *not* based on ‘common-sense knowledge’, since the precise selection, definition and configuration of its components, far from being general, is particular: time-, context- and space-bound. Therefore the impossibility of writing ‘Andean water rights manuals’, codifying local water norms in law, or pre-establishing ‘user-friendly infrastructure’.

13.4. Inés. Struggles for the recognition of difference within difference

“...women’s work, struggles, and sweat must be acknowledged, because this is a different project. Men, leaders, everyone, absolutely everyone has taken part, economically and morally, in community work.” (Antonio Laso)

However obvious these reflections by CODOCAL’s president may seem, Latin American history has shown that the struggle against class oppression and ethnic discrimination, and the ideology of ‘*el pueblo unido frente al opresor*’, has by no means automatically implied that gender inequality and discrimination against women *within* the grassroots was taken seriously, or seen as a contradiction. On the contrary, chapter 11 has shown how several powerful Andean and global discourses rather neglect or entirely deny the problem. In Licto the problem was tremendous, both because of the powerful water/masculinity biases within the State agency, the influence of pan-Andean ‘harmony’ discourses, the outright women-oppressive doctrine that sustained the white-mestizo power structure, and the machismo ideology that ruled within local families and organizations. Licto’s history has been one of rape and violence, both physically and psychologically.

As her friend Rosa did, below, Inés takes us back to her personal history from the time that she became involved in grassroots organization, thereby highlighting how gender relations in water control have gradually evolved. By working as a community organizer, Inés actively challenged the town’s discourse that portrayed men as the carriers of modernity and technological change and women as the carriers and defenders of ‘traditional culture’. Moreover, being labeled as a *cuto*, she was destined to just serve in-house.

“These white people in town did many things to us. They said that we were lazy women, that we paid no attention to our husbands, that we were idle. They would grab our husbands and say, ‘hey, you’re a fool – you have to wear the pants in your house, your wife is going around doing all kinds of things. Put your wife in her place!’ This is not women’s work, this is a job for only men!

They said that we were waking up the Indians, raising up the Indians, to tell the rest not to respect the white people anymore. They would denounce us to the governor’s office, saying we were communist agitators, that we were spreading communism in the communities... They would throw threatening notes at us, claiming that our children were not from our husbands, but from foreigners, good heavens!”

Like Rosa, Inés identifies with the indigenous communities where she traces her roots and bonds of solidarity – despite the way in which she is ‘othered’ by the powerful families in town. “Just because my parents came to live here in this parish doesn’t mean that we are fancy or refined. I feel proud to be an Indian, and I am not ashamed because my parents have indigenous backgrounds, because here we were all indigenous, except when the Spaniards came our blood may have mixed a bit.”

Being a woman and a lower-class villager who, on top of that, was labeled as a *cuto*, the masculine culture of irrigation and the way water affairs in town were dominated by the white, made it very hard for her to start organizing Licto’s water users. As has become clear, the ideological and material bond among the white-mestizo rulers and the Church in Licto created even greater barriers for women. “The priest told me that my children are black. At mass, the priest would preach that we were bad women, following an evil life. The sermon was only that: ‘Here are the communist women,

the atheist ladies. This is not women's work, but only for technicians, who understand. What do these ladies know?!'." Moreover, besides the fact that irrigation was an entirely new subject for Inés, entering this field of action was particularly difficult because these images of inferiority and obedience were internalized within her own family.

"When I first entered here, to join the discussions on irrigation [...] my husband bothered me, he said: 'What are you going to do in the users' organization, you, the one who has only raised babies [...] you have to stay home. Engineers know about those things – technicians. What do you know about it?!' Indeed, I didn't know, I was a dumb girl, but able to learn. It is not only for men to decide: we both have to talk.

But my husband's family and mine, too, everyone was against me, because women have always had to just wait for their husbands' orders. Then, if the husband didn't give instructions, she couldn't do anything. If she needed to sell an animal to get money, she had to wait for her husband to return from wherever he emigrated to, before selling the animal.

So my family said this to my husband, 'Why don't you do the work and leave her at home – why does she go out to work? Where? What is she going to do?! Women are for the home, not for out in the streets – not to go out!'"

Nevertheless, Inés found important alliances, not just in the indigenous communities, but also within her inner circles. "I explained the reasons to my children why I would go out, because my husband thought other things and people are also vicious gossips. Sometimes I cried tears of rage, but this made me brave enough to pick myself back up and decide to ignore them." Her children were of great support to her activities. "My first son would say, 'mommy, don't give up, carry on, we are going to help you get things done!'" Inés also was strengthened by the company of her fellows in town, often in hidden spaces, in times where mutual backing was so crucial. "We encouraged each other, Rosa and me. Sometimes we would get together at her house or at mine, sometimes crying or sometimes angry, and Rosa would say, 'let's hold on, let's ignore them, things are not the way they say – let's carry on'."

After long struggles, outlined in earlier sections, Inés became a well-known leader, probably the most important irrigation leader and organizer in the whole district. More than anyone else, she was aware of all the technical and organizational details in the complex irrigation system and its organization. She headed the organization of hundreds of peoples during minga labor parties, of 1300 families gathering for General Assemblies, the updating of cadastral plans, coordination of canal construction meetings, negotiations with the outside agencies, etcetera. And whenever working on water rights and decision-making, she would never forget that not just claiming respect for difference but also difference within difference is fundamental for a strong, democratic water user organization.

"What is the use of just women going to the minga work parties, to the meetings, if men make the decisions? Because that was always the way it was: if the man did not decide, we women could not decide. We couldn't decide, say, for the fee to be 4000 sucres a year. 'I will have to wait for my husband to come and see what he says'. But if women are at home, handling irrigation, doing the work, because the men have migrated elsewhere, why can't women take part, more than men, in decision-making and not just doing the work?!"

In their mimicry strategy the water users organization adopted most of the formal labels of official legislation, but in their Internal Regulation they entirely changed the contents and meanings. Lictesños not just incorporated existing or ‘traditional’ rules but most of all – irrigation being a new factor in most communities – made completely new rules and regulations. Particularly the gender-related rules (see below) were new, not just to the region but to the country and probably to irrigation regulation in Latin America as a whole. Over the years, these rules were intensively discussed and adapted in hot-spirited assemblies.

For example, fundamentally different from the ‘populist-feminist’, the ‘neoliberal’, the ‘Andeanist’ and the ‘engineering’ approaches outlined in chapter 11, in the Licto irrigation system both husbands and wives were subscribed as co-members, *each* with decision power and formally representing the household in the association. The equity criteria mentioned by Inés were the foundation of their reasoning – in other words, “political freedom as the right to participate in government” (Arendt 1990:218). But there were more arguments. One reason was that the inclusion of both wife and husband allowed for more flexibility; either the woman, the man or both would be able to attend meetings. Furthermore, in this migration area it would give the remaining spouse the power to deal and negotiate with both the irrigators’ association as well as with the State agency and other formal institutions. Last but not least it opened possibilities also for women to be elected, as recognized members of the association, in irrigation leadership posts. As irrigation leader and Chumug president, Lauro Sislema, observes: “Leadership used to be more for men, and speaking in meetings and taking part in decision-making; now women can be community leaders, too, and on the irrigators’ board”. Inés:

“We knew that, in the Chambo system, only men were users, and only their names were on the roster. Here, we have said that it has to be the husband and wife, so both have rights. The husband could die or could separate from the wife, but the wife has to have the same rights, and therefore both names should be used. The step forward has been for the women’s names to be on the roster, too. In the first lists that INERHI made, only the husbands’ names were included. The people from INERHI didn’t want to put the wife’s name, so this was quite a tough argument, very intense.”

The internal regulations go further, and establish, since 2003, that the inter-community Irrigation Board comprises one female and one male representative from each of the seventeen communities. Next, one of the two main posts, President or Vice-President of the general irrigation organization, must be occupied by a woman, and also the rest of the main posts have a gender balance. Gradually, women became involved in posts such as community and intercommunity irrigation organizer, principal administrator, treasurer, irrigation committee president, community president, etc. Female irrigation organizers from the communities, headed by Inés, played a central role in user-to-user training, organizing the system, and leading the ongoing debate on ‘water rights’. As Martha Caranqui, from the Lluishi community stated: “Since I was a little girl, my dad always encouraged me to get a good education, to be someone in life, to not be oppressed the way my people are, even to this day”. Here, the interactive design strategies mentioned above, applying gender-conscious techniques such as the interactive, ‘living’ scale-models, exchange meetings with other systems and organizations, and a site-specific gender-irrigation-literacy program to train female irrigation leaders and water

users, yielded great spin-off.³¹ Female irrigation organizers also organized the inter-community Licto Women Irrigator Forums, where women discussed the gender-particular barriers they encountered in the system. As a result they successfully claimed, for example, a three-month pregnancy leave without losing water rights for the mingas they would miss.³²

Even female master masons from local peasant families were appointed to lead (male-female) construction teams when building the tertiary canals and hydraulic blocks. Gladys Yupa, from Tublabug, for instance, is one of them. Her father, a mason, taught her the building techniques but, initially, was very much against the idea of her taking a ‘masculine’ job and leading male workers. “He would say: ‘You don’t know – what are you going to do - how?! A female master mason – how are you going to give people orders? In the communities, you will have to work with men and they won’t obey you. You are only a woman, they won’t respect you, no, I don’t want you to be a leader’”. But Gladys accepted the challenge. “The first time I started as an assistant, blindly, but now I know what I am doing. You have to keep it all level, build single and double tanks, distribution valves, open canal, covered canal – I know how to do that all now”. Quite unlike government agencies and most ‘participatory’ NGOs, men and women in the indigenous communities of Licto, once they are sure of a woman’s capacity, usually accept women’s participation in leadership and technical positions without any reservations. “It’s nice to say that a woman is the master mason, and people say that, too.” Also, they are profoundly aware that male migration calls for changes in gender roles. “So far, none of the male leaders has complained. They have respected me [...] And my father has also helped a lot. Sometimes I ask him how to make the open canals or the tanks. With the designs, he helped me, and then I have taught my assistants. Now my father is happy that I have learned like that. This has been, for me, like an overnight change. I wouldn’t like to have only men building, but we women, too. It is nice to see that I am a master mason and am working there with the other people”. For Gladys and her friends, Inés, Rosa and other female irrigation leaders are important role models.³³ “There have never been women leaders in my community, but this year Piedad Argüello is an irrigation leader. She participates on the Board and gives courses, too. After a while, I would like to be a leader like her”.

In this regard, Inés’ opinion was very clear: unlike the four powerful monocular regimes that represent gender and water relations in the Andes (see chapter 11), she considered that water control and rights defense in the Licto communities can only be based on reinforcing their collective power and water rights, but that this always has to be founded on the fact of heterogeneity within communities and families, recognizing specific interests, at times shared, at times opposed.

“We will have to defend our system together. We cannot say that just the men have to defend it, or just the women, but both men and women together. And for this reason, we have seen that both men and women have to have irrigation rights. All users must make decisions, men or women – we all have to decide”.

31 See also Arroyo & Boelens 1997; Garrido 1999; Montalvo 2001; Olazával et al. 2001; Rasing 2002.

32 This locally institutionalized Licto ‘pregnancy certificate’ was (and probably still is) unique in the water world.

33 Unlike ‘development rationality’, it is not necessary for such leaders to always remain in ‘the project’ in order to gain ‘training efficiency and returns on investment’. Persons such as Inés, Rosa, Marta, Antonio, Edith, etc., take their own pathways in life to struggle for emancipation of their communities. For example, now, while Inés is intermittently involved in leadership posts in the irrigation system and in district governance, Rosa left irrigation leadership and set up the province’s Rural Women’s Network and is Founding-Mother and President of an entirely new project in her life: Jambi Kiwa, a grassroots association of medicinal herbs producers, involving 550 members and numerous communities. Antonio left the CODOCAL presidency to support his home community Tunshi San Nicolás as a ‘natural leader’. Et cetera.

If this statement seems to be *so* obvious, the question why Licto is now one of the few systems *in the world* where this principle is applied, sounds almost absurd. Chapter 11 made clear that responses cannot be found in just the discourses of the dominant policy institutes, bureaucratic agencies and water sector elites. Also the powerful political *counter*-discourses construct their own unified political subjects; moreover, the ‘representatives of the marginalized’ do not necessarily respond to the heterogeneity and complexity of the persons and the truths they claim to represent. For this same reason, Licto’s female water users struggled both against local gender constraints and powerful Andean and global discursive representations. These real, everyday struggles for rights to water, to land, to decision-making power, to community and diverse identity, of women and men of flesh and blood, rather than the unified presentations of either conventional or radical discourses ‘on behalf of the oppressed’, provide the materials for local collective action. In the end, the recognition of differences is the key for constructing unity. And the strength of this unity is based on the quality of the reciprocal relationship between the constituting parts. As Inés reflects, this necessarily implies an ongoing challenge:

“We can’t say that a 100% has been achieved. There are still problems. Sometimes even the indígenas themselves humiliate each other, and that will be a long struggle to overcome it. Comuneros who didn’t join in the irrigation but want to join now, sometimes the current members want to charge them – so to speak – for a glass of water. This selfishness is not good, and that is the struggle that I talk about: ‘comrades, as long as I live, as long as I can, we are not going to allow such things. If we have come out of slavery to the mestizos and then we indigenous go back to marginalizing each other, humiliating each other?! We can’t do that! What have we fought for, what have we struggled for, why have we participated in indigenous uprisings, in strikes – why have we stood up to the whole police force?!”

Inés is aware of the fact that the ‘new water society’ they aim to construct can never start from scratch, since individual and collective subject-formation is necessarily mediated by, among others, the social and power relations that have prevailed in society and which continue to exert pressure. To challenge this, rather than sudden, radical changes, she puts her trust in ‘piecemeal transformation’, step by step, day by day, as organizations that enter into the micro-pores of local society and so confront not just the ‘large and formal political structures of inequality’ but most of all the capillary, everyday forms and techniques of racist and gender normalization.

“There are still people who talk scandal, but I don’t pay any attention to them anymore, because I say that I have left behind that stage of feeling afraid, of taking them seriously and staying stuck at home. I say no, whatever they say to me, God and my heart know that things are not as they say. So, I feel happy, after all this bitterness – you make progress, you get good at demanding the rights we are entitled to, to demand on behalf of the other neighbors. All that struggle, all that suffering, is now very useful for me. As a person, I have benefited now that I am a leader, and can support the communities, and make my voice heard in institutions, with authorities, because as a representative of the irrigation system, I have had to be alongside the other leaders. At the National President’s Office, we have had to make our case, with the Ministry of Defense, of Finance [...] I like to be a woman, but for my voice to be heard in any institution. Often I have given all my time to the organization, because I want it to prosper and carry on ...”

System design and water development as a never-ending struggle

Despite the legalistic-technical system, INERHI has not been a pure, monolithic expertocracy, consisting of only very male, white, mono-cultured men, since there have always been, within that institution's walls, a few roots of wild native plants.³⁴ Unfortunately, the institution's idiosyncrasy, with a strange blend of mercantilism, legalism and statism, continues to thrive in INERHI's successor institutions. So there will always be a major need for wild herbs and grassroots rural resistance, to knock on doors, undermine the foundations and tumble down the expertocrat walls.

For the same reason, unlike development 'projects', water control development has no 'end'. For instance, the peasant families of Licto have daily experience with the fact that irrigation 'design' is not just some phase of a linear project but an ongoing process. Pressure from below continues to be crucial to defend user communities' interests. In December 1996, for example, 1200 Licto peasants from all the communities *and* Licto town, mobilized to Quito, took the Ministry of Finance by surprise, demanding the agreed funding that would be needed to conclude the main tunnel of the system. They succeeded and went back home with the documents signed, but they were well aware that, in order to see the new ministry commitments happen, it would not be enough to wait with their hands in their laps.

Since December 1997, water has been flowing in Licto, four years after the scheduled date as planned in INERHI's 'final design'; and since mid-2002 the full flow reaches the communities. This, indeed, is not and never can be the end of Licto's struggle for a well-functioning system. Given the enormously unstable, steep slopes on which the main canal is built, major landslides will constantly endanger its operation. But aside from physical problems, the struggle to materialize the system's political governance, as co-designers of rules, infrastructure and organization, is part of an ongoing battle and new threats gain momentum.³⁵ Water is power; subordinating modes of power induce resistance; but modes of resistance are contested again by subordinating power. For instance, although the users were given a collective water rights concession in February 1999, once the communities had implemented the system, operating it with socialized rules and strong collective management, in 2002 the now-decentralized State administration (CODERECH) came to complain. The agency, in its unique interpretation of the new policy on Decentralization and Irrigation Management Transfer (formally aiming to transfer water management to the users), called on local users to *return* system management *to the agency*. Inés Chapi: "Since the whole system is finished now, *they* want to administer, operate, maintain and charge fees for it".

Users were not opposed to fees as such, but they should be handled through their *own* organization to be invested in their *own* system. They are also hesitant to 'transfer' the administration and

34 For example, years afterwards, Rafael Guamán, an engineer of the (onetime) INERHI, responsible for modular designs in Licto – who felt and personified the conflict (being in charge technically and educated within the State water bureaucracy while, at the same time, having an indigenous-villager's last name, sharing their roots) wrote in his testimony: "We had to wholly redo planning and modular design of irrigation that we as INERHI imposed. ... In Licto's irrigation planning, my work was completely based on my imagination, rather than on the local reality. ... Communities' complaints forced me to meditate and think what the studies were missing: direct user involvement. ... The fundamental changes that were made include incorporating reservoirs, since INERHI ignored the human aspect and assumed that irrigation can be done 24 hours a day. ... What would happen if future users were not involved, that is the question. Planning by ex-INERHI would have been imposed, with an operating system unlike communities' irrigation customs and cultures; this would result in a system that causes permanent conflicts among the communities" (CAMAREN 2000:144).

35 The "Tulabug struggles" described in chapter 10 are but one of many illustrations. At the national level as well, neoliberal policy proposals threaten to succeed in privatizing or re-concentrating water rights and individualizing collective water control. Private enterprises and governmental agencies – sharing the banner of social participation and decentralization policies – continue to challenge their rule-making authority.

information they have created to the State. “They have sent a letter saying that they are going to take over administration and operation, and even ask us to provide them with the plans and rosters. [...] We can’t agree – we have to manage the system ourselves, the Board, because we have been working since the beginning, and are still working. We have paid fees and worked to operate and maintain our own canals. [...] We cannot turn the system over to CODERECH. It is necessary to defend our system. We have 1300 users and more are joining. If necessary, we may have to take over the CODERECH office, but we can’t let them come in and say ‘the project is finished, and now CODERECH will step in to manage it’. No, we have suffered and we are entitled to manage our own system”.

According to the communities, the agency’s formal argument was ‘How can the State turn over water management to users if it is not under State control?’ The world upside-down. Clearly, national and international policies usually have different effects in the field than in theory, and power plays underlie official development claims. Communities are confronted by a standard law and modernizing policies supposedly geared toward ‘inclusion’ and ‘decentralization’ *in practice*. Rosa was right when, at the outset of the system’s active life, she fiercely argued for its continued defense:

“...We are mostly small peasants, people who don’t have a lot of land, maybe some acres; we don’t have land enough to be able to say, ‘Okay, we are going to compete with the big land-owners’, but we have indeed demonstrated that we are capable, that we know how to fight and that we know how to go forward, and that, united, we can achieve a lot. Among the 16 communities we are exchanging ideas and, finally, we are arriving at a single conclusion: being united and maintaining solidarity among ourselves is fundamental ...

We have also seen that women have been discovered here, women who before did not have the chance to demonstrate their capacities. We have seen women who begin to lead, women who become members of directorates, besides women’s participation in mingas. But it is not only participation in the labor tasks, no, the struggle is also to become more aware of their role as women, as mothers, but more than anything, as persons, and as thinking persons! ...

From the time when we began to organize, we knew organization was costly, and certainly, it has cost me a lot. The aim is not to achieve fame or power, it is necessary for our people. But likewise, the time I’ve been in the organization has been one of great happiness in spite of the suffering, because I have met many women and I have seen how they start to speak and defend themselves. This is my happiness. With the organization we see a different future, it means social change. Before, families were dispersed, now there is unity that joins families, where irrigation is discussed, but also other topics. Young people, who had never participated, now develop consciously ...

Our irrigation system, we have to defend it, we have to defend it because it is our work and it cost us much effort. So many mingas, so many meetings, so many problems we have faced in the Guarguallá irrigation project! And we have to defend it because they cannot impose on us, not the landowners, not the State, they cannot leave us without this project that has been achieved with the organization’s effort, with the effort of all, with the effort of people that have missed sleep, of women who have left their duties at home, we have had to go to work in the mingas while carrying our children, all this, we have to defend it and nobody can take it away from us. We have to defend it to our death because of what it cost us, of how much it hurt, and we can’t let anybody take from us what has cost us so much sacrifice!”

13.5. Resistance as ‘con-fusion’: mimicry, non-conformity and the contestation of coercive and capillary power

In water struggles such as in Licto, clearly, legal-normative equalization ideologies, water rights expert-rationality, and powerful regimes of representation exercise pressure to win the resources, hearts and minds of the people and align them to modernist water policies. In Andean communities, certainly, water rights normalization and expertocratization *are* influential; mimetic desire and ‘subjectification’ *are* undeniably powerful phenomena; and Fanon’s statement about initiating the cycle of his own freedom, to a large extent, may sound naïve – the self-made water user or user community, the autonomous self-construction of subjects, is a myth. But exaggerating the influence and effects of coercive and capillary powers entirely denies the variety of responses in the real water world. Despite the power they represent, dream schemes remain illusions. As the Licteños – or the Ceceles and Huanchor communities in chapter 12 – have powerfully demonstrated, the water world, with its institutions, power structures and cultural and political identities, is not passively absorbed by local water users, but rather, the latter are active ‘co-producers’ of this water world that they ‘appropriate’ (Bourdieu 1977, 1989). By actively breaking out of their assigned identities and constructing new ones – always in relation to the power structures surrounding them – Rosa, Inés, Antonio and their fellows used their relative autonomy to shape ‘Self’ and thereby co-construct and co-orient the water users’ universe in which they live.³⁶ As the Licto case makes clear, water control rights, distributive strategies and cultural justice are constructs invented and implemented as tools of normalizing political power but, at the same time, as arms against that power.

I have shown how dominant water interest groups have benefited both from top-down power and capillary power mechanisms, often used in a strategy of *intermittent* complementation, to bent the rules and rights to their purpose. For example, the ‘Law’ and the ‘Norm’, two entirely different but interactive instruments of power, have indeed been instrumental to seize local water rights, materially, symbolically and politically. But similarly, in order to contest not just the *overt* water injustices and imposed regulations of visible, coercive power politics but also to challenge the *invisible*, inclusive, modern power mechanisms and bring their hidden political contents and naturalizing policy practices to the surface, the examples in chapters 12 and 13 show that communities’ resistance strategies *also* make intermittent use of both visible and invisible tactics. Resistance sometimes takes place in massive mobilizations and open manifestations, and the Licteños recently have federated with 270 neighboring water user organizations in ‘Interjuntas’, to contest the racist abuses and class-based practices of the State water rights administration at the provincial level (see annex 3).³⁷ At other times, resistance takes place in the hidden places of community water control, within the ‘undertows’ that I have elaborated on in chapter 12. And next, to a large extent, resistance practices are shaped in the ‘twilight zone’ between the open and the hidden. Here, often, ‘mimicry’ – the strategy of resembling the Other – plays a fundamental role.

36 In his later works, Foucault (1982b, 1988a) came to similar conclusions. Beyond disciplinary subjectification, people are to take care of themselves (and break free from oppressive normalization) in order to be able to, in a relational, inter-subject manner, co-conduct and be co-conducted by others, as a mutual practice in which autonomy can only be relative.

37 Strong water user organizations commonly aim to achieve both inward strengthening, horizontal linkages, and vertical federation in order to defend their interests (see Esman & Uphoff 1984; Dávila and Olazával 2006).

Mimicry

A central issue that comes to the fore in the domestication and resistance chapters is: *who controls mimesis*. Dominant water resource players clearly have an interest in shaping the water world and its subjects according to their own image, institutions and governance structures ('make them feel that they should follow us'). Capillary modes of power, moreover, seduce water users to *want* to be like 'them'.³⁸ But beyond the unconscious desire to be included according to the disciplining norm ('mimetic desire'), many of the cases have shown that such disciplinary equalization is often actively contested by means of, among others, mimicry: the *conscious* manner of imitating the dominant in order to resist. Webster's Dictionary describes it as 'simulation', or the "superficial resemblance of one organism to another or to natural objects among which it lives that secures it a selective advantage (as protection from predators)" (1994:637). Taussig talks about the "nature that culture uses to create second nature" (1993:xiii), Scott about the "show of discursive affirmation from below" (1990:58). The Licto communities understood very well that if they would copy the official organization labels, and give them an entirely different content and meaning in their internal regulations and practice, they would draw on the power that these legal formulae present, in terms of legal protection, water security, financial opportunities, etc. A formal water rights concession to the collective, for instance, counteracts both encroachment from the outside and individualizing opportunism from the inside. At the same time, it provides them with strategic space to internally develop their own water rights repertoire, including the invisible, normative relations and mutual obligations binding the group members together. Consciously imitating and selectively adopting symbols of the dominant does not necessarily imply *conforming* to the dominant, and can be a strategic means to make use of the power they represent while serving one's own purposes.

Frank Salomon (1997) shows how, just as in bureaucracy, Andean communities legitimize themselves by producing handwritten books containing their constitution and the exact minutes of all things being said and work being done. Mayer (2002:129) refers to "the obsession with written record-keeping that is associated with public reciprocity in villages in the Andes". But as I have shown, beyond a surrender to bureaucratic procedures and disciplinary Western standards, that would deny 'reciprocal and non-counted acts of solidarity', rather, it is the ongoing, fierce 'counting' debates, definitions and procedures regarding minga-, quota- and assembly-participation that are fundamental to strong local water organizations. Lictesños have adopted the counting tools, including computer techniques, to use these for their own purposes, and as powerful instruments *against* intrusion of State agents or voluntary behavior of non-compliants.

In a similar vein, in Licto, as in many other Andean water control systems, the faena or minga – till recently the symbol of the oppressive mita structure that Inca, Spanish and hacienda governors imposed on this originally local reciprocal labor relationship – is 'copied' again to serve water rights creation and re-creation purposes and thus, water control autonomy. But it is different from both the oppressive mita and the ancient community structure since its contents have dynamically adapted to new challenges of new times.

Examples abound. Till recently, the indigenous peasantry of Licto had largely resisted government literacy programs, not just because of their top-down, urban-oriented, denigrating contents, but also because of its hidden objectives: educating (read: normalizing) the commoners to control the unruly. But they knew that resisting literacy and schooling would imply denying themselves,

38 See Achterhuis 1988; Foucault 1995; Girard 1986; Illich 1978, 1981.

and especially most illiterate women, access to this important base of power in water control, now largely in the hands of State agencies and male water users. When CESA discussed the idea of setting up a Licto-particular literacy-training program on 'gender and irrigation' with the communities, the women reacted very enthusiastically: water would be the crux of power in the zone, and literacy was fundamental to their roles as irrigators and water leaders. Informed by current communication theories, CESA proposed to work with the women on local, Quichua-language literacy but the latter fiercely opposed. Quichua was their spoken language, but they needed reading, writing and calculating in Spanish in order to be able to fend for themselves in negotiations with the State agency, on the market, vis-à-vis credit institutions, in users' assemblies when discussing regulations, etc. Appropriating these tools of power would provide them with strategic arms to reach their collective or personal objectives.

Thus, adopting the metaphors and symbols of equalizing power does not automatically imply legitimizing that power (see also Baud 1997; Taussig 1993; Van der Ploeg 2008). Rather than equalizing the water reality, mimicry *diversifies* it, behind the appearance and shelter of equalization. As I argue below, it actively and strategically 'confuses'. Moreover, Licto's irrigation regulation mimicry strategy did not just affect its own water control practices and that of many neighbors. It even affected the very State agency and administration that, in 2002, accepted the Licto irrigator's regulation: the power of the presumable imitation of State regulation thus had the capacity to influence State regulation itself.³⁹

Alternative routes and con-fusion

In part Foucault was right when he observed that "the successes of history belong to those who are able to seize the rules, to replace those who had used them, to disguise themselves so as to pervert them, invert their meaning, and redirect them against those who had initially imposed them; controlling this complex mechanism, they will make it function so as to overcome the rulers through their own rules" (1977:151). But this resistance, I argue, is not necessarily an *anti-force*, an *inversion* of power in a Marxist or revolutionary way, since then, commonly, it would fall prey to the same play of domination it had been struggling against. Resistance just aiming at 'taking over control' by no means resolves the fundamental power challenges of normalizing power and 'becoming equal to the ones in power'. Metaphorically speaking, chapter 7's 'prisoners' would take over the control of the Panopticon and they instead of the guards would become the overseers in the central tower. Indeed, Andean history is full of such 'revolutions', and commonly the mechanisms of normalization and equalization have only been strengthened. I argue that resistance strategies as mimicry, undertow water rights development or invisibilization strategies (chapter 11) are not the dialectic anti-thesis against the thesis of domination (taking the same road but in the opposite direction) but a conscious, disguised search to '*take other directions*'.⁴⁰

Modern forms of domestication particularly focus on inclusion of water communities and their water-rights repertoires in a national-universal, '*normal*' rights regime with ever-expanding bound-

39 In chapter 8 I have explained how local rights systems and formal law mutually need each other to exist and survive, a shotgun marriage. Scott (1990) also states that hidden transcripts do not isolate themselves from the dominant order, but remain in mutual contact. Licto-type mimesis practices make the issue increasingly complex, since, as Taussig argued for another context: "... self is no longer clearly separable from its Alter. For now the self is inscribed in the Alter that the self needs to define itself against" (1993:252)

40 See also Achterhuis 1988, 1998; Arendt 1969, 1990; and Foucault's critique on Rousseau (chapter 11).

aries, but with rights definitions, truth claims and rationality boundaries that become *increasingly narrow*. Therefore, resistance that does not provide food for, but de-legitimizes the modern, ‘invisible’ power of domestication, rather than simply ‘*reacting against*’ (i.e. counter-attacking), chooses its *own, multiple, disobedient directions*. It extends the universe of context-particular water rights definitions and water truth claims. Thereby, as a consequence, it breaks the narrow boundaries of universal water rights rationality. Not by only swimming against the current or going the opposite direction (as advocated by classic approaches), and more than just producing *contra*-dictions and *counter*-truths and -discourses, resistance largely takes the huge, infinite number of other directions. Chapter 12’s undertows do not necessarily go against the current, opposite to the mainstream: they may flow in *any* direction. That is why for mainstreams, rather than for the undertows themselves, local water rights are ‘liquid’. Mainstreams have a great interest in ‘freezing’ these waters and water rights (chapters 5 and 8) and incorporating them as tangible, codified properties, fixed to the lines of command of national bureaucracies and global markets. More than counter-offensive opposition, the proliferation and dynamic re-creation of multiple, intangible water rights regimes is the greatest head-ache for bureaucratic, neoliberal water policy modernizers.

It is also in this sense that, as chapter 12 explained, local water rights repertoires themselves constitute a fundamental ‘strategic line of defense’, generating ‘maneuvering room’ and rule-making autonomy (Van der Ploeg 1998). Water communities’ resistance, visible or invisible, does not follow an instrumental, linear logic, calculable and plannable.⁴¹ As Licto and the chapter 12 cases illustrate, this resistance is almost never through violent protests seeking immediate, brusque change.⁴² Moreover, beyond just massive, open marches, it mingles into the pores of society to change and transform oppression ‘from inside’ and generate openings for their own norms. Even when their legitimate demands for greater economic and cultural justice are criminalized increasingly, it is fundamentally a heterogeneous movement seeking to *deepen* democracy. In this hybrid movement, organizational forms and expressions of local rights and norms are by no means static or ‘sacred’ for the communities themselves, and may even fade away. But a plurality of new forms and norms of resistance, from invisibility and mobility by multiple unexpected routes, become *con-fused* and *melded* together.⁴³ ‘Con-fusion’ is both the *confluence* of multiple identities, plural norms and their own strategies by marginalized communities and collectives, and *strategic* confusion, entanglement and disorientation: emergence from apparent invisibility – or dynamic, hybrid mobility – of norms, organizational forms and multiple management strategies to actively respond to policies and powers of outside domination and control. *Resistance as con-fusion*.

In resistance as con-fusion, water user collectives, alternately, turn to open resistance and to

41 Degregori criticizes the way how (during agrarian reform periods and later) wise people have ‘calculated’ the way that peasants ‘should behave’ according to the ‘laws of social and class struggles’. At universities and in social sciences during the 1970s “... A ‘Marxism-by-handbook’ predominates, which patently ignores empirical research and replaces it by theory learned from books, which contains all truth and therefore makes research superfluous”. Further, “the Marxism that is imposed is too dogmatic and economically-oriented, leaving no breathing-room for culture” (Degregori 2000:46-47). As Van der Ploeg analyzed the case of Catacaos, in practice community leaders and members behaved quite differently: “Catacaos doubtlessly had very able leaders and a great potential pool of new leaders. But they did not achieve this by having well-grounded theories, but precisely by lacking them... Their capacity for theorization was based mainly on all the cumulative experiences the community revived for that struggle” (2006:296).

42 Certainly, the emergence of peasant-indigenous organizations and federations has played a major role in directing peasant struggles peacefully, which has largely forestalled any new organizations calling for relief from economic poverty through violent means (e.g., Shining Path). Even so, increasingly their demands are criminalized in the ‘War on Terror’.

43 While Alberto Escobar (1985), in the Round Table on Todas las Sangres of 1965, characterized the complex array of hybrid identities described by Arguedas as a ‘con-fusion of all bloodlines’, here I am broadening this idea to a more strategic, dynamic, proactive concept.

disguise, anonymity and shielding mimicry; to legally expressed demands and to locally coded arrangements (within the law, against the law, and outside the law); to high-profile mobilization and to low-profile rights building and home-based defense; to class-based and to ethnic identities; to difference and to equality.⁴⁴ Water rights defense struggles develop and take place in the hidden realm of the water community's foundation and, at other strategic moments, emerge as clear, public manifestations of discontent, anger, and sometimes carefully organized technical, legal and political claims at the local, national and even international levels. Out of the diverse domains that constitute their water control context (chapter 3) water users select and combine those elements (assets, cultural practices, capabilities and meanings) that best fit their interests, constraints and opportunities.⁴⁵ The tools of resistance in day-to-day water struggles, intermittently, are not just manifested in action but also in inaction, not just in marches but also in apparent non-manifestation, and importantly, they are not just based on speech but also, and especially, on silence. They strategically select the moments, modes, and substance of appearance.

Water territories and identities: border surveillance

The cases show that, in this con-fusion strategy, water users, peasants, indigenous, women, etc. defy the identities constructed *for* them, e.g., the ones Licto white-mestizos invented to subordinate cutos, or the identities that the State constructed to categorize and align its subjects as just 'campesino', 'head of household' or 'water user' – i.e., obedient, ignorant, passive subjects of State water law, policies and hierarchy, and individualistic State-oriented water fee payers and market-oriented producers. Since essentialization is not just an error but commonly has a political purpose, some Andean movements, scholars and activists place their bets on just 'counter-essentialization' (see section 13.2) or even 'inverted mimesis'.⁴⁶ While this 'essentialized Self' may unite subjugated people under the banners of an inverted symbolic order and so challenge existing power structures, it also runs the same risk inherent to *anti*-forces that was analyzed above. Moreover, this dialectic strategy may reproduce and strengthen the images and power of this same 'symbolic order'. Rather, beyond constructing orders of anti-conformity, con-fusion strategies consciously elaborate on alternative orders of *non-conformity*.⁴⁷ At both the local level and the supra-local levels this constitutes a powerful challenge to bureaucratic and neoliberal water governance models and agents: the variety of dynamic water cultures within thousands of diverse water control systems is unsettling for them because they decolonize and remoralize the political and cultural waterscapes with subjects who, as Kearney argues, "actively challenge the essentializing power of official definitions of subjects so defined as to subjugate them" (1996:64).⁴⁸

44 See also chapters 11 and 12; Scott 1990; Taussig 1993; Van der Ploeg 2006.

45 According to this practice of 'water rights domain shopping', in one situation they will especially tap the technical and organizational water control domain; in another, confronted with other powers and constraints, they will draw particularly on the supernatural and economic-political domain or the normative one. The precise complementation of elements is determined as much by history as by space, time, issue, and power structure-dependent opportunities.

46 In its most radical form, rather than 'Western = good; Andean = bad', its reversal is preached, 'Everything Western = bad; everything Andean = good'. See my critique of PRATEC-like ideologies in chapter 4.

47 Mimicry strategies are used to hide these orders of non-conformity, not to *become* like the ones imitated but to use the power of their symbolic order. A complex issue that remains to be investigated deeper is how mimicry strategies in water control, by adopting the symbols of power and so representing the water world, also may strengthen existing power structures and the ways they are represented. Next, the dividing line between mimesis (trying to become the Other) and mimicry (pretending to become the Other) is obviously not clear in most cases.

48 They try to escape the assigned identities by challenging the very principles that 'other them'. They aim to remain outside of not just the categories that classify them but also outside of their methods and structure of classification (Kearney 1996).

As I have manifested in chapter 4, Andean communities, rather than closed corporate entities limited strictly by demographic and geographical boundaries, have network structures that extend far beyond ‘the community’ in its narrow conception. Most elements of this reticulated web are not visible. So, water user communities, too, are ‘networks’, not just in terms of structures but particularly in the strategic sense: people *network*, thus, local water user organizations and members dynamically shop and articulate (or con-fuse) resources, artifacts, rules, other people, and thereby shape new forms of collaboration, new water rules, reciprocity relationships, water territories, and new personal and community identities – which confuse and challenge the categories assigned to them.

But despite their transnational networking,⁴⁹ local Andean *water user collectives*, more than just appropriating strategic elements of these transnational images and inter-legal water rules and rights, at the same time seek to *affirm their boundaries* – both geographically (water territory), materially (water resources and infrastructure), politico-organizationally (right-holders’ universe and political constitution), socio-economically (realm of mutual exchange and community reciprocity), normatively (water rights repertoire) and symbolically (fundamental water beliefs and ‘hydraulic identity’). Though outward presentations of rules and identities may be multiple and divergent, internally a water users collective needs to establish a clear normative, political, socio-technical and symbolic framework to survive and reproduce itself through collective action. Water community identities are dynamic but certainly not nomadic, the more since open, adverse Andean society (where closed corporate communities exist only in sociological myths) forces them to inwardly, build a strong, relatively stable identity (see chapter 12).⁵⁰ Boundaries of water control and definitions of water rights are dynamic, inter-legal, but not limitless, and *boundaries they are*. Vis-à-vis intervening enterprises or third communities who want to take away their rights, vis-à-vis new users who want to share in their water rights, vis-à-vis the State that wants to deny their rights framework as a legitimate, coherent *system*, vis-à-vis internationally imposed policy frameworks that want to break open their collective rights repertoire. “Freedom, wherever it existed as a tangible reality, has always been spatially limited” (Arendt 1990:275) – this territorial bounded-ness is particularly strong in collective water control affairs. For the Licto communities, for instance, the degree of water rights’ flexibility and normative adaptation is high, but only when firmly within their own, collective hands.

For local water user communities I argue that water control, far from essentializing their borders, is fundamentally an act of boundary defense and border control, in which all five domains of water control play a crucial role: technical, organizational, normative, political-economic and metaphysical border surveillance. The Licto case illustrates how the local border definitions – and thus authority, legitimacy, and nature of water rights within the borders and toward ‘the outside’ – are powerfully contested, both by the State ‘border guards’ and by third parties.⁵¹

See also Baud 1997; Cohen 1986; Scott 1985).

49 Gelles (2000) and Kearney (1996) show how communities increasingly need to be seen as transnational networks with a limitless capacity to extend themselves geographically (triggered by, e.g., migration, Internet, mass media, international policies, indigenous movements, peasant federations, etc.).

50 The postmodern concept of globalized, ‘nomadic identities’, moreover, may sound attractive to transnational, intellectual elites, but is not very appropriate for most other individual or collective personalities. Despite the fluidity of identities, a creative but relatively ‘stable home-base’ with a strong (water-based) identity is a fundamental condition to defend local water rights and counteract manipulation and disintegration.

51 State and market are not ‘outside’ the water community, but communities try to strategically incorporate them within their ‘collective interest boundaries’ and as such relate them to ‘community’ under their own terms and collective control (which, obviously, may often coalesce with the outside *and* inside private interests that the community aims to tame).

Con-fusing re-distributive and political-cultural justice

Con-fusion goes beyond struggles for rights to either ‘difference’ or ‘equality’.⁵² In Andean water control arenas, where material exploitation is intimately linked to symbolic subordination and cultural politics, also struggles for ‘cultural justice’, ‘political representation and democracy’ and ‘economic redistribution’ dynamically connect.⁵³ In Licto, the town’s male peasants (self-identifying as mestizos) struggled above all for more equal water resources access vis-à-vis the landlords, while male indigenous peasants of the surrounding communities fought for both their right to cultural identity and rule-making autonomy as well as for greater water resources access. Female water users, either self-identifying as indigenous (in the communities) and/or being labeled by the dominant groups as animal-like ‘cutos’ (in Licto town) struggled to resist both the images of indigenous inferiority (ethnic discrimination), and to claim rightful access to water resources (equal distribution), contesting the prevailing masculine ideologies (female restrictions to enter political, rule-making arenas).

Thus, in multiple forms and complex compositions, class-differentiated subjects and gender- and ethnically-discriminated water user groups contest and defend all their material, political and symbolic rights, both water resources and the right to control and participate in water governance affairs. Class- and identity-struggles interact and mutually constitute each other, domination and resistance interplay in all domains of water control: technical, organizational, normative, political-economic, and metaphysical. Water struggles in the Andean region defy agrarian structures as well as cultural politics and political marginalization by authoritarian States and neoliberal policy models. They aim to gain (back) control over economic *and* symbolic water value, as a means to construct livelihood sufficiency and collective water user identity. Here, local water user collectives, when struggling to re-appropriate or defend their waters and decolonize modernist water cultures and assigned water identities, do not just look at the theoretical accuracy of representation, but above all at the political effectiveness of fusing class and identity struggles. They touch the heart of the struggle for water rights: over water resources; water rules, legitimate water authority and decision-making, and water policy discourses.

Root-stock resistance

A critical, deconstructive approach to ‘the community’ (chapter 4), in theory and practice, is not incompatible with local re-constructive strategies whereby ‘community’ is re-affirmed and *system* properties (a contaminated word in contemporary social science) of water user collectives are brought back into the picture. It is not a presumed *existing* ‘organic solidarity’ and set of boundaries that define the community – this myth has effectively been dismantled – but the ongoing struggle of seeking its materialization: not in the ‘should be’ policy tradition, but from below and from within. An irrigation system needs to be a *system* to prevail, a community must succeed in the effort to be a *whole* if its parts want to survive. Here, water territorial collaboration is based on functional needs to *effectively* sustain and reproduce local resource management as much as it is intertwined with complex networks of *affectively* ‘working together’, which root in subtle community relations,

52 Where some political-economy scholars tend to essentialize class differentiation and reify class struggle over the economic resource water, other culturalist scholars and indigenist activists have often over-emphasized just the identity struggles, against symbolic subordination and for water rule-making autonomy.

53 See also: Baud 2006; Boelens et al. 2005b; Cohen 1986; Fraser 2000; Scott 1990; Zwartveen et al. 2005.

common history and shared struggles. Conflict avoidance and collective moral behavior, ‘the way things should be done in our water territory’, is guided by mutual support incentives to reach optimal functionality of the common system as well as by a framework of reference in which human authority is reinforced by symbolic and often also supernatural legitimacy and power.

Under the formal structures, an entirely different but interconnected world exists, dynamic and responsive, and difficult to detect. Through marriages, kinship, *compadrazgo* and friendship relations as well as through interfamily and intercommunity barter and exchange relationships, rhizome-type structures and flows of support and solidarity are in place. As root-stocks, they horizontally connect underground and produce shoots above and roots below – difficult to understand for outside officialdom and power groups. In chapter 12, I have shown how the very small Gompue irrigation system, physically located in just one community, shares land and water rights and a multitude of family and exchange relations with at least eight surrounding communities. These same intercommunity-linked members were the ones who first joined in the larger Ceceles-Guarguallá canal and later in the even broader Licto inter-community coalition (and shortly ago, also in the provincial water users federation *Interjuntas* and the national indigenous movement), that stood up against the State and against those who threatened ‘unity’ when their collective water rights system was put under pressure. This chapter has illustrated how intercommunity linkages among indigenous peasant communities led to strong cooperation and successfully ended white-mestizo domination. Through open and subsurface structures, linkages and fluxes they engaged in the collective construction, management and defense of the intercommunity irrigation system, vis-à-vis the State agency, powerful landlords, and the town’s notables. In chapters 3 and 4, I presented the example of how the four Mollepata communities in Peru jointly rehabilitated the intercommunity irrigation system, facing the powerful groups in the central village and the ancient hacienda. Here, informal and ‘underground’ linkages, through barter and reciprocal labor exchange, strengthened the links among the families, communities and production zones in the diverse ecological altitudinal niches. Collective water control (both) shapes (and is shaped by) the dynamic undertow and constitutes the firm ‘backbone’. Subterranean rooting not only extends to the local level, but also to the national and even transnational level.⁵⁴ Here, also, my ‘undertow’ and ‘root-stock’ conceptualization importantly differs from (and criticizes) the rhizome concept as elaborated by Deleuze and Guatarri (1987): while extending its subsurface ramifications, the stem remains firmly rooted in local foundations.⁵⁵

Root-stock strategies and practices make that most Andean water communities ‘*are not what they are*’ – or seem to be. Despite internal controversies, contradictions and differentiation, water communities as multi-layered entities con-flow, con-fuse and shoot up through diverse appearances at the moment of defense. Paradoxically, their transboundary linkages and strategies, open and underground, enable them to permanently construct and re-affirm their boundaries – and the normative

54 For example, any governmental action to privatize water rights in Ecuador will instantly result in the sudden response of the invisible network that joins most of the country’s peasant and indigenous communities together; they will establish road blocks – from central highways up to the smallest community – and paralyze the entire country – as a ‘*paro indefinido*’ (as happened frequently during the last decade). At the same time, at the surface, water user organizations strive for *those* linkages with the State administration that benefit them.

55 I divert from the rhizome metaphor, used by Carl Gustav Jung to describe the enduring, collectively shared unconsciousness, and particularly from its postmodern interpretation by Deleuze and Guatarri (1987). The latter rightly stress its ‘multiplicity’ (a unity that is multiple) and subsurface ramifications. But, “unlike trees or their roots, the rhizome connects any point to any other point, and its traits are not necessarily linked to traits of the same nature... The rhizome is reducible to neither the One nor the multiple. ... It has neither beginning nor end ...” (p.21). Despite all underground linkages, both water territories, water identities and water communities do have clear *place-bound roots* and are not ‘non-hierarchical (almost nomadic) networks’.

framework of rules, rights and obligations within these boundaries – as water control systems and as mutually dependent water users and communities.

13.6. Reflections: recipes, rights and resistance

The Licto case presented in this chapter confirms the need to profoundly challenge the ‘objectivity’ assumptions found in most intervention policies and strategies – assumptions that are the everyday guidelines in most ‘well-intentioned’ water development projects. The instrumental idea that defining ‘better rules, rights and principles’, selecting them rationally and objectively, formalizing and translating them into the corresponding procedures, and expecting that they will, by themselves, result in the planned effects, penetrates development projects and policies (‘social engineering’) as well as legislative processes (‘legal engineering’). It presupposes that just formulating and formalizing rules and rights suffices to control water relationships and direct social change. The unilateral sequence is a myth. Rights and rules cannot, by themselves, act or obtain results. Fundamentally, it is the actors and forces of society that turn normative instruments into societal practice: rules are disputed and modified (Cf. Long & Van der Ploeg 1989; Moore 1978). In Licto, although the rules and rights established by legislators and intervening agents were created to serve bureaucratic control interest, they have been taken over, mediated and sometimes even inverted by different user groups with their own water control ideas and interests, who have ‘planned their own socio-technical and political project’.

Obviously, water development and property creation does not take place in a vacuum. Irrigation water is not only a fundamental source of life, but also a factor involving great power. Within unequal power structures, different societal bodies – both ‘outside’ actors and different user groups – define their strategies in order to defend and materialize their own interests in controlling the water and the irrigation development process. They establish their alliances, call in their capacities and resources, confront each other and negotiate. Resulting conflicts and consensus, and the norms and rules that each interest group manages to establish or impose, determine the historical and contemporary development of irrigation. In the Andean nations, in this regard, policy contents and procedures with respect to democratic representation and user-controlled socio-technical systems, rather than a neutral *input* for practice, may be seen as the political *outcome* of grassroots struggles. And materialization of such principles, priorities and procedures, again, is the next step within the policy arena: a process that necessarily requires monitoring and pressure ‘from below’ (see annex 3).

This makes it a moot point to grant weight to the many attempts to discover ‘the best principles, rules and rights’ – even universal prescriptions – to norm water governance. The inconsistency of instrumental thinking requires us to go beyond just the articulation of rules or the contents of water rights and regulatory norms, and focus on the process of constructing them, and on their use and adaptation in water control practice (Cf. Schaffer & Lamb 1981; Boelens & Dávila 1998). As chapter 2 stated, beyond reference rights it is necessary to focus on the nature of rules *in socio-technical and political action*. In water control practice, rules and rights occur as a complex. Partly, they are tools to direct water allocation and distribution, partly they are weapons to make people align to certain water control interests; and partly, they form and structure the forums and battlefields themselves. In Licto, we see how divergent societal groups confront each other, not only to establish the contents of rules and water rights, but also to define the legitimate authorities, the appropriate discourses and user identities, i.e., the *rules structuring the arenas* in which water rules are to be set.

Therefore, the actual importance of certain rules and rights' contents can be appreciated only when we place them in the context of their historical development: their generation, use and re-definition in a given locality. In Licto it is relatively easy to see the differences between the explicit contents of governmental water rights and peasant water rights; the difference hinges, above all, on the 'right to access' and the 'right to control'. However, the background of this divergence features a far deeper social and political contradiction, which cannot be deduced from just the explicit contents themselves. First, the process of constructing the contents of rights in Licto is expressed in and based on the contradiction between the long-standing power of the local elite and the new identity of the indigenous communities. Second, at the same time, the divergence among water rights' contents is based on a conflict between externally driven domestication and locally constructed autonomy; between socio-political control by the State and local strategies to resist and at the same time take over the governmental intervention. That is, there is both a confrontation among players with divergent interests and, on a more abstract level, a confrontation among different socio-legal frameworks and different water policy discourses. Therefore, in the process of constructing rules and rights, not only the contents of rights are (re)formulated, but also positions of power, authority and legitimacy. Separating contents of rights from the process of their construction and reconfirmation is tantamount to amputating the reality of water control.

Together with the process of normative design, I have analyzed the process of technological design in Licto, which basically expresses the same social contradictions. Rather than playing a neutral role, aiming for 'the best material and managerial techniques', and assuming that proper practice will result, water technology has built-in social norms that structure, among other things, organization of the work force to operate and maintain the system, conditions of representation and lines of authority, conditions for access to water, and distribution of the benefits generated. Therefore, alongside the political-legal design, technological design of irrigation systems is an arena for struggle and negotiation. Technical design criteria, operational rules and water rights are like weapons to defend, modify or attain a certain irrigation practice that will favor or not the specific interests of the societal groups facing off in the development of the system.

Expert-based modernization projects commonly label the struggle of Andean communities to re-moralize irrigation technologies as 'revolt against reason', or 'obstruction of public morale'. Users themselves would rather call it redesign and adaptation according to local technical and socio-political conditions. Therefore, the struggle is extremely tough, because for the latter it is not simply a matter of contextualizing and localizing technology. It is also a struggle against the discursive image of experts' knowledge and the hypocrisy of power-knowledge based rationalizations embedded in so-called universal rationality. This dominant rationality that forms the basis of hydropolitical dream scheme designing, as I have shown in several cases, *does not necessarily have to prove its functionality and adequacy* in Andean practice. This makes 'rational' resistance by user groups an almost impossible task, since it is not a matter of showing that their own, alternative technologies 'function better'. In Licto the State engineers did not want to listen to the very sound technical and organizational *reasons* of the peasant communities, they only responded to the need for accepting technological change when they were forced by 'power arguments' (mass mobilization, rural upheaval, the threat to lose election votes, etc.). Remarkably, the dominant water-power-knowledge regime in Ecuador and Peru, in line with international water policy weapons of rationality, masks its abuses of authority under the appearances of 'reason' and so discredits locally *functional* water rights frameworks and remoralized technologies as belonging to the world of 'irrationalism' and

‘ab-normality’.

Still, though powerful, these dominant policies are built on ice and encounter fierce resistance. While dystopian extremes as Orwell’s *1984* and Foucault’s *Discipline and Punish* made it dramatically clear that the primary conditions of total submission are strict containment of identities, total visibilization of subjects, and total solitude,⁵⁶ this same assertion implies that the policy strategies to individualize water users, privatize their rights and shape their personal water interests in order to construct and connect them to a totalizing hydropolitical dream scheme are an entire illusion. Resistance to such political, cultural and socio-technical alignment takes shape, every day, through the con-fusion of multiple, diverse actors in strategic water community undercurrents. They challenge solitude and individualization through collective action and bonds of mutual obligation;⁵⁷ defy visibilization through undertows and root-stock resistance; and resist containment through the strategic formulation of identities and ethnicities.

The more they accommodate diversity of water users and interests in their collective action, as a political community, the more influential the resistance will be. Therefore, beyond a new ‘counter’-homogenization, reification and over-determination of indigenous or Andean identity, and unlike the ‘managed multiculturalism’ as advocated by dream-scheme politicians and multilateral agencies (chapter 8), Andean communities and water user organizations commonly (though not always or by nature) tend to emphasize their unity within diversity. Democratic decision-making and organizational force within user organizations and federations are not threatened by the diversity of their constituent parts but precisely the opposite, by the lack of multiple, diverse shoots with strong, collective roots, i.e. marginalized user groups within the organization who are unable to associate sustainably and express their particular interests within this political water community. Rosa and Inés, among many others, show that it is not a given but a struggle to accommodate difference within difference. Antonio emphasized that the mestizos were to form part of the indigenous organization, combining the forces of the diverse in mutual bonds of rights and obligation.⁵⁸ And as a capillary strategy, rather than the State including them, they aimed to ‘include the State’ within their political community. Again, con-fusion, the recognition and accommodation of differences and plurality within a political community of water right-holders – actively confusing and challenging the anonymous uniformity of both ‘public’ and ‘private’ water powers and policies. And as its condition, again, Martí’s learning: they attach numerous ‘outside’ branches, but they attach it to a strong trunk.

So, finally, as the chapters have shown, a fundamental aim for modernist (State-biased and neo-liberal) policies is to ‘strike at the rootstock of the evil’: to break open the water communities’ undertows, bring these disobedient, ‘irrational’ rights repertoires to the light and either oppress them (coercive power) or subtly include them and squeeze them to death in mainstream’s embracement (capillary power).⁵⁹ Not surprisingly, from Inca and Spanish colonial times till today’s modernist water policies, the conquest of communities’ water sources and related beliefs of origin and rooted continuity – their material, spatial but above all political-symbolic appropriation and incorporation

56 As Arendt stated its efficacy depends almost fully on the degree of social atomization (1969:22).

57 ‘Trabajar en compañía’, ‘prestamos/ maquinachi’, ‘ayni’, etc., are fundamental notions in Andean water control (see chapter 4).

58 It would be entirely mistaken to see the stories of these three water leaders as ‘just individual cases’. But rather than ‘representing the people’, their actions and changing positions reflect the relations of power and resistance of everyone in the region, and have influence on the collective and its action as a whole – and vice-versa.

59 As previous chapters show, intermittently, water appropriation and water *designs* (technological, legal and metaphysical), just like discursive projects, strategically join in this effort to break open the undertows.

in the empire – was fundamental to either destroy or domesticate spaces of non-conformity and the proliferation of defiant rights repertoires.

Reactions are multiple. Although legal struggles (within and against the law) may constitute an important element of resistance, I argue that beyond users' 'counter'-regulation, a far more impactful strategy and practice is that of the *con-fusion through non-conformitive plurality*. The greatest challenge to *all* existing institutions, including water laws, rights and organizations, is *not that they are publicly contested ('counter'-acted) but that they are left aside and neglected*. By definition, norms and institutions can only survive when they are used: when they actually structure people's repetitive behavior and action – which is their sole substance and legitimization. Whenever user groups (for example, under the shield of mimicry labels and outward 'reference rights'), retract to their unpatrolled undertows and, day by day, elaborate on their 'orders of water rights disorder' – or rather, systems of '*dynamic, organized rights complexity*'⁶⁰ – then root-stock resistance and rights diversity grow and uni-formal law and policies are defied and undermined, *even* when non-conformity to officialdom is not an active or conscious act of resistance.⁶¹ Non-conformity through plural, dynamic 'alternative routes'⁶² and 'own water rights repertoires' challenges not just dominant, visible (or coercive) power structures but also, and mostly, the subtle modes of capillary, inclusive, participatory power: the latter being based precisely on 'the invisible norm'.

In every water society, though fiercely challenged by the ruling water rules of the rulers, the ruling and unruling water rules are the rules of the undertows.

60 My conclusions regarding the combination of functionality, dynamics, and 'thickness' of the undertows (chapter 12), which makes it difficult for outsiders to penetrate this organized complexity, clearly departs from both 'anarchic' and 'conservative' notions in classic anthropological irrigation studies, as Netting's *The System Nobody Knows* who talks about "systems of ordered anarchy" (1974:73) in which no one has comprehensive knowledge of the total system, and Leach's *Pul Eliya* who states that the relevance of its complexity is that "such a system is virtually unalterable" (1961:165). On the contrary, the dynamics *and* shared comprehension of complexity are fundamental to their defense.

61 To this respect, see my critique of Scott (1990) in chapter 12.

62 As with planning water development or planning domination, planning resistance is also an instrumental myth. Moreover, there is *no linear* relationship between acts of domestication and acts of resistance – predictability would entirely deny the forces of either one. Though, certainly, there are patterns, there are no instrumental guidelines for resistance against normalization; and legal or extra-legal 'successes' or 're-conquests' are not a guarantee for escaping domination. Water legal and technical designs may support but cannot be a guarantee for domination, neither can their re-moralization itself be an assurance of freeing water users from the chains of control. One cannot design 'liberating water technology or rights' to dismantle gender, ethnic or class domination. As Rosa, Inés, Antonio or the organizations of Ceceles, Huanchor, Licto and Interjuntas have shown, *resistance is a practice* that can take many pathways and appearances.

PART 5

CONCLUDING REFLECTIONS

“[The author’s veracity. His design in publishing this work. His censure of those travelers who swerve from the truth. The author clears himself from any sinister ends in writing.]



Thus, gentle reader, I have given thee a faithful history of my travels for sixteen years and above seven months: wherein I have not been so studious of ornament as of truth. I could, perhaps, like others, have astonished thee with strange improbable tales; but I rather chose to relate plain matter of fact, in the simplest manner and style; because my principal design was to inform, and not to amuse thee.

It is easy for us who travel into remote countries, which are seldom visited by Englishmen or other Europeans, to form descriptions of wonderful animals both at sea and land. Whereas a traveler’s chief aim should be to make men wiser and better, and to improve their minds by the bad, as well as good, example of what they deliver concerning foreign places.

I could heartily wish a law was enacted, that every traveler, before he were permitted to publish his voyages, should be obliged to make oath before the Lord High Chancellor, that all he intended to print was absolutely true to the best of his knowledge; for then the world would no longer be deceived, as it usually is, while some writers, to make their works pass the better upon the public, impose the grossest falsities on the unwary reader.[...]

I have carefully avoided every fault with which common writers of travels are often too justly charged. Besides, I meddle not the least with any party, but write without passion, prejudice, or ill-will against any man, or number of men, whatsoever. I write for the noblest end, to inform and instruct mankind; ... I write without any view to profit or praise. I never suffer a word to pass that may look like reflection, or possibly give the least offence, even to those who are most ready to take it. So that I hope I may with justice pronounce myself an author perfectly blameless; against whom the tribes of Answerers, Considerers, Observers, Reflectors, Detectors, Remarkers, will never be able to find matter for exercising their talents.”

Jonathan Swift, *‘Gulliver’s Travels’* (1947[1726]:305).

chapter 14

CONCLUSIONS AND REFLECTIONS: THE POWERS OF ILLUSION AND THE FORCES OF CON-FUSION

As the prelude to this book made clear, my research journey has been informed by more than ‘curiosity’ or ‘social motivation’. Perplexity was a driving cause. Not just at the enormous divide between the water haves and the have-nots, between the few with the right to squander and the many with the right to only the leftover scarcity – since this appalling fact is public wisdom in the Andean region. No, it was in particular my bewilderment about the huge discrepancy confronting, on the one hand, State law and universalistic water policies and intervention designs and, on the other, the huge diversity of dynamic water practices, water rights realities and local organizational forms that I have encountered ‘in the field’. Above all, perplexity about how the proliferation of an objectifying water governance rationality – basic to most Andean policy models that have ‘adaptively copied’ the ‘best models and policies’ circulating in international policy circles – has led to such strong ‘fantasy-loss’; i.e. the incapacity to imagine its consequences for real people of flesh and blood: the inability to ‘think through’ beyond mechanical reasoning and also beyond ‘scientific, empirical observation’. Observation, indeed, is not sufficient. What has been destroyed cannot be ‘seen’, what will be destroyed needs imagination. For this same reason, Gunther Anders’ argument touches ground; that, to be a ‘realist’ in modern times, sufficient ‘moral fantasy’ is a prerequisite. “Empiricism is escapism. Today, reality can be seen only with one’s eyes closed [...] Today only the indifferent trust their eyes” (1988:165). I have argued and illustrated with cases that such ‘fantasy’ – profoundly rooted in water use reality – is a necessary element for combating indifference with respect to the impact of socio-technical interventions and cultural-political policies on *actual* Andean water worlds, and it is precisely opposite to the moralistic, utopian dreams of universalistic hydro-policy building institutes that forget to leave their Towers of Indifference.

The cases have shown how responses to the above discrepancy between policy dreams and reality are quite diverse. Hydro-policy model makers commonly follow their dream of control and argue that it is not the model that is wrong but reality and its diverse peoples – the solution is to change the latter. Though this may seem a simplification or exaggeration, unfortunately it is not. Examples abound, showing how they propose to transform reality and its water users in order to fit them into their uniform model. “Dreams and nightmares are made of the same materials”, Galeano said, “but this nightmare claims to be the only dream we are allowed” (1995:115).

Instead, more ‘user-oriented’ approaches are inclined to investigate the question: ‘What are the mismatches between formal laws and policies and local water user realities, and how should the former listen, adapt and respond (in a critical manner since local rules and practices are not necessarily ‘better’) to the reality of Andean water rights communities?’ While this question indeed appears to be very legitimate – at least in the eyes of those who suffer from current water policy models – it often tends to entirely skip a fundamental, clarifying question that necessarily precedes it: rather than starting with ‘Why do law and policy not correspond with reality?’, a primordial question is: *Why does reality produce such laws and policies?* Why does the current political reality and water governance world – characterized by fundamentally unequal power structures – generate and enforce an ongoing flow of water models, laws, policies and designs that entirely ‘mis-recognize’ locally prevailing water rights systems?

14.1. The reality of reality

Considerations such as the above led me to my research question, which relates inquiries about two distinct but fundamentally interconnected realities and practices: how do local water rules and rights give substance to Andean irrigation water control systems (and vice-versa), and in what manner do processes of normalization restructure and subjugate these local water institutions? Since water user families do not remain silent and simply conform to their subjugation, the complementary part of my research question is about how Andean water user collectives defend themselves against water rights encroachment, resist the disciplining of their socio-legal water repertoires, and create strategic space for community-controlled water rights definition and enforcement. Rather than summarizing all my sub questions, research findings and conclusions – for which I refer to the twelve preceding chapters – I will highlight some general results and conclusions as groundwork for some final reflections on mimesis, fiction, and reality.

First, however, I address the issue of the relevance of my research. Unfortunately, studying water rights and water struggles, and strategizing for a sustainable, dignified future in which also Andean peasant / indigenous families get an opportunity to join in harvesting the fruits of their labor, becomes more urgent day by day. In these times of declining water availability, burgeoning competition for water among different uses and users with profoundly unequal power bases breeds fierce, growing conflict. This increasing importance of water resources is also the reason why State legislators and intervention agencies, private companies, international policy institutes and other powerful players have an ever-stronger interest in the issue of ‘water rights’ in the Andean highlands. Therefore, water rights have also become a pivotal issue in the struggle of local organizations to defend their livelihoods and secure their future. Instead of repeating the chapters’ evidences I rather illustrate the relevance of my questions with a recent ‘normalization’ example:

The book’s prelude outlined the Peruvian president’s frontal attack on the ‘non-educated’ peasants and their advocates for impeding ‘development’, and on the presumed backwardness of community and environmental ideologies which frustrate neoliberal progress and the rational exploitation of Peruvian peoples (too many social rights) and their natural resources (too strongly protected).¹ Parallel to this, the government is applying for Inter-American Development Bank funding² (public monies through foreign debt: USD 200 million), to battle against Peru’s “limited water culture” and “irrational water use”. Standardizing water rights is the program’s central thrust, among other actions by enacting a new Water Law, “promoting a modern water culture among the people” and the “Program to Formalize Water Use Rights”. This last measure will, among other recipes of the neoliberal handbook, “make it possible to transfer water use, as a significant contribution toward efficient allocation and pricing”. Instead of carefully debating such a delicate vision and blanket proposal with user organizations and other grassroots stakeholders (not forgetting those in the Andean highlands) the program will – *contradictio in terminis* – “*make public a consensus-based multi-sectoral vision*”. They have their reasons, because real user involvement would only endanger the project: the previous World Bank-supported Water Law project, in euphemistic words, “was not approved because political conditions were unfavorable to implement and pursue the proposed reforms” (i.e., broad

1 Recently, indigenous federations reacted furiously in an ‘Open Letter to the President’ (13-11-2007) who, according to them, “first asked for our votes to represent us and now treats us like dogs [...] simply because we seek to defend our lives as indigenous peoples and protest against the imposition of outside development models that reflect only transnational companies’ interests” (Asociación Interétnica de Desarrollo de la Selva Peruana).

2 Gobierno del Perú, “*Documento Conceptual de Proyecto ‘Programa de Recursos Hídricos I’*”, 9 April 2007.

popular protest). Although the plan blandishes all the modern jargon of participatory, decentralized, integrated water management, users appear only in the last section of the plan, entitled “Risks”: “in particular, irrigation user boards ... might reject the proposed reforms”. However, subtle normalization strategies are to address this problem, through participatory user capacity-building and the training of 240 primary and secondary schoolteachers who will “convey the concepts of water culture”. Surprisingly, the plan ends with the mandatory mention (a prerequisite for Bank approval) that “Because of the nature of the actions supported by the Program, it will have no direct or indirect adverse impacts on indigenous peoples” (who, in Peru’s official recognition politics of naming and norming, are classified by a circumscribed geography, a stereotyped culture, and fossilizing laws). But: since the normalizing program mentions, as one of the country’s *fundamental problems* to be confronted, “informal water use and administration, especially for agriculture”, and considering that the diverse array of ‘informal’ norms, organizations and administrations are *the basis* for peasant and indigenous water cultures in the Andean region, *how could they help but be affected?* How could they *not* be affected when, as the Program explicitly states, only those water users who accept the standardized rules will be entitled to receive public funding? How could their collective rights *not* be affected, when the whole point is to eliminate them? – by differentiating between, on the one hand, ‘rightful’ (i.e. remote-controlled) rights and ‘true’ (i.e. obedient) Indians and, on the other, illegal rights and non-veracious identities?³

Certainly, such policy lines – and the hidden ethnocentric containment politics – do not neatly reflect the convictions of most professionals working in the water field, much less those who have closely worked with Andean user communities and seen the juxtaposed inadequacy *and* fundamental threat that most policy proposals entail. A number of them engage in ‘struggles from within’ and challenge the idiosyncrasy and fantasy-loss of the policy-makers, the State administration and aligned agencies. As I have shown, however, their struggle is extremely difficult since, on top of facing off against powerful structures and water interests, they have to confront a global-national-local water policy world that customarily dresses up its irrationalities as scientifically accredited Rationality.

Certainly, also, Andean countries such as Ecuador and Bolivia are witnessing a shift in the overall legal and policy domain. Peasant, indigenous and other popular groups demand radical transformation of the official legal-political system – which preaches ‘equality of all’ but so far has used this equality discourse especially to oppress *deviance* from formal right-ness, whiteness, and assigned identities, while deepening economic inequality. As Bolivian president Evo Morales argued in our joint work *Water and Indigenous Peoples*, their goal is, rather than persuading small farmers to participate in development institutes’ projects, for the latter to understand that *they* need to participate in the projects and strategies of marginalized water user groups. “We indigenous peoples do not want to be research objects, but fellow combatants in the struggle ...” (Morales 2006:22). Debates emerge about changing the Constitution, and sometimes even the Water Law (which, in the region, has been possible heretofore only during military dictatorships that suppressed all dissenting voices). Andean water user collectives are often constrained by State law, but at the same time they approach it as a

3 Government’s reputation concerning consultation about neoliberal proposals that deeply affect Andean communities does not stem optimistic. When a radio reporter asked the MP, responsible for Free Trade Agreement negotiations between Peru and the USA, about the people’s wish to speak out in a referendum, he responded “No, how can you ask llamas and vicuñas for their opinion about the Free Trade Agreement?”. Andean villagers, in the eyes of this MP (now Peru’s Ambassador to the Organization of American States), were too stupid to understand what he saw as a ‘technical issue’: “You can’t ask them about a technical issue ... You cannot ask those who don’t know how to read and write...” (2/6/2006, local newspapers and es.geocities.com/tdpcunmsm).

powerful resource for claiming or defending their interest and rights.

But the outcomes of these legal change processes to support recognition of local water rights are still unclear and water redistribution meets with enormous resistance from vested interests. Moreover, as I have shown, struggles *within the law* to achieve greater water access justice and autonomy for internal water management, and to recognize water rights as collective rights, historically have had ambivalent results: commonly ‘ad-hoc’ incorporation of stereotyped ‘customary law’ in positivist law and policies (i.e., ‘shotgun marriages’,⁴ which leave the fundamental power contradictions unchallenged) or disciplinary mimesis (‘co-opting equalization’) were the outcomes. This has often led to subordinating local rights repertoires and illegalizing the huge variety of ‘non-recognized norms and rights’. As a reaction, grassroots groups often do not demand for specific rules or rights to be legalized, but for the legal recognition of greater autonomy to develop their own management rules.⁵

Aside from these struggles for legal change, others are directed *against the law*. These are also often grounded in protests against assimilation processes, or when using illegal rules as outside institutions and companies attempt to usurp local water rights. Often, they are expressions of resistance to official laws and to the imposition of outside technological, political and cultural models.

As the preceding chapters have made clear, however, receiving far less attention but being far more widespread and influential are the permanent, everyday water rights struggles *outside (or on the margins of) the law*: these battles take place in the ‘deeper layers’ of Andean water societies, and relate to most rules, norms and practices that water user collectives apply when they materialize their own water rights repertoires. Often, these norms and normative structures are not accepted or denied by the law since they aim, precisely, to elude bureaucratic or outside market-based control. Thereto, user collectives develop a diversity of strategies⁶ to stay *out of the way* of the law. At the same time, this is a struggle against those recognition policies that seek to tame this variety of ‘unruly norms’. Because of their fundamental impact on shaping Andean water realities, their key importance for sustaining both local and national livelihoods and, simultaneously, their tremendous neglect and the huge efforts to silence them, these battles were given focal attention in my research.

14.2. Research highlights and reflective waters

In the first chapter I have developed my initial, theoretical orientation in order to conceptually ground my main question and the twelve sub questions that ‘sprout from it’, and lead me to find their answers. The main question’s subject is multi-dimensional and links my research and its key conceptual notions to diverse fields of analysis. Through confrontation and illustration with ‘cases’ and ‘events’ from my fieldwork in the Andean waterscapes and secondary sources, subsequent chapters have deepened the meaning and implications of these theoretical building-blocks, clarified and strengthened their linkages, added others and elaborated on new theoretical insights. As an academic and action-researcher – in close collaboration with my fellows – I took the liberty of defining and differentiating the one category from the other and establishing their linkages, and thereby establishing and making explicit *my* initial ‘order of things’, to be able to critically analyze the orders made

4 I have illustrated how *both* State and local rights orders base their existence on mutual interaction and strategic ‘recognition’: they are unhappily engaged in a ‘shotgun marriage’.

5 Rather than detailed rules, they also claim enforcement of general principles that promote greater democracy, transparency and equity in water management *processes* and *results* (Cf. Getches et al. 1998; Hoekema 2006).

6 Here, commonly, legal and non-legal struggles do not replace but complement each other.

or assumed by others. Since I realize that, by definition, any selection and ordering of concepts in water ontologies and theoretical-empirical links is contested and part of the wider struggles over legitimate water knowledge, this book (as one in a long series of previous encounters in the Andean region) invites one to deepen its ‘objectivity’, i.e., to object to my chapters’ concepts, findings and analysis.⁷ It invites one to object against the way I have defined and also criticized the embeddedness of concepts and categories in analytical and political frameworks, an effort that, as explained in the first chapter, is part of my journey to ‘re-member’ myself to the political, socio-technical actor-networks of Andean water control.

Throughout these chapters, I have traced the properties of water rights as encompassing five distinct but interlinked domains (i.e., thematic fields of knowledge, conceptualization and interpretation) that generate and apply particular focuses toward ‘imagining the real’. The domains (technical-biophysical, organizational, socio-legal, political-economic and cultural-metaphysical) mutually constitute each other and, indeed, my cases illustrated how Andean water users commonly approach them as necessarily integrated facets of the same complex objects: their water control systems and rights frameworks.

Legal pluralism, cultural diversity and the multi-layered battlefields of water rights

Water rights complexity. While most water policy schools and institutes tend to almost exclusively concentrate on ‘modernizing’ water laws, relating them to ‘sophisticated’ water technology and ‘rationally wished-for’ neo-institutional policy-models, the above-mentioned lack of insight into living, in-the-field water rights is dramatic. As I have argued, rather than originating in scientific misconceptions or errors, this immense neglect results from the objectivist tradition and political practice these schools and institutes form part of. They see it as their mission to socially engineer ‘rational, efficient’ water society by installing ‘modern water rights’ and the ‘effective rule of law’. The latter are seen as both the tools for planning progress, the final objectives, and accordingly, the measuring stick to judge the ‘chaos of existing water reality’.

The cases, however, manifest how Andean water rights exist in conditions of legal pluralism where rules and principles of different origin and legitimization co-exist and interact in the same water territory. In the eyes of users, legitimate water authority and rights are not restricted to those emanating from State law. Water rights systems comprise diverse, dynamic sets of hybrid rules, rights and organizational forms. Illustrations show how these context-based socio-legal repertoires combine local, national and global rule-making sources and patterns, and mix pre-conquest, colonial and contemporary norms and principles. In water control systems, diverse interest groups encounter and negotiate with each other, reinventing and experimenting with rights definitions and the normative codes that regulate day-to-day water practices. So, co-determined also by physical, ecological highland conditions, water rights development is interwoven with the past and present history of Andean societies’ cultural, political, economic and technological foundations. This calls for, in each system and water territory again, a thorough comprehension of the particular nature of water rights, taking into account their multi-layered bundles: rights to use and withdraw, rights to operate, supervise and manage, and rights to control (i.e., define, regulate and represent water uses and users). Cases also show how any understanding of Andean water rights must go beyond a narrow focus on just ‘the formal picture’, thus, beyond ‘reference rights’ as they are institutionalized in national and

⁷ See my Latourian understanding of ‘objectivity’, in chapters 1 and 9.

even local legal frameworks. Analysis of ‘rights in action’, as activated and materialized in *actual* social relationships and particular contexts, is central.⁸

Cases such as Licto, Ceceles, Mollepata, Patococha, and Pungales give insight into how the creation and transformation of water rights form part of a dynamic power play, in which local water cultures (‘hydraulic identities’) are shaped and reproduced. Going far beyond objectified or static rights contents and structures, they illustrate the importance of understanding, for example, a key mechanism for water rights’ acquisition: the simultaneous, interrelated creation of infrastructure, organization and rights. In most systems – entirely unlike any water law – the collective creation of infrastructure generates collective and individual user rights and organizational forms, in response to the particular context. The *re*-creation and maintenance of user-managed systems *re*-creates and consolidates rights and organization.⁹ The mutual bonds of obligations required to operate and sustain the system, together with common system ownership in which each user’s rights are ‘embedded’, and the shared water history, myths of origin and belonging, customs, rituals and struggles, make users identify with their system, with each other, and engage in collective action. It also typifies the necessarily collective nature of ‘water’ in the Andes; in most cases, quite beyond presumed ‘Andean solidarity’, the resource can be managed only by means of day-to-day collective action. Collaboration, instead of competition, is the only way to survive and secure water rights in this extremely adverse environment. I have typified this as a ‘collective, contractual reciprocity’.

So, water rights and the struggles over their contents and authority not only manifest the innately political nature of water, but they also embody the ways in which the resource is closely connected to cultural meanings and identities. More than just ‘a set of ditches’, hydraulics and functional agreements, user-constructed and controlled systems are politically and culturally moralized constructs that embed local knowledge, skills, self-esteem, property arrangements, power relations, and bonds of obligations, both effective and affective. And far from romantic arrangements, they are also the result of ongoing internal struggles and negotiations, in order to blend unity within diversity.

Water struggles. This local unity shows to be an overarching aim in all water-control and rights systems that I have analyzed, because of the fact that, despite their central importance for local and supra-local livelihood security, the threats they face are huge and ever-growing in a globalizing society. Facing the powerful water interests of both private companies and the nation-States’ economic, political and military objectives, defending control over land and water is a matter of life and death for local user communities. Water is both the liquid that feeds their livelihood systems and the fuel for the zone’s organizational engine, the energizer that invigorates collective action and generates locally particular waterscapes. As such, as the chapters have illustrated, in many places it is the blood within the veins of survival and coexistence. For the same reason, water represents power and engenders social struggle.

The elaboration on our frame of four ‘Echelons of Rights Analysis’ proved to be important for a deeper understanding of these water conflicts. All cases manifest that, in the Andes, there is more at stake than only the distribution of the powerful water resource itself. Along with the struggle over

8 Cf. Benda-Beckmann et al. 1998; Boelens & Zwarteveen 2001; Roth et al. 2005.

9 Cases show how neglecting profound user involvement in the design, creation or rehabilitation of irrigation infrastructure prevents their creation or rearranging of property rights and, thus, of sustainable organization. When, later, interveners face the ‘unwillingness of users to participate’ in agency-led irrigation development, this often is explained as farmers’ ‘lack of long-term objectives’, ‘backwardness’, ‘sticking to tradition’, or ‘seeing before believing’. Mostly water users clearly *do* see what is happening, and interveners are unconscious about how they muddle and destroy existing property relations that sustain local water control.

water, infrastructure, and other material means (*Resources*), at a second abstraction level there is the contest over the formulation and contents of water rights and operational norms (*Rules*). The third level deals with the struggle over decision-making authority and the legitimacy of rights systems (*Regulatory Control*). The fourth level analyzes the diverging discourses that defend or challenge particular water policies, normative constructs and water hierarchies (*Regimes of Representation*). In sum: there is battle over the material control of water control systems and over the right to culturally define, politically organize and discursively shape and control their existence. This also explains why the conflicts are so intense. The struggle over water rights is simultaneously a battle over resources and legitimacy: the legitimacy to formulate and enforce water rights and to *exist* as water control communities.

My socio-technical analysis of these struggles has made clear that this is not just a ‘legal’, ‘cultural’ or ‘political’ battleground but one that takes place, simultaneously, in all domains. Water rights, established by societal interactions and power structures, inform the design and use of the hydraulic technology and flows of water; in turn, the norms embedded in such distribution systems and techniques co-structure organizational, legal, cultural and political relations in water control society.¹⁰ Further, in water rights disputes, all four rights echelons are involved simultaneously and ‘chained’ together in particular ways (establishing how water is to be distributed, how humans and non-humans are to be ordered in socio-technical hierarchies, how this is legitimated by moral and symbolic orders, etc.) – in ways that either strengthen or challenge the status quo. I have shown how, from Inca and colonial to contemporary water control practice, in the realm of the fourth echelon, discourses are developed and put to work as ‘socio-technical organizers and stabilizers’, aiming to create and proliferate the belief that particular policies and water rights orders are self-evident. From the technical-physical to the meta-physical, they strategically compose and glue together these convenient water rights and truth orders: while the ones in command seek to enroll and align humans, nature and thought within a network that transforms the diverse social and natural Andean water worlds into one water governance system, structured according to ‘outside’ rules, truths and reference frames, local user collectives strategize their ways to resist and construct their own, alternative orders.

Powers of illusion: coercive and capillary domestication and powerful dream schemes

Normalizing powers. Despite their ongoing interaction and hybridization, the cases illustrate how official water rights and locally prevailing rights constructs differ fundamentally, not only in substance, range of application, sources of legitimacy and modes of authority and control, but also in the ways they are constituted and re-affirmed. For example, investments made by ancestors, many years’ blood, sweat and tears that have flown through the canals before bringing home the first drop of water – the record of not just intensive *faenas* but even human casualties when building systems – all to create and re-create water rights, is not commensurable with water rights’ payment or paperwork. Community irrigation rights analyzed in the book, in all their complexity and diversity, have some common features. Among others, they typically constitute collective property; individual rights are derived from and embedded within collective water rights; rights are territory-bound; their authority is vested in rotating community leadership posts; they can hardly ever be

¹⁰ In the same vein, the relationship between water rights and power structures is two-sided: power relations generate key features of water rights’ contents, distribution and legitimacy and, in turn, water rights in action reproduce or restructure power relations.

transferred to users outside the system, which guarantees long-term social security and the collective's continuity; they express diverse usage values (also non-economic); in times of scarcity they obey prioritization reflecting social needs (to enable livelihood reproduction); their acquisition and consolidation is significantly based on system construction and consolidation; their consolidation is also 'community-embedded' and thus may relate to responsibilities entirely outside water control instrumentality; decision-making procedures are based on one vote per right-holder; etc. Each collective provides its context- and history-particular version of such a rights repertoire, as systems of organized complexity that order the highly conflictive field of water control.

Reviewing the above properties (among many other notions presented in each chapter), it is directly clear that Andean rights' diversity and control-localizing authority not only act against outside bureaucratic or market players control; their very contents and acquisition mechanisms also make State domination and free market operation very difficult. Neoliberal policies, for instance, advocate: private water rights; separated from the land and community; their dominion is vested in the State to protect private interests and the functioning of the 'free market'; their transfer to 'higher values' is promoted (i.e., most often outside the community and subsistence systems); new rights are awarded to the economically most powerful bidder; they fundamentally express market exchange value; they do not obey any legally protected social prioritization; their acquisition and consolidation is cut loose from system sustainability and reproduction; and, suffocating democratic decision-making, the individuals' voting weight is proportional to their water shares and buying power. Etc. Clearly, local water rights heterogeneity, complexity, autonomy and dynamics constitute a primordial obstacle for national and international rule-makers, planners and interveners interested in local water resources and control; State and market institutions require a predictable, uniform playing field so context-based rights orders are not seen just as irrational systems that elude justice but, above all, as intangible, unruly disorder eluding control.

'Making them normal' – according to outside standards and models – and curtailing heterogeneity has proven to be at the heart of all policies analyzed in this book. The power tactics deployed to prevent people from 'wrong-doing' and generate obedient user communities and disciplined water rights have differed strongly, ranging from 'ancient' modes of 'coercive and exclusive power', based on top-down, visible, 'agent-centered' mechanisms, to 'modern' modes of 'capillary, inclusive power' that are especially 'subject-centered', hidden, bottom-up, and more in line with liberal (and socialist-inspired) equality ideologies. Dominant discourses in the region made a move from racist exclusion and natural inequality to imagined inclusion and presumed equality. In line with what Foucault argued, the latter normalizing (equalizing) discourse – in an all-inclusive, participatory manner – imposes homogeneity and one-way rationality on water society and at the same time individualizes water users and ranks them in hierarchies, according to their correspondence with (or deviation from) a set of 'rational, self-evident' water management standards that are not of user communities' own making.¹¹ The latter make water user families and communities 'pathetic cases' or 'anomalies' whenever they compare themselves to the 'advanced water norms and rights constructs', they induce self-measurement and self-correction 'from below' – thereby elegantly stabilizing the dominant water-power structures in Andean water society. Subtly, the diverse standards for 'equality' and 'development' are taken away from the local user communities because not meeting

11 For instance, privatization and market-based allocation of water rights breaks with the above rights-creation mechanism and collective action and so destroys the foundation of Andean water control. Multiple, conflicting private rights replace the collectively embedded, individual rights. Water users, now as competitors, confront each other, internalize and (those who are able) defend the notion of *their* private property, so strengthening the model's normalizing power.

and internalizing the new ‘self-evident standards of water efficiency, rationality and progress’ – far beyond nonconformity to Water Laws or established privileges of water lords – would question one’s own rationality and the very wish of users ‘to develop and progress’. So, this normalizing, mimetic¹² power generates compliance instead of resistance, inclusion instead of exclusion, and a sense of (almost) belonging to ‘modern water culture’: as potential equals who may some day become equals if they obey the rules of the game. As the events reveal, such correction and self-correction to the powerful ‘normalizing model’, shaping norms, beliefs, desires, identities and practices, indeed, takes place in all layers of water society, not just among the marginalized peasant and indigenous families and user collectives. But because of their enormous deviance from the model’s ‘equality imperative’ they face the greatest need to transform.¹³

The cases have illustrated how the notion of ‘equality’ in modernist water policies fundamentally refers to equalizing to occidental, technocentric, objectivist, male-biased water management definitions and models. The concept of rational water management, for example, is interspersed with non-indigenous, non-Andean norms about efficiency, social security, effective organization, private ownership and economic functionality. In a similar vein, ‘inclusion’ and ‘participation’ in such policy approaches essentially relates to participating in the objectives, visions and terms of the policy builders themselves. And regarding the seeming world-consensus on the need to develop ‘integrated’ water management and ‘integrated’ policies, the fundamental, underlying question is seldom made explicit: *who* does the integration? – the response, indeed, is quite revealing about the existing water-power relations, from local to global.

On top of being the greatest ‘anomalies to good water governance’, the families collectively labeled as ‘poor’ and ‘lacking’ are also the ones who face the *other*, brutal, top-down, exclusionary side of the power coin whenever they refuse to join the game and conform, or whenever the encroachment of their water rights cannot be ‘rationally explained’ and materialized by means of subtle, modern power techniques. So, capillary power modes do not replace but complement their coercive twining part – many examples, from the Tunshi communities or the Tulabug struggles to the Inca water battlefields, show how these power modes always have strategically combined and interacted. In the Andes, ‘modernity always existed’ and is Janus-faced. Though a gradual shift in the balance between the two power modes has taken place, their discontinuity and substitution is a myth (as is their strict separation). As alternating and mutually intertwining power strategies they increase the ruling group’s capacity to dominate local water societies, and the manifestations of power change color according to the kind of opposition they face from local user groups. As the two, changing sides of the same coin, the subtle, soft, participatory face works side-by-side with its outright oppressive, top-down brother, and *both* seek to operate under the banner of ‘pacts of reciprocity’.

Recognition politics. The two brothers, Consent and Coercion, or Co-optation and Compulsion, now and in history, have also actively engaged in the ‘cultural politics of recognition’ to generate obedience and stabilize extraction in water control. Since practices of Andean water control and property rights (re)creation thoroughly entwine with processes of user identity formation, the strategies of

12 I have analyzed mimesis or mimetic desire (Achterhuis, Girard, Galeano, Fanon, Foucault, Taussig) as a powerful aspect of capillary power: it seduces water users to want ‘to be like them’, to be ‘included’ and ‘equal’ according to outside but internalized disciplining norms.

13 Besides the few ‘who make it’ and can join the game as ‘equals’, nevertheless, participation by peasant and indigenous user collectives tends to reinforce their stigma as ‘lastingly backward’, due to the continually refined, inaccessible norms of whiteness and rationality that inform (self-)measurement and judgment.

ruling groups to expropriate local water resources, labor and decision-making control equally tend to deeply focus on strategizing and expropriating local forms of identity and water culture. Many cases illustrate how, from past to present, and with tools from both the ‘physical’ and the ‘meta-physical’ worlds, local water rights practices, beliefs and identities have been tied to broader identification policies that aimed to efficiently arrange compliance and surplus extraction. The classification schemes and dividing practices by which dominant groups categorize ‘the others’, convert Andean water users into ‘objectified subjects’, and assign them their presumed identity and behaviors, become extra powerful whenever water users and communities internalize them.

Recognition politics’ efforts to install such categories and frameworks of rights and reference – from *indios* as ‘tribute payers’ or ‘talking llamas’ and *cutos* as ‘dog-like servants’ to the modern *poor* or *clients* as (potentially) civilized, utility-maximizing water user individuals – and presenting them as objective schemes of rational water culture and identity, commonly has the aim to foster the normalization of deviant groups and rights. As the chapters manifest, the definition and political recognition of ‘customary territories, laws, identities and water rights’ has often been instrumental not just to freezing them as folkloric otherness, to distinguishing ‘proper’ rights and ‘convenient, uncontaminated’ Indians from ‘irrational’ rights and ‘subversive’ identities, and to containing their ‘unruliness’, but also to provide more physical and political space to State and private sector interests in terms of legal security as to how far ‘legitimate encroachment’ on customary rights is permitted (Cf. Gentes 2006; Getches 2005). As the Peruvian and Ecuadorian cases testified, irrigation bureaucracies are part and product of the Andean nation-States; their social function is to naturalize the type of society they propose, resolving thereto the contradiction of reproducing distributive inequality and perpetuating national cultural unity.¹⁴ Thus, clearly, recognition politics interweave both cultural politics (the question of both belonging, in schemes of superiority/inferiority, authority/obedience, and who has the right credentials to establish rational, legitimate water rules and rights) and distributive politics (based on political-economic power relations, the issues of water property rights, accumulation, and the material distribution of water wealth).

Modernist water policies and training programs, like many examples manifested, often have the implicit (or explicit) objective of protecting local water user communities from their own perverse being and backward identities, from their limited water cultures, freeing them from their inefficient, irrational water rights systems. Legal training, schooling in just expert-based frames of water rights and techniques, development of their water markets and correction and formalization of their informalities, is commonly diagnosed as the path to include those supposedly excluded from modernity, by adequately adapting the inadequate, consciousness-raising among the unconscious, capacity-building with the incapable. Andean water reforms, presented as sets of neutral, scientifically objective government techniques to foster progress, have deeply social, political and cultural consequences for existing water rights collectives, but also reinforce political control by the water bureaucracy, and help powerful neo-liberal agents incorporate local water users’ rights and organizations into the market system. They aim at self-reproduction and craft a water world after their own likeness. Since co-option of water user communities is vital for this, the more subtle recognition policies tend to seemingly accept local rights systems but in fact invade and absorb them from below. They transform them by emphasizing and codifying their supposed essences, and congeal and subdue them in an outside-controlled normative, political framework.

¹⁴ Kearney 1996. Cf. Boelens and Gelles 2005; Castro 2004; Gelles 2000.

Hydro-political dream schemes. Since I argue for the need to contextualize water rights and identities and understand their heterogeneity and locally-particular complexities, an important question my readers may ask is whether my cases and findings have significance and validity beyond the Andean region. My answer is definitively affirmative. It is not just in my case analyses of Ecuadorian or Peruvian irrigation modernization that ideal-type, universalistic systems are implanted, based on standardized, replicable property regimes, governance structures and water control techniques. In conventional training institutes and manuals it is easy to find that the packages (neatly combining very similar hydraulic, economic, organizational and agro-productive designs and procedures) are universally promoted and applied. Contextuality of water rights, cultures and peoples is *made irrelevant* since it is precisely the challenge to reduce all complex human and non-human phenomena to measurable, repeatable, foreseeable, calculable, and ultimately controllable terms: the reshaping of community institutional practice in line with national (State) and international (market) frameworks. Their projects share the vision and mission that, through hydro-productive and socio-legal engineering and standardization, ‘rational’ cropping patterns, ‘optimal’ water schedules, and ‘efficient’ water use, as much as ‘functional’ water rights, ‘accountable’ organizations and ‘disciplined’ water users can be manufactured. Their schemes share the dream, as the cases clearly detail, that through finely graded techniques of governance, strategically interweaving legal procedures and administrative structures with hydraulic, agro-productive and organizational designs and training efforts, water users will assume the self-evidence of their rational policy objectives, normative frameworks and system responsibilities. Their endeavors share, indeed, a *socio-technical utopia* in which subjection is internalized: through an all-inclusive, productive hydro-political web that aligns the material and the social, water users can and should be subjected to a game of control and self-control, making the universal, rational system norms and rules on efficient water use and modern governance play upon themselves; rather than being forced, they “*want to get in from the cold*”¹⁵; implicitly, they want to fit themselves into water-power relationships in which they perform both the responsibilities of well-trained, compliant water users and their own scrutinizing ‘vigilantes’.

I am not the first one to argue that such social and legal engineering of water societies is a myth. Moreover, the meticulous configuration of humans and non-humans, rules, rights and prescriptions, that all work towards a convergent, predictable water control system is an illusion. Except for some archaic ‘desk-jockeys’, even the greatest policy dreamers *know* that official rules and policies are profoundly mediated by a diversity of actors and ‘the stubbornness of reality’. And nearly all project implementers (from technicians to sociologists) *know* that the conventional, ‘hydro-political dream schemes’ are a fiction when confronted with the reality of Andean communities. As I have shown, it is not so much the particular contents and actual effectiveness of these rules, rights and techniques that lead to their strong influence – it is relatively easy to discredit a substantive part of their claims to quality and effectiveness when put into practice. Among many other reasons and powerful interests explained in the chapters, an important aspect is that, at the legal-political-technical design table, dream schemes make up a coherent, potent discursive *system*, rationally linking individuals and micro-water control society to meso- and macro scales of governance.¹⁶ This contributes also to their self-fulfilling properties: in case of failing components of the model it is not its working or rationality or the equalizing discourse behind it that are questioned but the very user communities,

15 De Soto’s conviction concerning the dream of neoliberal, popular capitalism (see chapter 8).

16 The cases testify how, though sharing universalistic norms and international trade orientations, the region’s liberal and socialist hydro-political utopias have limited their dream schemes mainly to the realm of the nation-State; on the contrary, the neo-liberal project aligns the material and the social from the local to the global, the world’s ‘free market’ is inserted into the local community and household, and vice-versa.

who fail to apply it as ‘rational clients’ would do. They are blamed and made to blame themselves. And as the illustrations demonstrate, beyond just blaming the victims (i.e., Andean water user collectives), the models often tend to either reconstruct or erase them.¹⁷ Thus, the fact that the proposals are largely un-adapted to the local context is, as observed, not directly relevant: the aim is not to adapt to context but to transform and control it – the users’ reality is to be adapted.

Quite aside from (also existing) powerful interests behind dream scheme realization, there is a conviction, mostly unrelated to any wickedness, that *the myth must be realized*. The illusion of modernist progress thinkers (from liberal humanists and Marxists to neo-liberal modernizers) that it is morally necessary and in the interest of all to strive for full, overall control means that the quest to materialize the Babylonian Water Tower continues, forcing all people to speak the same water language (see also Vincent 1997). Its illusive character does not make its power illusory, on the contrary, it generates powerful contradictions in everyday practice. It may be a mission impossible, but a mission it is.

For the same reason, as the cases illustrate, the fact of delegating human morals to artifacts and technological networks (i.e., moral scripts) acquires an important, political control dimension: the drive to create the social and political water order foreseen by the dream scheme design. In their moral salvation mission, water sector modernists fundamentally strive to break and make local water users society, fostering a ‘moral regime change’. As is common in utopian/dystopian projects and modernist water programs, the radical destruction of the existing arrangements is a prerequisite for building the new order on modern, uniform foundations. Current times of ‘Water Crisis’ are, paradoxically, supportive to the Great Water Project. They legitimize State and ruling group’s faculties to strongly screen and intervene in locality, ‘the hiding place of all evil’, and normalize this ‘chaos’ through alternating capillary and coercive techniques, sustained by international policy norms and morals. The stronger the discursive water scarcity threat, the less there is a need to justify ‘public control’ and, if necessary, violence in the name of progress and public interest.

Beyond paternalism, modernization and mothernization

As an African proverb goes: “*Until lions have their own historians, hunting tales will continue to glorify the hunter*” (Galeano 1996:104). I have scrutinized, throughout the book, how the narratives and overall discourses as much as the very definition, meaning and ontological construction of their building-blocks – for example, ‘water rights’, ‘community’, ‘irrigation system’, ‘head-of-household’ and ‘Indian identity’ – are fundamental elements of and arms in the Andean water-power battle. In the game of the rules, State bureaucracy and policy institutes, just as other influential actors, ontologically and socio-technically construct their objects (e.g., hydraulic blocks, command areas, etc.) and the subjects to be governed (the State’s politically dependent water user categories, such as individual users and Irrigators Boards). For this, they name, norm and naturalize water rights, identities and organizations that have no underpinning in local naming, local norming nor in nature (even though sometimes they may seem to do so).

In general, by simplifying heterogeneity according to water expert notions and ‘established’ science doctrines that depoliticize the profoundly political choices that are made and provide an aura

¹⁷ For instance, the neoliberal model undermines communities’ collective action by privatizing water rights; then blames this ‘illness’ on their failing market compliance; the remedy prescribed is to increase free market rules to ‘strengthen water rights and increase efficiency’; and (often outside) private investors take over the water resources and authority. Bureaucratic models have similar self-reinforcing, self-fulfilling properties.

of universal, disinterested standing, instrumentalist hydropolicy models make commensurate and thereby violate water rights reality and seek to re-represent the different user groups who populate waterscapes. I have analyzed, for instance, how a number of schools ideologically construct ‘the Andean community’, how various monocular regimes re-represent ‘gender relations in Andean water control’, and how divergent cultural policies instrumentalize ‘indigenous identity in water property relations’. Whether the presentations refer to their cultural-technological backwardness, their neo-institutional rationality, their cosmovisionist purity, their revolutionary nature, or even their deconstructed, postmodern non-existence, the hunting tales have in common that they deny the lions themselves. Since formal water expertise and policy decision-making faculties, to a large extent, are allocated to those who are political-economically, ethnically and gender-wise selected to embody water truth and authority, accredited by this same water officialdom, it is not difficult to notice (as the cases also show) that the focus is mainly on those questions asked by the water rulers and not by the ones envisioned to be the water-ruled – how to align, include and control users, resources, rights and identities in their governance game being one of their fundamental questions.

Converted into water policy programs, the essentialization and uniformization of Andean culture, identity and community (including gender relations), as positive or as negative mirrors of the Definers’ own worlds, tends to be a fundamental tenet. They are presented in binary frameworks and so contained. To this respect, much of my critique has been leveled against the modernist policies, in their practice and their conceptual underpinning: the liberal policies and programs that advocate equality of all, not to redistribute but to repress those who claim the right to be different; the socialist-bureaucratic water policies that aim to normalize, suffocate and incorporate local collectives’ water rights under the presumably revolutionary but entirely paternalistic banner of ‘equality’; and, not in the last place, the neoliberal policies with their private rights moralism, free market mission and naturalized economic-scientific rationality aggressively strategized to destroy or transform existing water cultures and collectives into individual, rational utility maximizers.

But the rightful critique of the modernist programs and the interwoven State, market and expert networks that forcefully aim to ‘modernize’ and externalize control, must not lead to praising the equally simplistic cultural relativist reification of local rights systems, such as in anti-modernist Andeanism. It is not just that their glorification of the Andean past and present community, and their neglect of current intra-community and intra-household injustices, evades any critical analysis of local power relations and so actively weakens the efforts of the marginalized to question these injustices. The return-to-Pachamama utopia, which I have called ‘Motherization’, is also fundamentally chained and enslaved by the same modernist approaches it says to question. Unrelated to any real-life household, community, or water rights practice, Motherizing approaches typically essentialize Andean Otherness by exactly *inverting* Modernization and its positive Occidental / negative Andean stereotypes. (Typically ‘research’ reports are interspersed with the phrase “On the contrary to the West, the Andean ...”).¹⁸ The undivided packages of modernity are replaced by undivided packages of tradition, which paternalistically prescribe how Andean families and water users are assumed to think, behave and desire. As Foucault accurately observed: “History preserves us from that sort of ideology of the return” (in Rabinow 1984:250). Just as modernist policies do, motherist approaches deny the heterogeneity of *actual* worldviews, identities, water rights and power relationships, they neglect the adaptability and hybridity of local cultures and management forms, and the way they necessarily interact with others – ‘otherness’ can only be defined in processes of confrontation,

¹⁸ Paradoxically, by doing so, anti-modernist motherizers also show how firmly they *believe* in the modernist self-image of being just rational and not irrational, just physical and not meta-physical, etc. (see also Latour 1994).

communication and thus, interaction.

Unlike uniform, utopian dreams of ‘collectives’ and ‘collective property’ that turn out to be dystopian nightmares when materialized (forcing both individuals and groups to conform), Andean water user communities and collective water property rights are far from any communitarian dream but a harsh reality. And far from any Andeanist romanticization or socialist mission, this community rights collective does not construct its shared water infrastructure, rights and organization because of representing a particular higher morality but out of historic and current necessity: individuals know that in the Andean ecological and political context it is only the collective that is able to protect and sustain their continuity. Both forced collectivization (e.g., the Agrarian Reforms that dissociated communities and forced them to form cooperatives) and forced individualization (e.g., neoliberal water privatization policies), where the total reconstruction of Andean water societies is legitimized with scientific rationale and utopian promises, have shown to be the real nightmares for existing collectives – who are sacrificed on the altar of abstract ideals.¹⁹

Peasant and indigenous organizations and local water user groups are, however, not that easy to ignore or transform into the subjected subjects the policy models want them to become, and the cases manifest how they often struggle for the right *not to participate* in the models. But this does not mean an anti-modern quest for ‘isolation’, on the contrary. As dominant water players do, they seek to align the other parties and their resources in the network and action program *they* desire. As many of the chapters have shown, in an arena hosting entities with confronting interests and a mutual need to capture each other’s resources, both sides aim to make strategic use of each other’s techniques, norms and rules. So, beyond models that either deny or reify, and confronting the models’ efforts to depoliticize ‘interculturality’ and ‘interlegality’ by means of ‘managed multiculturalism’ (Assies 2006, Castro 2004), local Andean collectivities in day-to-day confrontations permanently re-invent water rules, rights and identities that strategically aim to represent them in their struggle against subordination and discrimination. Rather than being anti-modern, day by day, Andean water control collectives are building something entirely new, to confront new challenges, – if necessary under the *appearance* of a strange mixture of ‘returning to tradition’ and ‘accepting existing symbolic orders of power’. But before I go over to this strategic fiction of reality, let me briefly reflect on the important reality of fiction.

[Intermezzo:] The reality of fiction

In Andean resistance thought, literature, and political ideology, the notions of ‘*pachakuti*’ (transforming, inverting or ‘returning’ the Earth, see chapter 3) and the hybrid, utopian myth of *Inkarrí* on resurrection, revolt and reconstitution (see chapter 6) are, among several others, recurrent symbolic themes. Probably the most well-known version of *Inkarrí* (among the many recorded in distinct communities) is the myth according to the residents of Puquio, Peru, as explained and published by José María Arguedas:

“The wamanis (mountains) are the second gods. They protect people. They give birth to water that makes life possible. The first god is *Inkarrí*. He was son of the Sun, with a savage woman [...]. *Inkarrí* was taken prisoner by the Spanish king; he was made a martyr and beheaded. God’s head was taken to Cuzco. *Inkarrí*’s head is alive and his body is being reconstituted

19 Cf. Achterhuis 1998; Flores Galindo 1988; Lukes 1995; Van der Ploeg 2006.

underground. However, since he has no power anymore, his laws are not followed and his will is not observed. When Inkarrí's body is complete, he will return, and that day will be the last judgment..." (1975: 175).

One day, the head (depending on the version: of the Inka-Rey, of Atahualpa, of Tupac Amaru I, of Tupac Amaru II, etc.) will join back with the rest of the body to lead Andean resistance and organize the 'pachakuti', reverting the prevailing oppressive economic, political and symbolic order. As I have explained, the symbolism and forces of water play a fundamental role in this pachakuti notion.²⁰ The same is true for Inkarrí. Where Arguedas quotes the *comuneros* themselves: "The blood, the water, gushes from the wamanis' vein ... water is the from the vein of Father mountain, the aguay unu" these Puquios not only make a distinction between "water that springs from the Earth" and "rain, which is created by God" [Catholic], but also between the first, living blood waters of the wamanis and those that were dammed ('damned') in a large-scale reservoir: "as the informants see it, this water, dammed up by the modern engineers, falls under the domain of the powerful mistis" (1975:49-50). Ortiz Rescaniere recorded the Inkarrí myth in Huamanga, Peru:

"The blood of Inkarrí is alive deep in our Mother Earth. They say that the day will come when his head, his blood, and his body will come back together. On that day, day will break at dusk, and reptiles will fly. Lake Parinacochas will dry up, and then the big, beautiful town that our Inkarrí was unable to complete will be visible once again" (1973:139).

These and similar narratives – which are often transformed into *pan-Andean* myths: are they the fundamental political-symbolic building-blocks of contemporary Andean resistance to modernist normalization? Many have hoped so. Also novelists have actively used these anthropological field data as powerful symbols in their work, hoping for the subsurface, cultural and metaphysical forces of Andean communities to resist or bend the destructive impacts of modernization and capitalism. Arguedas' own novel *Todas las Sangres* ends with the dramatic words: "Can't you hear it? Pay attention. It is like an underground river beginning to rise ...".²¹ And Manuel Scorza, in *La tumba del relámpago* (1981), writes: "it was Inkari, the scattered body of Inkari the god, which reunited below in the bowels of the mountain ranges, which now joined in the cataclysm. Colossal mountains heaved, sank, smashing plains, smothering cliffs and huge rivers, flaying the flatlands, quenching rivers and waterfalls. 'Must be the end of the world', he thought, terrified. 'Or the real beginning?' ... Inkari was returning! Inkari was keeping his word!" (Scorza 1981).

But: however beautiful such narratives and their spirit of independence and opposition may be, and despite their 'mobilizing' power, extrapolation towards 'pan-Andean myths' or even 'indigenous truths' is profoundly problematic. Not just because of the fact that 'indigenist messianism' tends to present a very biased, utopian picture of resistance (for instance, in fact, most versions of the myth have a less happy ending; after Inkarrí's beheading or quartering by '*Españarri*' there is no resurrection. Cf. Tomoeda 2006). Also, in terms of political impact for indigenous communities, the myth's balance is probably very bleak: rather, it was expedient for the many who (glorifying the Inca past) have entirely denied *actually existing* indigenous norms and cultures. Similar to the ways in which Sendero Luminoso abused the pachakuti motive to legitimate its brutal violence to 'turn the

²⁰ In particular through the violent representation of Amaru, the snake that symbolizes the waters that flow from the Apus to Pachamama (see chapter 3).

²¹ Arguedas 1980/ 2(1964):236). See also the analyses by Flores Galindo (1988) and Baud (2002).

world upside down' (see chapter 3), the socialist-revolutionary Velasco regime adopted the Inkarrí symbolism to justify its nationalist cultural politics – paradoxically, oppressing Andeans' indigenously. Later, Toledo made use of the Inkarrí myth to mobilize the people from the four corners of Peru in order to defy Fujimori's neoliberal regime and, subsequently, install his own neoliberal government. Indeed, as I have shown in various chapters, from Inca governors and Spanish chroniclers to neo-indigenist and De Soto-type neoliberal policy-makers, a careful analysis and use of local people's myths, norms, and rights has been (and continues to be) instrumental to domesticating and incorporating them. Beyond Levi-Strauss' observation that today, political discourses have taken the place of ancient mythological thought, I have shown how, often, the two strategically intertwine in contemporary Andean (water) politics and techniques of governance.

The chapters illustrate, indeed, how Andean water myths may challenge but also strengthen the status quo. Control over mythical water-power-truth production and the water-related constructions of origin and distinctiveness have been crucial, not just to local communities but also to ruling classes. Without understanding how the 'politics of fiction' and the 'conquest of imagination' create reality and deeply penetrate everyday material-empirical water worlds, water-power regimes from Inca to neoliberal times cannot be scrutinized adequately. For example, as I have stated, Wittfogel and his renowned 'hydraulic hypothesis' (but equally his numerous critics) were unable to explain ancient imperial power because they mechanically separated and failed to understand the ingenious, fictitious link between water physics and water meta-physics that significantly contributed to rulers normalizing their subjects and controlling society. But it was not just the Incas who, as a potent tool for 'subjectification' and subjugation, sought to symbolically incorporate all local water sources and beliefs into one metaphysical and hydrological presentation. I argue that scholars and activists need to understand the way current imperial efforts *also* build their powers on dream scheme presentations, that these 'politics of fiction' may lack theoretical validity and constitute misleading myths in terms of explaining local water control processes and practice but that this does not diminish their social significance. Like all other myths, such illusions are powerful whenever people put faith in them. Models for explaining water control, beyond entrances to 'imagine the real', become 'real' like the hidden assumptions and unquestioned conventions built into them, and the ideology of a non-ideological water control society is a powerful resource in the hands of those who benefit from such an imaginary model. Transformed into water policies, the power-laden choices and contents are concealed and naturalized and the models become 'truth-makers'. This way, for instance, the neoliberal model not only assumes universal laws, but also actively establishes them.

Water user families and collectives 'in-the-field' also strategically use history and the imaginary, but my findings illustrate that their constructions of water culture, ethnicity and belonging are *not* made in terms of abstract ideals or dogmas. They challenge the 'identities assigned to them' and build their own irrigation and identity schemes as products of their very concrete experiences and everyday confrontations – both in the realm of economic-materialist expropriation and in the fields of cultural-ethnic, gender and political discrimination. And far beyond waiting for and putting a fatalistic hope in the utopian return of the era of 'Inkarrí', local water user collectives create and re-create – on an everyday basis – their own 'small inkarrís', largely unnoticed by academia, policy-makers and water intervention planners. Canals and rivers represent the veins, and water, the blood or semen running through the Earth's body, linking its head to its feet, but not only in the 'Andean cosmology'. In many daily operations, irrigation, water supply and watershed systems are conceptualized in very practical terms as a human body. As a villager said in Urcuquí, Ecuador, "Water is the Earth's blood", a very common equation in communities. In the words of a leader from Pungales:

“All system components are equally important – they may be different, but they are complementary. How can you make the irrigation system work if the head, the intake, is not working right? The brain and the body is the collective organization that brings it all together. When the branches, the conduction channels, are ailing, how can the water reach the communities and the farms? If the water doesn’t reach the system’s tail, the feet will die. And how can anyone walk, without feet?”

Rather than rooting in pan-Andean myths, high-level revolutionary abstractions, structuralist analyses, monocultural regime’s problem constructions, hydro-political dream schemes, or ivory tower ‘integrated water management utopias’, the water users’ self-initiated struggles for change tend to be – in the most literal sense – very down-to-earth. As the Mollepatha, Licto, Ceceles and Huanchor cases, among others, clearly evince, they re-moralize water technology and change its ‘codes’ and distributive patterns, they re-design hydraulic- legal-political control units and so localize control, they simultaneously found/anchor and hybridize/renew the vital water rights basis, they dynamically embed water culture, identity and organization in waterscapes, etc. This way, rather than following policy models that preach radical change of water governance according to non-local norms, techniques and organizational structures (i.e., Devspeak’s ‘best policies and practices’, devoid of context), users themselves tend to practice ‘water piece-meal engineering’, collective action based organization-building and water identity formation patterns that are rooted in strong local trunks – with impacts that, as these cases have shown, are certainly no less radical.

The fiction of reality

Water community construction. Throughout this research, a fundamental issue was to see how local user communities both defend and extend their water control maneuvering space under such adverse agro-physical and political relations of production. The cases manifest how, in their efforts to ‘fix their water reality’ [i.e., “making it sound and whole again”], the aim to manage harsh reality combines with the use of ‘fiction to disguise reality’ [i.e., “shaping” and “feigning”. Webster’s 1994]. They also make clear that, in this creative practice, local families and communities reject constructs of selfhood as mechanical reflections of prevailing, control-externalizing power relations. Instead of seeing Andean user communities – with all their equities and inequities – as isolated, bounded production systems, homogeneous strata of poor cultivators, fragile vestiges of the past that should be preserved, or institutions that are destined to vanish in modern times, they are rather to be analyzed as dynamic institutional strategies. First, to pose resistance against intrusion by and subordination to external power groups and the imposition of outside regulations that threaten their existence and autonomy; second, to mediate between the group of members and the forces and institutions of society at large; and third, to design, enforce and re-create the internal rules and techniques that establish, among mutually dependent actors, the distribution of collectively managed resources such as water. Their common place and history, shared ancestors and deities, collectively developed properties, and the cultural linkages among kin, friends and colleagues, along with internal struggles to shape unity among divergent interests, provide common ground to defend and consolidate community, land and water rights, and for ongoing reconstruction and affirmation of joint water culture and community identity.²² The chapters show how this is not just an ‘internal affair’: Andean user organizations and

²² This material creation and upkeep of collective hydraulic property, bonding individual and collective rights and action to the shared system, fortifies and reproduces this ‘water community’, bolsters local collective bodies having effective

communities dynamically ponder and strategize the manifestation of supra-local policies and markets in local water territories, embedding the local in the global and the global in the local.²³

Just like the liquid resource itself, the use of boundary definitions ('community', 'identity', 'rights', etc.) is also fluid. The cases bear witness to how water user families strategically network and make water rights and identities into 'trans-boundary' and even 'trans-national' phenomena that cross all conceptual (disciplinary, gender, normative, and cultural) discourse boundaries. *However*, even if outward presentations are multiple and divergent, a water user collective needs to simultaneously establish a clear normative, political, socio-technical, internal symbolic framework to sustain its collective action. Local user collectives, as I have shown, make huge efforts to assert their boundaries (in all five domains), in terms of water territorial extension, the water resources and infrastructure owned, the universe of right- and obligation-holders, the water rights normative framework, and the symbolic order of belonging and distinctiveness. Water users physically, economically, emotionally and morally *invest* in their water identities and boundaries. Being social and political constructs does not make them any less real or powerful; they are imagined, but not illusory or imaginary. Water rights and water identities are dynamic but not boundlessly negotiable, fluid or 'nomadic'; on the contrary, they are rooted and embedded in local history and struggle: they are part of the root-stock.

As I have argued, local water collectives, rather than either essentializing or 'unpacking' their border definitions, are necessarily boundary vigilantes and defenders, precisely *because* their limits are fluid and require collective control. 'Water community' – differentiated along class, gender, ethnic and age lines – is not a state but a struggle, a process, and a capacity: to activate and materialize users' mutual dependence through negotiated cooperation, merging collectivity from diversity, and steering the unbound, open network it comprises towards shared water control objectives. In line with the Pungales leader's observation, a water community must constitute a whole if its parts want to survive, collectively controlling the risks, conflicts and contingencies 'as much as possible'.

Water rights undertows. For the above reasons, resistance to modernist water reforms, normalization and encroachment is not just about securing continued access to water, but also about continued existence as communities. Most of such struggles, as the chapters reveal, are not the open, violent, large-scale battles that receive public attention. Commonly, they are low-profile, 'invisible', rooted in everyday water rights defense and sustained by the multi-layered, often hidden foundations of local water communities. User collectives actively create, draw on, and seek to expand and 'thicken' these more or less autonomous spaces – or 'undertows' as I have called them. In these covert water rights territories the rationality and local styles of materially and culturally arranging water rights and authorities vitally diverge from official frameworks, and formal powers face huge problems penetrating, normalizing and patrolling them. Therefore, undertows constitute crucial home-bases for Andean user collectives to engage in their own water rights production and reproduction projects. By proliferating their rights in action, their resistance to surveillance and repression is not just reactive but mostly pro-active, dovetailing local non-conformity with creative advocacy.

This way, local water cultures also actively *create* water control space as *rooted* territories and self-moralized waterscapes for which they feel responsible, unlike the homogenous designs and

control over the development and use of their own norms, and establishes their right to dispute the legitimacy of outside normative systems and authorities.

23 E.g., as I have shown, communities endeavor to liaise with but at once control 'commodity spheres' in the community, and also seal off strategic bastions of non-commoditized relations from market penetration to guarantee community reproduction. Water rights are often a key bastion of non-commoditized collective action.

universal patterns of dream-scheme command areas. To a large extent it is invisible to outside agencies, fortifying users' ability to resist against the modernist policies that explicitly aim for de-linking 'water' from local community, territory and history. Their resistance efforts, when appearing in the public realm, may sometimes be overt, but are often in disguised political forms: through conscious selection and imitation of dominant groups' symbols, structures and protocols. As the opposite to (normalizing) mimesis, which also copies the powerful 'mirror and model', I have called these strategies 'mimicry'.

Mimicry and (in)visibility. In part, Hannah Arendt was right when she argued that "all political institutions are manifestations and materializations of power; they petrify and decay as soon as the living power of the people ceases to uphold them" (1969:15). But Andean water control reality is far more complex, and these living people may have various strategic reasons to 'support' political water institutions that do not correspond to their actual water reality and interests. A reflection: I have analyzed how (in contrast to coercive power that makes the subjugated invisible) modern, capillary power typically 'inverts visibility' (Foucault), by shedding light on local, common water users and rights practices and making their 'subversion' transparent; at the same time, the power mechanisms, water politics and dominant agents – who benefit from them – are made invisible and 'neutral'. A basic objective of modernist policies is to break open a water community's undertows, shed light on their unruly rights and subtly include, absorb and discipline them through capillary techniques (repressing them coercively and visibly only when 'participation' fails). The more the latter normalizing mechanisms can be hidden, the greater their effectiveness, the stronger the working of this 'subjection by illumination'.²⁴ Therefore, in their resistance strategies, water user communities not only retract to the anonymity of their undertows, they also 'illuminate themselves by presenting a fictional reality'. They proliferate and defend their water rights repertoires in the open, public struggles by sealing them off, by disguising and dressing them up as formal rules, procedures, structures and truths. So, they strategically imitate elements of the ruling symbolic order and make use of the power they represent. As the cases show, in the Andes, there are many water management forms that are apparently strongly influenced by the official legal system, whereas a deeper analysis shows the contrary. They are mainly for external representation, formal protection and funding strategies, but harbor a tremendous organizational and normative diversity and a powerful network under the surface, precisely those that tend to be the most durable and effective. What is more, these diverse, hybrid, concealed, intangible repertoires act precisely against essentialistic containment, normative colonization and universalistic take-over.

For similar reasons, as the gender cases evince, marginalized water users and groups engaged in resistance often do not accept an overall, inclusive mainstreaming of their visibility. Accurate visibility is sometimes²⁵ but not always in their interest: they actively shape the ways *they* want to be visibilized and therefore select from the prevailing representations to become visible or not at the moments and places *they* choose. Alternatingly, they adopt unitary class, ethnic, gender, water user, or other labels to visibilize themselves and mobilize against subordination, whereby different arenas call for different identities and tools of representation (e.g., though female water users in indigenous

24 The analysis of four prevailing 'monocular regimes of representation' on gendered water rights relations in the Andes shows how this illumination involves also the particular interests of *the illuminators* to represent (and shape) reality and legitimate interventions that meet their interests.

25 '*Re-inverting visibility*', i.e. visualizing the hidden powers behind dominant, 'neutral' policies and practices clearly *is* in their interest, just as the ways they are affected by oppressive power strategies (while *not* visualizing their hidden networks: I have called this the Amnesty-paradox).

communities, for strategic reasons, tend to present unified interests to ‘the outside’, they commonly challenge this harmony ‘internally’). Resistance, rather than needing overall illumination, requires them to have control over their visibility. Masked, alternating outward identities, and hidden practices, just like intermittent visibility strategies in which *they* decide when and how to come on stage, are often crucial in their struggles.

Con-fusion strategies. Such resistance strategies, interweaving fiction with reality, have led me conclude that Andean water communities ‘are often not what they appear to be’. They strategically fuse and confuse at once. Alternatingly, they turn to open resistance and to disguise; to speech and to silence; to formal lawsuits and to local codes; to difference and to equality; to high-profile protest and to undertow action. As multi-layered entities they shield themselves under fictitious reality: they hybridize their rights as local-national-global constructs; they differentiate between in-house usage rules and external usage rules; they strategize water control between reference rights and rights in action; they consciously appropriate and imitate the dominant order; they present contradictory identities as strategic self-representations; they refuse containment but defend and invest in the boundaries, et cetera. Moreover, as the chapters demonstrate, they bind together supra-community networks, enveloping their projects intermittently inside and outside their territories, since local water battles increasingly involve global players. Protected by their home-based undertow, they upscale their defense and maneuvering space in broader political-legal arenas.²⁶

‘Resistance as con-fusion’ involves the confluence of a plurality of identities, rights, and creative forms of resistance, as well as the strategic confusion, entanglement and disorientation of formal order, to challenge both coercive and capillary forms of power and to localize control over water and rights development. Notwithstanding their internal contradictions, communities actively network, con-fuse and dynamically mobilize or spring up unexpectedly from apparent invisibility through diverse real and fictitious appearances. In order not to fuel normalizing powers and techniques of governance, rather than going against the current (i.e., opposite to the mainstream), I have argued that undertows may flow in *any* direction. Con-fusion is not so much based on just *anti*-modernity or *counter*-rights, -identities and -discourses (which directly contain heterogeneity), but on the elaboration of alternative orders of *non-conformity*. Non-conformist plurality, beyond comprising reactive weapons of the weak, actively neglects the domesticating laws and modernist rights institutions: by definition, defying their actual, repetitive use (which is their sole substance and legitimization) is the greatest challenge institutions can face. This way, local user collectives aim to escape these disciplining rights and assigned identities by defying the very principles that ‘other them’. By choosing their own, multiple, disobedient directions they aim to remain outside of the categories that classify them and also outside of the governance techniques, methods and structures of classification.

26 While publicly federating is important in their struggles, most trans-local resistance to encroachment and normalization, again, is not in open encounters but by using encoded practices and concealed strategies. Communities are boundary defenders but also reticulated webs, with invisible network structures that extend far beyond the direct water territory.

14.3. Realizing alternative reality

Opposing forces.

What is ‘the balance’? Throughout the book it has become clear that water user collectives in the Andean highlands confront national and international policy models and intervention strategies that vehemently work towards making them and their rights ‘formal and normal’. Intentionally or not, water laws and governance techniques, identification and recognition policies, expert networks and socio-technical missions, dominant elites and water-power structures, from different angles, join in the effort to dis-embed, tangible-ize and/or take over local water rights, and align the users, rights and identities to outside interests and control. While the boundaries of modernist (in particular, neo-institutional) rights regimes expand ever more to global levels and their vocabularies are increasingly ‘integrated’, rights definitions, truth claims and rationality boundaries become increasingly universalistic, uniform and narrow. But not all water user collectives accept the individualistic, mercantile or bureaucratic standards of being ‘equal’ that file them in ‘anomalous’ or ‘backward’ categories. They claim to respect different standards and demonstrate that not suiting the policy models is often a willful choice. As was made clear, they engage in multiple forms of resistance to defend and *re-embed* their resources, rights and decision-making faculties,²⁷ and to keep water rights from being dictated by outside institutions, power groups and markets. Rather than narrowing them, they precisely extend the universe of context-rooted water rights definitions and truth claims. The ongoing creation of own water rights and the sub-surface proliferation of multi-layered normative repertoires broadens and deepens legal pluralism and inevitably questions the exclusiveness and self-evidence of uniform State- and market-based water rules.

In the game of the rules, as I have shown, issues such as water rights, user identities, organizational forms and technological designs are shaped materially and discursively in distributive strategies and recognition policies, constituting both functional tools and strategic weapons. They are constructs devised and employed as tools of disciplining, control-externalizing projects but, at the same time, as arms to contest them. As the cases testify, the most ingenious, subtle strategies – of *both* dominant and subordinate players – typically seek to make use of each other’s resources and they even seemingly imitate and ‘recognize’ each other’s normative and political-symbolic orders. The rulers presumably accept local rights, but in order to secure their compliance and capture their resources; the subordinate apparently conform to officialdom, but in order to seal off their own rights repertoires, shop in the power factory of the rulers and, also, capture public resources. From both sides, imitation and adaptation tactics may reinforce the ruling system’s legitimacy or serve resistance against it.²⁸ Thus, rather than just focusing on the nominal expressions of water rights and identities, the fundamental question relates to control over their constitution and enforcement, including the degree of conscious control over ‘imitation’ and ‘hybridization’. Therefore, beyond questions of ‘truthful representation’ or ‘academic accuracy’, the analysis of Andean water rights and identities vitally relates to the question of their political design, use and convenience for either

27 The chapters display, for instance, how local water control institutions that were once appropriated by imperial and post-colonial states and elites (who expanded upon them to legitimize their authority and effectively organize extraction), now have been re-appropriated by user communities to serve their resistance against dominant agents (Cf. Boelens & Gelles 2005).

28 The dividing line between ‘mimesis’ and ‘mimicry’, obviously, is not always clear and adds to the complexity of rights and identity struggles. Likewise, dichotomously separating ‘formal’ and ‘informal’ rights without analyzing and contextualizing the power strategies behind them can only lead to objectivist illusions.

supra-local rulers and interveners or for user groups who struggle to defend their water territories.

In this game there are only temporary balances of forces but no final outcomes. As I have argued, water rights normalization critically depends on the stabilization and reproduction of political, socio-technical networks for water governance and, though this is an entire illusion, moral modernization missions (and powerful interest groups) will forcefully continue. So will the forces of con-fusion. Water user collectives know that their existence depends on defending their water rights and rule-making spaces and will continue to create non-conformity and expand on their complexities, while at the same time trying to conquer representation and changes in the policy institutes, intervention projects, and the State institutional network – the latter being dominated by ruling classes but also constituting a track of social conquests, as current Andean governments testify. Since only societal forces can turn normative instruments into societal practice, rather than simply resisting they also aim to creatively take over intervention in their water worlds.

Equality, difference, indifference

Con-fusion goes beyond struggles for rights to either ‘difference’ or ‘equality’. While the initial struggles of peasant movements and indigenous peoples in the Andes – along with socialist-inspired labor-union organizations – concentrated on achieving the right to equality, paradoxically, the standard to which they were equalizing was the one they were questioning.²⁹ Therefore, in a second phase, they organized to also demand the right to be different: to recover and rebuild their identity, not as folklore but as a pro-active, dynamic construct. While rooted in context and history, the conscious construction and mobilization of distinctiveness has shown to be a potent means to change power relations, also in the water-power world. The book’s cases, life stories and narratives manifest, however, how playing the Andean identity cards is extremely complex and feeds both the projects of the dominant and the subjugated in many subtle ways. For peasant and indigenous water users, ethnicity and identity comprise sets of profoundly discriminatory relationships but also important strategies to challenge this oppression, for which they actively aim to structure ethnicity – along with class and gender.

Andean water control arenas show the intimate links between socio-economic exploitation and cultural-symbolic subordination (being distinct but intertwined in multi-stranded ways) also dynamically combining struggles for economic redistribution and cultural justice, political representation and democracy. And indeed, many water user collectives and federations gain political effectiveness by combining class and identity struggles. Their struggles to re-appropriate or defend their water sources simultaneously seek to decolonize the modernist water cultures and defy the individualistic, profit-maximizing or State-dependent user identities they were assigned.

This fusion relates, also, to their very conception of a water right: again, this involves both the socio-material question of water access and distribution and the question of (cultural-politically embedded) control over water rules, rights and management. So, as the cases deeply emphasize, water user collectives and indigenous peasant families claim both the right to equality and the right to be different. On the one hand, there is a general demand for greater justice and equality regarding the flagrantly uneven distribution of water and other resources in Andean society. On the other, there are demands for water management to be based on autonomous decisions, locally established rights and principles, and organizational forms for water control that reflect communities’ diverse strategies

29 Baud 2006; Boelens et al. 2005b; Castro 2004; Lauderdale 1998; Oliverio 1998.

and identities. As Ribadeneira argued, “the search for equality in the middle of difference goes hand in hand with its contrary: the finding of difference in the face of the empire of equality” (1993:6). Or, put differently, the struggle is for a society that experiences and conceptualizes ‘equality’ in terms of both re-distributing water wealth and dynamically articulating water normative differences, and not in terms of forced equalization and assimilation.

Paradoxically, the juxtaposed top-down production and coercive oppression of ‘the different’ by *pre-modernist* discrimination practice; the forced equalization and simultaneous construction of deviating ‘differents’ by *modernist* assimilation practice; the dogmatic, naturalizing construction and blind reification of the ‘radically different’ by *anti-modernist* otherization practice; and the truth-relativist acceptance of others’ cultural injustice and ‘difference’ by *post-modernist* practice, all have a basic feature in common: they lead to profound *indifference*.³⁰

As history (not just the Andean) has shown, the irrigation and water management world is full of such indifference ideologies. Socio-technical relativism, as we might call it, is an important aspect of such ideology in water management policies and sciences. The construction of (profoundly moralized) dream scheme models and simultaneous estrangement and objectification, separating not only all-knowing designers from ignorant users but also rational thought from the very capacity to imagine the human, real-life impact of these policy and intervention models, makes human beings into puppets and hides power and suffering under statistics. As I have argued, Towers of Indifference perceive and construct ‘equals’ that fit into their models, they create distanced views that neglect the diverse contexts, rights, and desires of the actual flesh-and-blood water users. The active construction of ignorance is functional to be able to ‘explain’ the diverse water world, whereby for all technical and social problems manuals are at hand with best-fit solutions.³¹ But paradoxically, the modernist, in particular neoliberal, water doctors who preach for the need to induce ‘accountability relations’ refuse and cannot be made accountable for the dramas they create. As god-like panoptical overseers, such experts transcendently hover above context, time and space (above the arena of interests), where they gather and create the ‘needs’ of water users, thereby appropriating the agency to refute the agency and legitimacy of the user families themselves and define them as clients of their services.

Such indifference approaches, like the above top-down statist, neoliberal market, and pan-Andean communitarian models, generate contradictions and obstacles instead of opportunities for local groups in the Andes, in particular the less powerful. If water users are depersonalized, either by generalized, philanthropic compassion for the ‘needy’, by modernist-liberal labeling as ‘deviants’ who need to be included, by making them puppets in expert models, or by socialist-inspired categorization lumping them together as the exploited masses, only banal indifference to real water user communities and families can result. If universal solutions, presumably devoid of moral, cultural and political contents, are always readily ‘available’, local questions and people do not matter anymore. Rationalizing water use and rights then becomes a process of substituting knowledge and externalizing morals.

However, as I have argued, more and more professionals accept the invitation of Andean water user groups to contest indifference. To jointly also capture external and even global opportunities and adapt them to locality; to reciprocally look for ways of interlacing their knowledge and projects,

30 Separating the right-to-equality and the right-to-difference claims of marginalized groups easily leads to a ‘right-to-indifference’ approach.

31 The arrogance of presumed ‘neutrality and positivist objectivity’ in practice turns into a wish to be ignorant.

in order to fit shared water designs to the users rather than fitting users to expert designs. Here, '*acompañamiento*', rather than linking companions to accompanied, asks for mutuality in which companions, though differing in backgrounds, positions, and even interests, share a path, accompany each other, exchange and where necessary disagree, dispute and negotiate, to realize a common project: a political water community. Such local-translocal networks can profoundly challenge, demoralize and remoralize the dream schemes, localizing or 'bringing home' the capacity to imagine and bend the consequences of political, socio-technical design. Contrary to one-way civilizing moralization and placeless water use systems, it involves interlinking moral imagination, to (re)construct *water territory*. Or, as Fanon once argued, it is a quest for "the renewal of forms of experience and the rebirth of imagination" (1963:187).

By definition, such a quest for equity, justice and democracy in water control cannot and will not take shape in overall policy frameworks and statements on democratic rule-making, nor can they be given as a handout through charitable or expert-led development. They can only be realized in concrete practices, where water users and organizations mobilize their capacities, join their powers – where possible with companions – and engage in social struggles to co-design the practices of water control in the policy battlefield. Political acceptance and accountability processes do not appear out of the blue, but result from collective pressure from below. Democratic and equitable policies in the Andes, rather than a neutral *input* for water policy- and decision making, generally may be seen as the political *outcome* of grassroots struggles. And materialization of such principles, priorities and procedures, again, is the next step within the policy arena: a process that necessarily requires monitoring and pressure 'from below'.

Water struggles in the Andes are clearly also struggles for the right to self-define the nature of water problems and the direction for solutions. Therefore, they also criticize the very rationality of reforms and aim to show that policy choices that are justified on the basis of neutrality, efficiency and naturalized laws, work in actual practice to promote a very clear political agenda. They seek to bring the hidden political contents to the surface. Consequently, these struggles, beyond demanding to counteract flagrant injustice and social differentiation, also demand new ways to think and talk about water. However, since modernization projects directly label the critical questioning of imperative forms of water rationality as 'acts of irrationality', and re-moralization of irrigation technologies as 'revolt against reason', or 'obstruction of public morals', water user networks require and struggle for the space and freedom to deviate and elaborate on non-centralized ways of water truth production – forms that do not depend for their validity on any endorsement by approved, universalistic regimes of thought. They engage in the struggle against the very politics of truth, to claim and defend the right to construct their own local water rights models and cultures, to create their own water world.

At the end of the day, Andean water user collectives and families, men and women, struggle for defense and redistribution of water resources, rights and authority and claim the right to, in their own way, reconstruct the connection between water truths and reality, to obtain the power to represent, visibilize and self-represent. Beyond the quest to strategically hybridize water rights and mutual water knowledge, they also ask for the conscious, active interweaving and hybridization of struggles for water justice.

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annex 1

Andean peasant economy and irrigation water control

“Often it is believed that the Andean alternative would be the adoption or construction of a more adequate model to be applied in the region. ‘Adequate’ would mean: to take into account certain regional particularities. However, it is symptomatic to see that the proposals made for the Andes often correspond to world-wide tendencies that defend similar postulates. This seems to happen with eco-development, ethno-development, endo-development, etc. ... The procedure used is generally that of starting to observe the Andean reality in the light of a new theory with universalizing vocation and, when discovering in the region a great potential for the application and development of such a theory, to ‘Andeanize’ it ...

Very seldom we really get nearer in order to understand how the Andes are, to understand how the Andeans look at themselves, how they look at us, and how they look at, suppose or wish their relationships with national society” (De Zutter 1988).

Within webs of complex social relations and multiple identities, and taking into account that each actor moves simultaneously in different realities and directions, often some basic features show up that structure the peasant economy in Andean water user communities in overall terms. This overview is not exhaustive and necessarily, to some degree, generalizing:¹

- *Insertion in the global economy, in webs of exchange and exploitation at the local, national and international level*

The Andean peasant economy in a given area expresses itself in relation to specific interactions and relations of exploitation between peasants and social groups in the wider society. It is characterized by a variety of mechanisms of unequal exchange. The Andean peasant economy and the irrigation system are neither autarchic nor self-sufficient, but interwoven in the commoditized/mercantile and community/non-mercantile spheres of production, reproduction and consumption. As such, local water control institutions and decisions are influenced by local, national but also by transnational policies and forces. In general, the more these relations of exchange and exploitation are commoditized, the less personalized they tend to be.

- *Heterogeneity of the peasantry and its production strategies*

The presence of social differentiation among peasant families, communities and regions, the variety of ecological and geographical situations, of histories and cultures, of market and rural-urban interactions, of relations of exploitation, struggle and collective action, etc., have led to and are testimony of a marked heterogeneity among the peasantry. This is evident in their diverging interests and in a great diversity of organization forms and productive and reproductive strategies. As a result, the analyses or strategies that simplify reality (assumptions concerning homogeneity: “all are poor”, “all are irrigators”, “all genders have the same interests”, or just

¹ See also: Alberti and Mayer 1974; Bebbington 2000, 2001; Bebbington et al. 1993; Boelens 1998b; CESA 1991; Bolhuis & Van der Ploeg 1985; Dourojeanni & Molina 1983; Figueroa 1981; Gianotten & De Wit 1982, 1987; Golte 1980, 2000; Golte & de la Cadena 1983; Greslou & Ney 1986; Heynig 1982; Plaza 1987; Kearney 1996; Kervyn 1988; Mayer 2002; Ouweneel 1993; van der Ploeg 1998, 2006, 2008; Vincent 1998; Zoomers 1998, 1999, 2006.

dualistic contradictions) may lead to major mistakes and often to self-defeating results. Class, gender and ethnic contradictions are part of intra and inter-community interaction.

- *Balancing strategies to reproduce and transform the household, the community, and their inter-lacing*

The Andean peasant economy is not about maximizing monetary income but ensuring stability at certain minimal levels of subsistence in the long run. Although permanently lingering economic crises may force households and communities to opt for short term interests in certain instances, they look for a balance between efforts (financial, labor, materials, intellectual, ritual, etc.) and the satisfaction of the household and community needs. The generation and reproduction of the irrigation system and of the political and cultural organization has to be analyzed from this perspective. Generally, this challenge to continuity is not expressed as conservative resistance to change but as a dynamic force and a critical attitude facing “progress” and “modernization”, to be able to survive in changing and adverse situations.² In other words, peasants - and most of all peasant women - always try to bring together a) the need for household and community *reproduction* with b) the *transformation* of those social relationships that threaten this reproduction. Given the collective nature of water control and various agricultural production strategies in the Andean communities, analyzing the household as the sole unit of production and reproduction would be erroneous (see also Alberti and Mayer 1974; Mayer 2002). Reproduction and subsistence rhythms of households, communities and their irrigation systems (and intercommunity production systems) are directly intertwined; and labor relationships, kinship ties, social favors, friendship relations, and community obligations, among others manifested in the exchange of goods, ceremonies, gifts and others, perform an important role in and give meaning to complex reproduction networks.

- *The unit of labor and production intertwines with the unit of consumption*

Contrary to a capitalist entrepreneur, peasants see their household as a production unit that is strongly related (but certainly not equal) to their home and consumption unit. This means that resources and production do not only have an exchange value but also a very important use value. The market logic of decreasing marginal benefits cannot be applied as in a commercial enterprise, because peasants face the need to satisfy household necessities. In times of crisis, (low prices, low rewards to labor), the peasant family increases its labor efforts instead of decreasing them as would the capitalist enterprise. It also means that peasant irrigation systems always try to find a balance between production for self-consumption and for the market, and that the user organization cannot and should not be structured in a similar way to purely mercantile organizations. The often made distinction between ‘domestic’ and ‘productive activities’ generally blurs (as do ‘female domains’ and ‘male domains’), since they combine and overlap, and boundaries tend to be very fluid or not even existent. But contrary to the static presentation of Chayanov and his followers, Andean peasant households and communities are not relatively closed, corporative units of consumption and production, but highly dynamic, transcultural and even transnational migrant entities (Cf. Gelles 1998, 2000, 2006; Ouweneel 1993, Kearney 1996).

2 As Berger (1992) states, for the peasantry the historical process of ‘agricultural modernization’ has always meant a project of eliminating these same peasants, since the dominant and not-peasant sectors consider that peasants are caught in a vicious circle of inefficiency, conservatism, and technological backwardness.

- *Diversification of activities and products within the household and the community*

Different from the assumptions made in plans and intervention strategies of many irrigation projects, peasants are neither only farmers nor only irrigators. With respect to income generation or the allotment of family time and work, the role of agriculture is not even always primordial. Peasants seek to be employed in a variety of productive activities since it is impossible within subsistence agriculture to guarantee survival when engaging in only a few activities of marginal output. Diversification is sought both within farming itself (e.g., agriculture, animal husbandry, forestry, market and domestic consumption, irrigated and non-irrigated crops, crops at several ecological altitudinal zones, associated crops, paid labor in the hacienda's irrigation and non-paid labor in the community's system) and in non-farming activities (marketing, handicrafts, temporary migration, etc.). In the domestic unit the available work force is divided among the diverse activities. Furthermore, diversification also relates to space and time: the household activities are not necessarily carried out in the same space (this is, the peasant holding), nor at the same time (because of the strategic distribution over the agricultural season and its migration periods).

For example, out of the diverse domains that constitute their water control context (chapter 3) water users select and combine those elements (assets, cultural practices, capabilities and meanings) that best fit to their interests, constraints and opportunities. According to this, in one situation they will tap especially from the technical and organizational water control domain, in an other, being confronted with other needs, powers and constraints, they will draw particularly from the supernatural and economic-political domain or from the normative one. Similarly, as shown in the last decades by the local and supra-local indigenous peasant struggles, they dynamically select from or combine 're-distributive claims' with 'self-identification (or identity) politics' (see also chapter 11 and 13) in order to shape local peasant economy. The precise complementation of elements and their balance are determined by space, time, issue, and power structure dependent opportunities and actor capabilities for 'domain-shopping'.

- *Interdependence of livelihood activities*

Agricultural and non-agricultural sectors, activities and products of the household economy are not isolated elements, but combine and interact to form a coherent matrix. Interdependence and complementarity between, for example, agriculture, animal husbandry, handicrafts, domestic labor, and migration employment, make it impossible to judge the cost-effectiveness or merits of one certain activity in isolation. Often, an externally promoted technological or organizational change may have a positive effect on one specific activity but a negative effect on many others, or it might require changing the whole production and reproduction rationality, eventually producing an unstable situation. Further, it is common for campesino water users to accept losses in one of their activities while not abandoning it as it may constitute a basic element in their production system. It is also necessary to understand that the main objective of a certain activity does not always refer only to the final product (sometimes not cost-effective) but also to the intermediate products, and to the importance of the activity for the whole production process (e.g. in the case of crop rotation, Kervyn 1988). The coherence of the *whole set* of activities and their relationships, within and outside the field of irrigation, should be analyzed.

Interdependence is also manifested between farm and family functions. Most activities labeled as 'productive' are equally re-productive and domestic. For example, 'production-oriented' irrigation systems have multiple functions, such as providing water for drinking water, cooking, washing, house-building, revitalization of forests and shrubs, land conservation, etc. Evidence

of peasant economy in water user communities strongly questions the dualistic policies and approaches that conceptualize irrigation water control as an economic, productive activity versus a domestic, reproductive sector that takes place ‘outside water control’.

- *Embeddedness of irrigation management and water rights in community relationships*
This fundamental issue was elaborated in chapter 2 and 4: rules, rights, obligations, sanctions in water management are not seen as just ‘functional’ for the operation and maintenance of the irrigation system but are wholly entrenched in local socio-cultural relationship and as such form part of the construction of community, also in activities that are not at all related to water management.
- *Risk avoidance and distribution*
The practice of risk avoidance and spreading is closely connected to the objective of the domestic unit’s reproduction, and to the reproduction of the community (which is the social structure that must guarantee survival). In situations of greater stability and security, peasants do take great risks. Thus, risk averse behavior is not conservative, but simply a necessity, the result of a survival economy. Peasants take as a point of departure the existing social security systems, and in an environment replete with risk and uncertainty, rather than maximizing profit, peasants seek to optimize their local economy by applying risk reduction strategies (Guillet 1981, 1992). Social relationships (although sometimes exploitative), organizational alliances, mixed cropping patterns, combined livestock-agriculture strategies, complementary irrigation, diversification of household activities, etc., all reflect social insurance systems that do not eliminate but seek to control risks (Dourojeanni & Molina 1983; Kervyn 1988, Zoomers 1999).
- *Dialectic relationship among organization levels and between collective and individual property rights*
Contrary to suppositions of both collectivist and individualist ideologies, Andean peasants do not always work or reason from a collective point of view, nor just from an individual or family perspective. In their production strategies they combine different formal and informal organization levels dialectically, according to the practical and concrete requirements of the domestic unit, the community and the irrigation system. Peasant property rights may be institutionalized both at the family and at the collective level. In most irrigation systems, individual rights to usage of water and infrastructure are derived from the fulfillment of obligations and conditions related to the collective property and management of the irrigation system. Although in most communities such individual rights are socialized and clear (see chapter 2), not all of them are rigorously prescribed by the community. First, the boundaries of individual rights tend to be dynamic and adapt according to conditions (e.g. less restrictions in rainfall periods or season; more flexibility according to a families’ social security situation; emergency regulations in scarcity situations, etc.). Second, different from formalized cooperatives (and obviously, differing from case to case) Andean communities tend to give much room of maneuver for household strategic choice, both in water affairs and other community (re)production activities – as long as they do not endanger the reproduction of the community and collective water control.

- *Interaction among the ‘meta’ and the ‘physical’ in the mutually constituting domains of water control*

Although differing in degree according to region and ethnic and social structure, rituals are found in many Andean economies. These are based on local and localized Andean cosmological views, and reinforce economic activities, social relationships, and the relationship between the human and supernatural worlds, particularly to ensure a balance of appropriate agro—productive conditions. Rituals and myths also reflect common ownership and collective rights related to the territory and the irrigation system. They guarantee the family’s production and reproduction as well as that of the community and the irrigation system, by establishing and maintaining a relationship between the past, the present and the future. Commonly, local community history is not transferred to new generations in writing but through oral stories and myths. On the one hand, they link community members to their collective history and, on the other, they interact with the present, thus contributing to the construction of the future. Especially in more traditional indigenous communities the role of rites and myths in irrigation and the daily economy is strong. They reflect and simultaneously produce a rationality of production; they validate and justify productive practices (e.g. water distribution hierarchies and privileges) in terms of moral, ideological principles and ritual institutions.

- *Labor strategies based on a ‘collective, contractual reciprocity’*

In Andean irrigation systems as well as in the communities themselves, families apply several reciprocal social relationships of labor exchange which provide the labor force and other scarce resources needed for production, without having to buy them in the market, which would lead to the accumulation of corresponding financial debts. Each one of these relationships, such as the *ayni*, the *maquimañachi*, the *minga*, the *faena*, *trabajar en compañía* (‘work together’), etc., has different contents and names throughout the Andean Sierra. They are all relationships that, to a certain point, can counter social differentiation and, above all, make available the necessary resources to the less well-off, without denying the fact that this reciprocity is sometimes asymmetric. In many irrigation systems Andean labor relationships play an important role in structuring informal organizations, networks and practices. The peasant and/or indigenous community is one of the central organizational forms by means of which Andean campesinos have institutionalized this ‘collective contractual reciprocity’ to ensure the subsistence of the community and its components.

As elaborated in chapters 2 and 4, irrigation in the Andean region is necessarily a collective activity, where users have to join forces for construction, maintenance and management of the system. Therefore, local collective institutions need to be defined that arrange the distribution of water benefits and burdens, the sanctions and the modes of dispute solving. Thus, the defining of contents, allocation, and the ways to materialize water rights is central to shaping the collective contractual reciprocity in Andean user communities

Some features are more important in a certain region than others. They can be considered as the basic materials that combine to form various matrices. From the understanding of peasant economies in specific localities it may follow sometimes that certain equities or inequities, which seem ‘apparent’ to the external analyst, are different in both appearance and content when analyzed more deeply. The ‘undertow’ and ‘rootstock’ analyses (chapter 12 and 13) provide conceptual background.

annex 2

The fallacy of an experts' model: participatory management based on 'demand-driven' and 'downstream-controlled' techniques in the Andes.

As in many of world's regions, current official policy proposals for modernizing water control in the Andean countries all stress the need to 'rationalize water management' and make water use 'more efficient'. Hereto, key concepts are volumetric water control up to the level of individual households and putting the right price on water.¹ As a universal law, monetary concerns would give people a strong incentive to save water. Users would have to pay less since they use water more efficiently, and water savings could be sold to third parties. To make this happen, hydraulic engineering experts have developed the technological complement to economists' theory. But does the economist-engineering water development discourse function as intended in a region such as the Andes? Apparently, as with the fallacies of the closely associated neoliberal policy discourse², its impracticality and inappropriateness in actual practice does not undermine its discursive and political power. Where intra-system social control (the need to equitably distribute a scarce resource and bring more water to the system and the field), the need to shorten the collective irrigation interval (to prevent plant withering), and the need to shorten individual turns (time invested in irrigation) have proven to be important incentives for many (although certainly not all) Andean communities to improve water use efficiency, *monetary* incentives do not show the positive results expected by neo-institutional theory.³ Apart from the fact that, in existing systems, quite different water control structures (norms, techniques, organizational forms)⁴ are in place already, there are also some fundamental problems to be faced when trying to impose the modern water policy paradigm.

First, unlike closed-pipe conveyance systems and pump irrigation schemes, most Andean systems are open-canal surface irrigation systems and therefore individual water meters are absent, difficult to install in remote areas, and require enormous investment costs in the whole system.

1 Chapter 9 discusses another type of interests for putting a price on water: water rights privatization and marketing in the Andes.

2 This, as I have shown in chapters 7 and 9, does not need to prove that actual water markets function well after the model has been implemented. Even actual proliferation of water monopolies does not discredit the model.

3 The issue is *not* whether users should pay or not for the water (to the users organization and/or the State agency) since this is common practice and generally necessary to maintain and operate the system. Sometimes through fee payment they also pay (part of) the investment costs. The question is whether it is feasible and desirable to have existing Andean systems pay according to *actual* (real, not planned) volumetric water consumption. Moore (1989: 1738) correctly posits that "while one can levy an *irrigation service fee*, one cannot adopt *volumetric water pricing*".

4 E.g., on 'rational' techniques for establishing schedules: the majority of irrigation agencies in the Andes – and in the world – apply the same scientific method for calculating crop water requirements (FAO-Cropwat) for planning the optimal irrigation frequencies and water gifts. Rocha (2002) showed how this method – when used as promoted by many experts (as a production maximization and water schedule planning tool), is both contrary to Andean farmers' practices and quite unrealistic and inapplicable. E.g. for most vegetables, the FAO method tends to prescribe a large number of small shifts at low intervals (e.g. each 3 to 4 days instead of each 10 to 14 days), which drastically increases the labor requirements and calls for changing to precision techniques for field and system irrigation. Moreover, the method, based solely on agro-physical data, requires numerous detailed field measurements with high-tech tools, and presupposes that individual rational decision-making is the basis for scheduling. This denies the fact that individual scheduling in Andean farmer-managed systems is necessarily embedded in the collective schedule, which largely defines the opportunities for individual farmer' irrigation frequency, timing and flow. It also denies the fact that other technical, social and cultural factors – e.g. labor availability, water access fluctuations over the year and from year to year, technologies available, community exchange and collaborative relationships, etc. – are internally related and together heavily influence production objectives and the most optimal scheduling for individual farmers.

Moreover, ‘closing’ the many interwoven, overlapping systems (see chapter 8) is socially, technically, and financially impossible. Channel systems would have to be rebuilt to deliver water to all individual fields, even in Andean *minifundio* (micro-parcel) and *andenes* (terraced) irrigation systems.⁵ Therefore, introducing payments for actually consumed volumes largely depends on the question of its feasibility in open channel systems. These require an accurate, complex administrative system for volumetric measuring and registration; actual water volume consumption can be measured only by continuous, simultaneous recording of actual shift durations and usually strongly fluctuating discharges (which makes the effort nearly impossible in most current systems).⁶ Socio-technically overlapping, hybrid irrigation systems complicate the task even more. For this same reason, farmer-managed systems often try to *limit*, not to increase, the possibility of constantly fluctuating flows: fixed flows, or at least foreseeable flows consumed by individual users, give transparency and security, and farmers adapt their crops to the unpredictability of the many micro-climates. Fixed flows also ensure that water is available for unanticipated demands and for non-agricultural water use activities.

But apart from unrealistic technical and institutional arrangements, even the very neo-institutional cost-saving arguments to promote water use efficiency do not apply to the Andes (the same is true for most systems in non-Western (and even Western) countries). The assumptions are based on high-tech, large-scale commercial farming systems with users owning large holdings – only a few of them can be found in the coastal area of the Andean countries (see e.g. Vos 2006). The great majority of user families in Andean irrigation systems have only between 0.5 and 1.0 hectare of irrigated land. As an illustration, we see that in the Licto district, 80 % of the 1400 families joining the Licto-Guarguallá system have less than 0.7 hectare; and the mean irrigation area of the 235 families in the Gompuene system is 0.2 hectare. Therefore, water cost savings for an individual family are not at all significant compared to other inputs or to benefits from non-agricultural income generating activities (e.g. intermittent migration). The neo-institutional argument that these water savings could be sold to others, moreover, is entirely unrealistic, since the savings are negligible compared to the ‘transaction costs’ of changing the water delivery infrastructure and measuring devices, measurement and registration of real turn durations and real variable flows, and the labor energy and time spent to sell this water.

As a consequence of the above, the only feasible economic and technical application of the experts’ water rights pricing doctrine in the Andean region is the wholesaling of water to tertiary blocks or to small systems as a whole. Paradoxically, this obviously has the consequence that individuals do not have much interest in saving water or being efficient (or at least, it contradicts the very postulates of the water saving theory itself). Moreover, ‘block-pricing’, contains another paradox: it is only feasible if not just the technical but also the managerial system capacities allow accurate delivery and registration of water to the hydraulic units; and if there is, indeed, such an effective managerial water control capacity in the system, there is less or no need for water pricing as an instrument to enhance water savings. As Moore (1989: 1740) correctly argues, “there would be no

5 As Guillet rightly observes: “The costs of equipping hundreds, if not thousands, of fields with metering devices is impracticable, as are those for an administrative bureaucracy to collect and collate data on field level consumption and to deliver bills to farmers” (Guillet 2003: 30).

6 Fluctuating supply stems, among others, from unpredictable and extremely diverse micro-climates and rainfall figures in the Andean systems; the variability of sources within one and the same system (rivers, reservoirs, springs, wells, etc.); technically sensitive infrastructure because of the adverse mountain environment; the scheduling modes, principles and practices of the particular system (see chapter 2); and depends on the capacity of system managers or irrigator leaders to control and direct the flows in the system.

case for incurring the very heavy transaction costs involved in water pricing in order to tackle those remaining management problems”.

Thus, in the Andean context, down-stream control and water pricing as such do not lead to more efficient water management or water use; instead, upstream-control and efficient water management is a fundamental *condition* if experts would like to make water pricing feasible at all. The neoinstitutional-hydraulic experts’ recipe is full of internal contradictions. And if forcibly put into practice in some parts of the region, it does not just lead to an accelerated process of social differentiation and skewed water rights distribution as we have seen in chapter 9,⁷ it also requires replacing existing, endogenous irrigation norms, techniques and organizations to be transformed according to the universal prescriptions of expertocracy, in the name of participatory, inclusive water management.

⁷ It is this danger of social differentiation (‘water accumulation by the wealthy’) that triggers most protests in the Andes; the technical and conceptual errors of the modernization proposal are seldom questioned in the region’s debate.

annex 3

Interjuntas: between monitoring of justice and mobilization for water rights

Secretary General of the National Water Resource Council: *“Why, good heaven, must the power of the number prevail over the power of the Law?!”*

Leader of the Interjuntas users federation: *“Because it is the only way we ever will be listened to. How often did we not demonstrate that the situation here is fundamentally appalling and entirely unjust? Mobilization is the only way to change things here!”*¹

The Licto communities, having noticed that their own inter-community organization confronted similar mistreatment from the government authorities as neighboring water user organizations, engaged with many other systems in the construction of a provincial water users federation.² Together they faced, for instance, the abuses and racism that characterized the provincial Water Agency. In July 2005, thousands of water users took to the streets of Riobamba to demand removal of the Agency’s director and some officials because of their corrupt, profoundly racist treatment of indigenous and other peasant users. “No more oppression, no more aggression!”, was their claim. As a Water Commission leader from Nuncata-Calpi stated: “The Riobamba Water Agency Director has been dreadful for the people of Calpi. He has handed out water to everyone else but us. In this drought, we have no water for our crops. It is wrong for those upstream to have so much water that nothing is left for us downstream!”.

Leaders from other organizations and communities have very similar stories, such as the representative of the Irrigation Commission of Bayushig. After he was put off and humiliated for two years in the Agency offices, and despite all the payments of money gathered in the community, the governmental authority never got around to assigning water to his community. “I have been going there continuously – my dossier now has 30 different forms for the process – and so far, nothing! How can I show my face in my community?! ... they will say I am an inept do-nothing. The Agency director makes us look incapable, as if we did nothing for our applications.”

A farmer from Alausí tells how the indigenous are always the last served. The important gentlemen with economic and political clout receive preferential treatment in the office and in water allocation. Indignant, with tears in his eyes, this community member denounces the unjustified charges, time wasted, and the racism and incompetence of officials they have to put up with. “Poor people... folks from Alausí and Tixán, they have to spend one or more nights at the Water Agency. And the bosses, I have seen this with my own eyes ... instead of seeing people, they stroll out to have a fine chicken dinner down the street. Then they wander back to the office and say “come back some other day” ... what is fair about that?!”

Enough is enough. After several meetings with hundreds of leaders, and the Agency’s lending deaf ears to their ultimatum, organizations of peasant and indigenous water users from all over, gathered under the new Provincial Federation of Water Users, Interjuntas, Chimborazo, decided to put an end

¹ Pers. comm. Carlos Oleas, leader Interjuntas Chimborazo, Ecuador, January 2007.

² Case study based on action-research with Interjuntas and WALIR (Boelens, in Dávila & Olazával 2006). Interviews were done by Guido Moreno (WALIR/ERPE), and broadcast over ERPE popular radio in an ongoing series of popular broadcasts, from January 2005 up to the present. See also: www.eclac.cl/drni/proyectos/walir.

to this discrimination and pillaging of their water rights. From every community in Chimborazo province, the furious families joined in the demonstration. As the president of one of the many communities present put it: “We are here from San Antonio de Alao, about 200 of us. We want the Agency Director and all those corrupt officials out, we want them removed because they are always asking us for ten dollars, for 20 dollars. They tell us to come tomorrow, or the next week, and they never give us the water. Out with the corrupt bureaucrats!”

They took over the Agency offices. Carlos Oleas, expressed communities’ rage and resentment: “If we don’t peacefully take over the Water Agency today, they will come back tomorrow, and all this movement will have been in vain. We are staying here, until the bosses come from Quito. No one can come in this office. They harassed us and this is the outcome. The people, the users, are tired of being mocked, and have risen up!”

After having entered the office and refused to leave until abuse of users by offensive officials was eliminated, the women performed a ritual purification of the office with medicinal herbs. This purged the evil energies that the Water Agency offices had built up after so many years of cheating, oppression and humiliation. As one of the women said: “They have made us cry, they have made us suffer in this office when we came here and they refused to see us, they didn’t want to do anything for us. In the community, our neighbors would ask us, what’s going on, what have you done with our money? We want this to change, and for people to come work here who will give good service to country folk!”

These injustices as well as the resistance by peasant and indigenous families, communities and Interjuntas against abuse, and their striving for decent, democratic, equitable water management, offer a glimpse at the foundations, and beyond, of new policies for ‘Integrated Water Management’. This reveals how, behind the mask of impressive national and international proclamations, day-to-day practice is full of injustice, conflicts and abuse. Rather than focusing on rhetorical intentions and theoretical results, it is necessary to emphasize actual facts, the concrete results of an unfair water tenure structure and policies biased toward the more politically and economically powerful stakeholders. To examine this, it is not always indispensable to analyze major conflicts and ‘open wars’ over water: daily contradictions, manipulations and discriminations are also most relevant and highly revealing of power positions and domination processes; the ways people protest and their strategies for resistance, sometimes open but mostly ‘invisible’, also clarify the situation.

In Ecuador, amidst the process of privatization and decentralization of governmental institutions since 1994, the State has set up a national water management structure without any consultation with the people. So, in the central region of the country, the Regional Development Corporation for the Central Highlands (CORSICEN) was created, then renamed as CODERECH, based in Chimborazo province. As a response for ‘civil-society negotiation and counter-power’, water users created a representative, democratic platform: the provincial Interjuntas organization of Chimborazo. This inter-systems organization, founded by the inter-community organizations of Guarguallá-Licto, Chambo, Cebadas, Chingazo Pungales, Penipe, Químiag and many others, now brings together no less than 280 irrigation and drinking water users organizations (February 2007), all with mostly indigenous and other small-farmer household constituencies. Their aim is to generate the capacity to defend and provide political and legal user advocacy. They also strive to build action capacity among user organizations and foster forums for discussion, consensus-building and debate.

As well as bottom-up advocacy for water policy- and law-making, a major issue for Interjuntas is conflict management, among users and among associated systems, as well as especially between

marginalized groups and large landholders and between indigenous-rural peoples and the State. Their advocacy role represents and legally defends marginalized groups. Because conflict is rife and often rooted in power plays or the allocation of unreal or non-existent water flows by the Chimborazo Water Agency, Interjuntas has decided to establish a center for the defense of rights and mediation of conflicts in their federation. There, peasant and indigenous water user families, many of whom cannot afford a regular lawyer, find support for their demands. There also, leaders – with young, solidary attorneys – confront the major problems caused by the country's power structures and water policies.

In the Ecuadorian highlands, as in other parts of the Andean countries, a decrease in available water and greater competition for water (including between local communities and new users) means that there are ever-more conflicts and applications to register water rights. However, the Water Agency is short-handed because of nationwide 'modernization' (waves of irresponsible privatization), making things even worse. As chapter 5 has explained, they continue granting new concessions without any idea of whether there is enough water, how much is currently being used, or what unauthorized intakes have been built.³ Often, powerful users, such as large landholders or agribiz companies are able to obtain new concessions. In the Chimborazo Agency's rulings, it is common for bribery, skin color and political-economic status to play decisive roles. Then, over-allocation of water rights causes new conflicts, many of which make it to court, where the Water Agency itself is called upon to 'do justice'. The Agency, with limited staff capacity and discriminatory practices, is unable to resolve such conflicts, and the vicious cycle goes on (Hendriks et al. 2003; Zapatta & Gasselín 2005).

Evidently, Water Agency action, as one branch of the National Water Resource Council (CNRH) and a foundation of the decentralization program, is one of the greatest problems for less wealthy users. Small farmers say, it is practically a general rule for the Agency to ignore its own rulings. Often they are mistreated for reasons of class, ethnic group or gender. In addition to the unfair results in water rights allocation and the high, un-transparent cost of application processes, the paperwork takes too long and is too insecure. Hendriks et al. (2003) shows us how, in mid-2003, there were a total of only 84 technical employees in all provincial offices of these Agencies, who had to process a backlog of 21.000 concession applications and other legal demands. To gauge their processing rate, in several decades a total of 35.000 water rights have been processed.

As mentioned, the water leaders and users belonging to the organizations comprising Interjuntas, tired of manipulation, decided to take collective action to put an end to the injustice. Interjuntas, along with the advisors to the Standing Human Rights Commission of Chimborazo, denounced a lengthy series of cases of corruption and discrimination against the province's indigenous-peasant population, carefully documented. On this basis, along with the massive protests, the CNRH decided to put the director and other questioned Water Agency officials on administrative trial. However, post-election political changeovers shelved this process and the director was returned to office claiming that insufficient evidence had been submitted. Political chicanery ratified the corrupt director of the Water Agency, brashly ignoring all the complaints and denouncements by user organizations of Chimborazo. Only after another, second, massive mobilization of thousands of water users and a lengthy occupation of the Agency's offices by farmers, with a constant process of surveillance

3 The problem is nationwide. For instance, in Tungurahua province, the Llutupí system (73 users) was granted 60 l/s when the actual discharge rate was only 40 l/s; Alta Fernández (3800 users) has title to 218 l/s but no more than 80 l/s is available; Guaguapari (150 users) is entitled to 80 l/s but the actual flow rate is 40 l/s; the communities of Toalla (1150 users) have rights to 40 l/s but availability is limited to 12 l/s; etc. (Water Resource Forum 2002).

and societal supervision by users' organizations, in January 2006 the indigenous-peasant complaints were finally heeded, the director was transferred, and the Agency became fairer, more transparent and democratic. To fill the position of Water Agency director, a public competitive selection process was overseen by Interjuntas to ensure transparent decision-making. A new director was appointed, the staff has been renewed, and the Agency's posts and practices now are being 'monitored' continuously by the users' federation: a preventive and bottom-up process of '*veeduría social*'.

This case is exemplary. As chapters 5 and 10 have explained, decentralization policies in water management throughout Andean countries, rather than aiming for democratic decision-making, tend to reinforce existing power structures. The great importance of continuing grassroots groups' monitoring of these authorities – by overseeing their practices, taking collective action and, when necessary, resistance – is fundamental to guarantee or achieve sufficient political democracy, distributive justice and respect for indigenous-peasant rights in water management. Decentralization and redistribution of water and power for decision-making must necessarily be done with citizen involvement. New water users' network organizations are starting to emerge. In Cotopaxi Province, for example, the inter-user organization FEDURIC (*Federación de Usuarios de Riego de Cotopaxi*) now joins some 370 peasant and indigenous water user organizations, comprising tens of thousands of *minifundio* water user families. Water quantity and quality rights are defended at the community, inter-community and provincial levels but also at the national level, for example, through joining hands with the national water civil society platform *Foro Nacional de Recursos Hídricos*, and by direct negotiations with the CNRH. Mass mobilizations are being organized, whenever needed, to foster the objectives of equitable water distribution, democratic decision-making and transparency of public investments in water resources management. And at the moment, inter-juntas federations of marginalized water user families as FEDURIC and Interjuntas are discussing the strategies and opportunities to join together as branches of a national network of water users, to reinforce their demands and broaden their struggle: to *enable* political debate.

Summary

The Rules of the Game and the Game of the Rules. Normalization and resistance in Andean water control

This thesis has a threefold setup. It first examines the multi-layered contents, constitution, embedding and everyday working rationality of irrigation water rights systems in Andean highland communities. Next, it investigates how (intertwined) State, market and expert networks vigorously aim to reshape Andean water societies according to their own image and interests, seizing their access rights and/or engaging the users, their identities and rights systems in dominant standard frames. The third part analyzes how local user collectives strategize to defend, reclaim and re-embed their water rights, standing up for both their water resources and water communities and cultures. Chapter 1 provides background and substance to my overall research question that orients these fields: ‘How do local water rules and rights give substance to Andean irrigation water control systems (and vice-versa), and in what manner do processes of normalization restructure and subjugate these local water institutions? How do Andean water user collectives defend themselves against water rights encroachment, resist the disciplining of their water socio-legal repertoires, and create strategic space for community-controlled water rights definition and enforcement?’ Basic sub questions guide my research into the deep waters of ‘normalization and resistance’:

Chapter 2: How are water rights defined, acquired and given concrete substance in the water property regimes that prevail in Andean irrigation systems?

Chapter 3: What are the conceptual domains of water control and water rights, and how do they mutually interact with and constitute each other?

Chapter 4: How are Andean water rights embedded in (inter-)community control structures, local livelihood strategies and water society context?

Chapter 5: What are the fundamental water policy approaches to address ‘the water crisis’ and water rights conflicts in the Andean region?

Chapter 6: In the history of Andean water control, how is power exerted to influence both identification of and self-identification by people in order to subjugate their labor and collective action, and control their water rights and resources?

Chapter 7: How does the interweaving of socio-technical networks for irrigation water control by the State agency – aligning the social and the material to conform a dominant, moralizing set of forces of a strategic nature – order local water society, enforce productive, disciplined behavior by subject families and communities, and normalize their water rules and rights?

Chapter 8: In what ways have Andean countries’ legal systems dealt with local water rights complexity, and what politics of tangible-ization, containment and disciplining of local rights and identities are inherent in these legal strategies and official policies of recognition?

Chapter 9: What are the conceptual underpinnings and political strategies of neoliberal water policies and water elites to encroach on, undermine and normalize Andean user communities and their collective water rights?

Chapter 10: What are the mechanisms that expand expertocratization of Andean water control and how do hydro-policy making expert networks contribute to standardizing existing water rights?

Chapter 11: What are the backdrops and dangers of currently influential ‘gender and water rights’ visibility strategies, and how do Andean female water users struggle for and shape their rights to self-decided ‘invisibility and visibility’?

Chapter 12: How do Andean water user communities resist against processes of water rights encroachment and the subordination and undermining of their water rights socio-legal repertoires?

Chapter 13: Given powerful agents’ interest to influence and domesticate local water rules and rights and considering water users’ multiplicity of interests and identities, how does the water rights community emerge from plurality and how is ‘unity within diversity’ blended to counteract normalization and defend endogenous water rights definition and reinforcement?

My research took place as a many-years process of academic and action-research with highland water user organizations, peasant communities, indigenous federations; interaction with NGOs, State institutes and research centers; and the coordination of international research programs on water rights in the Andean region. The study focuses on a variety of events in and cases of irrigation systems and watersheds, and their interaction with the national and international water policy, legal and intervention context. Water control in the highlands of Peru and Ecuador is the focal point of my analysis; the often interlinking water policies, legislation and practices in Bolivia and Chile provide reference cases.

My research is necessarily interdisciplinary, ‘mixing’ the analytical fields of water resource management, rural sociology and gender studies, social philosophy, legal pluralism, political sciences and cultural anthropology. **Chapter 1** grounds the research subject by providing the basic theoretical orientation, which I work out, revise, and extend in subsequent chapters. It specifies and links the study’s key conceptual notions: rights and legal complexity; cultural identity and diversity; norms and normalization; power-knowledge-truth triangles and discourses; human agency and socio-technical actor-networks; plus a conceptual elaboration on conflicting but interacting ‘modes of power’. The research focuses on both agent- and subject-centered forms of power, whether fostering domination/ conformation or resistance/non-conformation – and the multiple interactions and in-between forms. The next chapters’ concepts, fieldwork cases and events – in combination with secondary source findings – illustrate, question, deepen, and order the pieces of this theoretical-empirical puzzle, enabling new theoretical notions.

Water rights and property relations have become pivotal issues in water debates, reforms and intervention programs. Policy institutes, governments, intervening agencies and expert centers, backed by their own ontologies and disciplines, tend to consider ‘water rights’ as merely standard black boxes that juxtapose the frameworks of positivist technical and economist water science. Habitually, water law and rights are seen both as instruments to ‘engineer’ water society and as its final objectives, providing the standards according to which existing water reality is judged. But far beyond universal manuals and irrigation regulations, there is another water world, entrenched in the everyday lives of real people, male and female water users. The study makes clear how Andean collectives practice an enormous variety of water rights and management forms, as local-national-international hybrids that are created and affirmed in local water territories, embedded in historical and cultural-political contexts. The research also shows how and why this acts against the interest of ruling groups and dominant water players who aim to make water control and social relations ‘tangible’, by aligning and stabilizing local rights systems in externally-controlled structures and networks, often presented as objective, universal schemes of water culture, identity and belonging.

I conceptualize and analyze conflicting discourses, Foucauldian conjunctions of power and knowledge, as ‘socio-technical stabilizers’ that strategically ‘glue’ the social and the material, with particular links, meanings, and positions, bolstering a particular political water order. In the region, policies of recognition and disciplining actively misrecognize existing water rights and user communities and are informed by both distributive and cultural politics. At the heart of my research is the process of ‘making local water users, uses and rights normal’ according to the standards, categories and models of others (through either top-down ‘coercive power modes’, or inclusive, equalizing, ‘capillary power modes’, or both) – in combination with local user struggles to define and practice their own water political communities and projects. I show how, here, processes of ‘mimetic desire’ (the wish to ‘equalize’ to dominant disciplining norms, images and models) is defied by another imitation strategy: ‘mimicry’ (the strategic adoption of dominant tools of power in order to resist). I connect resistance also to other forms of power that relate to collective action and identity.

Battles involve the material control of water rights and use systems and the right to culturally define and politically organize them. Here, water rights are a social relationship and an expression of power. The research into water rights struggles at different levels of abstraction encompasses four echelons: (i) the struggle over access to water and related material *resources*; (ii) the substance and meaning of the *rules*; (iii) *regulatory control*; (iv) *regimes of representation*, discourses that impose or defend particular water policies. Taken together, considering that an analysis of rights’ contents and structures provides only a partial insight into Andean water

control, it was vital to investigate not only the Rules of the Game but also the Game of the Rules.

To approach 'living' water rights as the core of user-controlled systems, **chapter 2** elaborates on a framework to analyze these normative repertoires as systems of 'organized complexity'. The diversity of practices reveals the multi-layeredness of water access and control rights and how they link to multiple, interacting socio-legal sources and frameworks. They 'bundle' particular faculties, duties, acquisition conditions and mechanisms, operational rules, relate to forms of legitimacy and authority, distinguish among rights for external and internal use, and take concrete shape in the translation process from 'reference rights' into 'activated and materialized rights'. Rights and property relations are embedded in user collectives' cultural, agro-ecological and political waterscapes; where collective/individual rights' creation intertwines with infrastructural and organizational (re) creation and vitalizes 'schemes of mutual belonging'. Rights' contents and distribution are, at once, the object of in-house and external contestation, the result of power relations, and a power relationship by themselves.

Chapter 3 studies 'the meta' behind 'the physical' in Andean water control, while also showing 'the political' behind the metaphysical construction of water reality: historically, local water control was equally connected to wider identification and incorporation policies. Conceptualizing the intrinsic interdisciplinarity of water rights and control systems, I examine Andean water culture and cultural politics as an entrance to see how water rights encompass distinct but interlinked 'domains' that apply particular focuses toward 'imagining the real' (i.e., water rights and control systems). Water rights become manifest, at once, in infrastructure, normative patterns, and organizational frames for O&M, interacting with their political-economic and cultural context. After reviewing academic efforts to conceptualize 'interdisciplinarity' in water control, I question the depoliticization and objectification inherent to many of them and argue for the need to also re-frame the disciplinary focuses themselves to enable interdisciplinarity.

Chapter 4 explains how water rights embed in territorial livelihood strategies, peasant economies, and broader power structures. I present basic roles and tasks of user organizations, which develop within an ongoing tug-of-war between the commodity and non-commodity spheres of communities. Beyond ideological solidarity constructs, material creation and reproduction of 'water community' in the adverse Andean physical-political context is grounded in mutual dependence and need for intensive cooperation, which cannot be supplanted by individual, State or market solutions. Scrutinizing the fierce debate on 'Andean community', I detail how many studies continue to essentialize Andean community and culture in binary positive/negative frameworks, separated from the West. Reference images and political representation join hands. I argue how 'reifying', 'articulation', and 'unpacking' efforts all deny locality. Practice is more stubborn than such academic teachings. Communities and everyday water control are full of gender, class, age and ethnic divisions; I specify how 'community' is an effort, a process, and a capacity to materialize interdependence and direct its limitless network toward common resource management objectives.

Chapter 5 examines current water policy debates and how discourses are ingrained in the region's water control 'traditions', international models, and private interests of powerful water players. Four divergent policy approaches are detailed. While decentralized watershed management is the theoretical policy orientation, its effectiveness is limited. Divergent models fail to conceptualize basins as local water rights arenas or address the issues of power or accommodate plural rights repertoires. Local water rights and identities take shape not by isolation or incorporation as folkloric otherness, or by hierarchical subordination, but by conscious confrontation and communication among plural systems. This leads peasant and indigenous groups to conceptualize the State and its legal system as an ideological benefactor construct, as a set of discriminatory institutions and agents, and as a battleground to construct a democratic 'public-rights-State'. Their legal recognition efforts do not replace but rather complement struggles 'in-the-field.'

Throughout Andean history, dominant groups have wielded the intimate links among communities' labor investment, water property creation, and identity formation. **Chapter 6** shows how Inca, Spanish and hacienda rulers manipulated and confiscated all three, combining outright exploitation with 'reciprocity pacts' and cultural categorization tactics. Traditionally 'coercive power' mechanisms were applied to generate obedient communities and water users, through exclusion, inequality, top-down control and visible violence. Modernist

equality ideologies have apparently shifted toward including instead of excluding subalterns: ‘capillary power techniques’ subtly involve people in their own submission, as ‘potentially equal citizens in undivided nation-States’. Self-identification and correction of water rights and identities, desires and practices, envisions their participation in, among others, a normalizing water control game that suits ruling groups’ extractive and control interests. I evince how these subordinating power modes do not replace each other but strategically co-exist and interact. Through Janus-faced continuity and hybrid combinations they alternate and increase ruling-group capacity to dominate local water societies and stabilize subjugation.

Chapter 7 details how irrigation modernization in the region, consciously or not, envisions socio-technical engineering of ‘hydro-political dream schemes’ to which all human and nonhuman components productively align. I scrutinize water designs and governance techniques to disclose how modern, ‘functional water rights’, ‘efficient schedules’, ‘rational land and water use’, ‘manageable unit organizations’, etc., strategically intertwine in order to externalize control, subjecting and ‘subjectifying’ water users. Therefore, I specify how water rights and technology designs depoliticize programs to create political order while deeply interlacing ‘moral scripts’, ‘moral urgency’ and acts of ‘moral bombing’ to induce ‘regime change’, and link micro-water control societies to meso- and macro governance scales. Although its actual materialization is contested and even unrealistic, the modernist conviction that realizing the dream scheme is rationally and morally *necessary* powerfully influences water policy and intervention practice.

Chapter 8 examines the policies of legal recognition and politics of codified confinement. Andean water rights autonomy and diversity are a prime hindrance for water companies, elites and formal rule-enforcers, since State and market institutions require a predictable, uniform playing field to foster water control and transfer. Complex local rights orders are seen as irrational, intangible disorder. The region’s legislation has tended to deny this ‘water-rights disobedience’, or contain and co-opt it in manifold ways, to avoid challenging the status quo. Peru, Ecuador and Chile illustrate how recognition policies are definitely not simply responses to demands by subjugated groups for greater autonomy. Re-cognition often leads to re-presenting and transforming complex reality to make users’ water behavior ‘tangible’. To co-opt water user communities, subtle recognition games invade them from below, apparently recognizing their rights but absorbing them in an all-embracing State and market framework, to have them compete ‘as equals’ vis-à-vis (trans)national water interest groups.

The past decade’s neoliberal modernization programs have promoted major reforms to deeply transform local Andean water societies and their water cultural / rights repertoires, with powerful backing from national water elites and international water policy institutes, who eventually imposed the ‘Chilean experiment’ on neighboring countries. Private rights moralism, market-based water rights reallocation, users and rights equalization, and naturalized economic-scientific rationality are the core of the discourse. **Chapter 9** shows that these modernization discourses bear remarkable resemblance to earlier efforts that also associated ‘civilization of backwardness’ with inducing private property rights. Collective water rights and uses by indigenous / peasant communities are labeled ‘anomalies’ requiring neoliberal normalization or deserving to wither as anti-modern. While the chapter illustrates the neoliberal model’s huge conceptual and practical errors, local collectives are blamed, and made to blame themselves, for their backwardness and for crumbling under neoliberalism. Paradoxically, remedies aim to include them in the neoliberal model, critically attacking the very rationality of local water rights repertoires and prospects for more equitable, democratic, efficient water control.

Chapter 10 details how ‘water expert networks’ often contribute to standardizing local water rights, universalizing ‘good governance’ norms, and sidelining local water institutions through planned modernization. Intervention cases in Ecuador and Peru illustrate how their objectifying ivory towers for hydro-policy modeling (whether top-down or participatory) tend to separate rational planning from the very capacity to envision the real-life impact of water policies and interventions on local user collectives. By denying experts’ subjectivity and power-knowledge relations, ‘technical rightness’ is presented as if based on neutral laws, devoid of moral, cultural and political meaning. Positivist water experts cherish the illusion that they can remain aloof from water practice but still continue to ‘objectively’ penetrate and judge this same reality. Expertocracy often assumes the authority to define users as ‘clients’ and determine their water needs. ‘Rationalizing water use’ habitually replaces existing needs, knowledge and morals. To understand this systematic remodeling of ‘valuable’

water norms, knowledge and control, I scrutinize the roots of expert rationality and sustain why depoliticized intervention in the Andes may deepen water scarcity problems rather than solving them, and why mainstream IWRM entwining high-tech water engineering with new-institutionalist economics tends to strengthen dependence on marketable experts rather than bringing the self-governance it advocates.

In both State and local laws, water allocation is markedly biased towards male users. **Chapter 11** specifies the region's four most influential 'monocular regimes of representation' regarding Andean water rights' genderedness. Case evidence illustrates their biases, how they amputate and objectify gendered water reality and promote their own fields of vision. Next, beyond issues of the accuracy of such visibilization, the chapter studies bonds among visibility, power and control, and challenges the mainstream assumption that generically 'making visible' – female farmers (or gender, peasants, indigenous people) – is always in their interest. I analyze the risks of 'subjection by illumination' while the workings of power remain invisible; of inclusive approaches that aim for overall visibilization of subjugated actors, their rights, resources, objectives, and strategies. Female (and male) peasants and water users, aside from challenging (or strategically using) their 'misrepresentation' by elitist god-views, also actively shape their own visibilization and decide on how, when and where as their own strategic choice. They may intermittently adopt unitary class, ethnic, gender labels or other tools of representation, as well as water rights discourses that differ according to the arenas in which their interests are challenged or defended.

Water rights are negotiated and enforced in processes of social struggle. **Chapter 12** explains how water struggles by subjugated groups cannot be understood aside from their rootedness in what I conceptualized as its dynamic 'undertows': the multi-layered, often concealed water rights foundations of Andean communities. Their layers entwine plural legal sources, livelihood strategies and community relations; there, living water rights are shaped materially and discursively. Amidst fierce in-house disputes over rights arrangements, a collective 'home base' is built that interweaves water control domains. Undertows also constitute the socio-territorial bases for user collectives' efforts to upscale their water rights battlegrounds in broader political-legal networks. In the public arena, this is often in disguised political forms: through 'mimicry' shields and strategies, which also enable them to shop around in rulers' power factory. Undertows, as the cases detail, enable both 'reactive and active' resistance. Dynamic sub-surface creation and proliferation of water rights repertoires constitute a strong base and source of defense against rights encroachment and disciplinary policies.

Chapter 13 focuses on struggles by water users and communities to localize and re-moralize their waterscapes, whereby challenging class-based oppression, gendered discrimination and racist subordination juxtaposes with the fight against mimesis-based subjugation underlying the water governance game. These struggles 'bring back home' the creative, collective imagination and construction of socio-technical design and so defy the fantasy-loss of hydro-political dream schemes. The cases illustrate that to understand water rights – as functional tools, as weapons, and as battlefields themselves – it is urgent to look beyond just reference rights and focus on the nature of rules in socio-technical and cultural-political action. I illustrate how such struggle to de-colonize the symbolic and political water governance orders links re-embedding water rights, re-distributing resources, re-moralizing irrigation technology, re-structuring the lines of command, and re-defining the methods and categories of identification. Far removed from abstract (universalistic or pan-Andean) schemes of belonging, in everyday confrontations, Andean collectivities challenge the water rights and identities assigned to them and construct new ones as strategic tools to acquire water control autonomy. Selectively copying and incorporating outside structures, resources and symbols is inherent to their strategy. While overt conflicts are present, as I explain, subtle 'root-stock resistance', 'mimicry techniques' and control over 'mimesis' are often at the core of resistance efforts. To defy normalization, acts of fusing and confusing join strategically in 'resistance as confusion'. Rather than just going against the current, the most effective strategies appear to build on deepening and extending non-conformist plurality.

Chapter 14 reflects on the chapters' findings. Water rights battles do not commonly lead to final outcomes; the research characterizes its opposing forces and strategies, in which entities with conflicting interests and unequal power see a mutual need to deliberately seize each other's resources, techniques, norms and rules. Here, State, modernizing expert and neoliberal policy networks ontologically and socio-technically construct

their (aligned) water subjects. The profound inadequacy of most modernist water legal and technical designs to adjust to local demands and rights diversity is not a proof of their incapacity: the aim is not to adjust but to alter and control, to adjust the users' universe. I reflect on pre-modernist, modernist, post-modernist and anti-modernist approaches sharing a fundamental feature: their views of difference and equality all produce indifference. While powerful hydro-political dream schemes construct 'potential equals' but fundamentally lose sight of how diverse people, men and women, deeply relate to water, livelihoods, and each other, local water user collectives challenge both the coercive and participatory strategies that police the boundaries between 'normal' and 'abnormal' water control, so questioning the exclusiveness and self-evidence of State- and market-based water rules. They reject water distribution and identity as a mechanical reflection of dominant power relations and rather look for interweaving mutual water knowledge and water justice struggles. Looking for and finding allies, also inside State, expert and other networks, they shape their political water projects, combat indifference, engage in re-distributive struggles and defy the politics of truth, thereby extending the world of context-particular water rights definitions and water truth claims.

Samenvatting

De Regels van het Spel en het Spel van de Regels. Normalisering en verzet in het waterbeheer in de Andes

Deze dissertatie heeft een driedelige opzet. Eerst worden de inhoud en gelaagde complexiteit van waterrechtensystemen uiteengezet zoals deze zijn ingebed in de dagelijkse realiteit van irrigatiesystemen en hooglandgemeenschappen in de Andes. Vervolgens ga ik in op hoe staat-, markt- en expert-netwerken trachten deze waterbeheergemeenschappen te herscheppen volgens eigen beeld, normen en belangen. Daarna volgt een analyse van de strijd en strategieën van lokale gebruikerscollectieven om hun waterrechten te beschermen en/of terug te krijgen en vorm te geven middels eigen manieren van cultureel-politieke en sociale organisatie.

Hoofdstuk 1 geeft achtergrond en conceptuele inhoud aan de overkoepelende onderzoeksvraag die zich richt op deze terreinen: ‘Hoe geven lokale waterregels en -rechten vorm en inhoud aan de irrigatiewaterbeheersystemen in de Andes (en vice-versa), en op welke wijze worden deze water instituties geherstructureerd en onderworpen aan ‘normaliserings-processen’? Hoe verdedigen watergebruiksgemeenschappen in de Andes zich tegen de geleidelijke onteigening van waterrechten, hoe bieden ze weerstand tegen de disciplinerende en inkaderende van hun diverse rechten-repertoires en hoe creëren ze strategische ruimte voor de toepassing en versterking van hun lokaal geformuleerde waterrechten?’ De volgende (deel)vragen leiden mijn onderzoek in de diepe - en verre van stille - wateren van ‘normalisering en verzet’:

Hoofdstuk 2: Hoe worden waterrechten gedefinieerd, verkregen en hoe krijgen ze concrete vorm, inhoud en betekenis in de gangbare waterrechtenregimes in irrigatiesystemen in de Andes?

Hoofdstuk 3: Welke conceptuele domeinen zijn fundamenteel voor de analyse van waterbeheer en waterrechten in de Andes, en hoe verhouden deze domeinen zich tot elkaar en geven ze elkaar wederzijds vorm?

Hoofdstuk 4: Hoe zijn de waterrechten in de Andes ingebed in de lokale beheerstructuren binnen en tussen gemeenschappen, in de levensonderhoud-strategieën van boerenfamilies, en in de bredere maatschappelijke context van het waterbeheer?

Hoofdstuk 5: Wat zijn de fundamentele beleidsbenaderingen met betrekking tot het vraagstuk van de ‘water crisis’ en de conflicten rondom waterrechten in de Andes?

Hoofdstuk 6: Op welke manieren is, in de loop van de waterbeheergeschiedenis in de Andes, macht uitgeoefend om zowel de identificatie van als de zelf-identificatie door mensen te beïnvloeden, om zo hun arbeid en collectieve actie te onderwerpen en hun waterrechten en hulpbronnen te beheersen?

Hoofdstuk 7: Hoe zorgt de strategische compositie van socio-technische waterbeheer-netwerken door de overheid (middels een stroomlijning van het sociale en het materiele waardoor het geheel van dominante, moraliserende krachten versterkt wordt) voor de herordening van lokale watergemeenschappen, een productief en gedisciplineerd gedrag van de onderhavige families, en de normalisering van hun water regels en rechten?

Hoofdstuk 8: Hoe zijn formele rechtssystemen van de Andes-landen omgegaan met de dynamiek en complexiteit van lokale waterrechten en welke machtspellen, gericht op het tastbaar maken, inperken en disciplineren van lokale rechten en identiteiten, zijn inherent aan de formele rechtspleging en het erkennings-beleid?

Hoofdstuk 9: Wat zijn de conceptuele fundamenten en politieke strategieën van neoliberal beleid en water elites om de waterbeheergemeenschappen en hun collectieve waterrechten binnen te dringen, te ondermijnen en te normaliseren?

Hoofdstuk 10: Middels welke mechanismen verbreidt de expertocratie haar invloed op het waterbeheer en zorgen de waterbeleid expert-netwerken ervoor dat lokale waterrechten in toenemende mate gestandaardiseerd worden?

Hoofdstuk 11: Wat zijn de nadelen en gevaren van de momenteel invloedrijke benaderingen om ‘gender en waterrechten’ zichtbaar te maken en op welke manier strijden watergebruikers in de Andes voor het recht om zelf te beslissen over wanneer en hoe ze ‘wel of niet zichtbaar’ willen zijn?

Hoofdstuk 12: Op welke manier bieden watergebruiksgemeenschappen in de Andes weerstand aan de onteigening, ondermijning en onderwerping van hun waterrechten en rechtssystemen?

Hoofdstuk 13: Gezien de grote belangen van machthebbers om lokale water regels en rechten naar hun hand te zetten, en in ogenschouw nemende de veelheid aan belangen en identiteiten van watergebruik(st)ers, hoe ontstaan waterrechten-gemeenschappen uit deze pluraliteit en wordt ‘eenheid in diversiteit’ gesmeed om normalisering tegen te gaan en lokaal-gestuurde waterrechten te verdedigen en te versterken?

Mijn onderzoek is een weerslag van een jarenlang proces van academisch en actieonderzoek naar en met watergebruikersorganisaties, boerengemeenschappen en indígena-federaties, alsmede van interactie met NGOs, overheidsinstanties en onderzoeksinstituten, en coördinatie van internationale onderzoeksprogramma's m.b.t. waterrechten in de Andes regio. De studie belicht een scala van gebeurtenissen en voorbeelden van irrigatiesystemen en stroomgebieden en de wisselwerking met waterbeleid, wetgeving en interventieprocessen in de nationale en internationale context. In mijn analyse neemt waterbeheer in de hooglanden van Peru en Ecuador een centrale plaats in; waterbeleid, wetgeving en praktijk in Bolivia en Chili, vaak hieraan verwant, leveren ondersteunende casuïstiek.

Mijn onderzoek is noodzakelijkerwijs interdisciplinair en combineert de analytische velden van waterbeheer, rurale sociologie en gender studies, sociale filosofie, rechtspluralisme, politieke wetenschappen en culturele antropologie. **Hoofdstuk 1** legt de basis voor het onderzoeksonderwerp en geeft de theoretische onderbouwing en richting aan, die ik in de vervolg-hoofdstukken uitwerk, van kanttekeningen voorzie en verder uitbreid. Het specificiert en verbindt de belangrijkste concepten in het onderzoek: rechten en de rechtscomplexiteit; culturele identiteit en diversiteit; normen en normalisering; 'discourse' en de driehoeksrelaties tussen macht-kennis-waarheid; creatieve actor-capaciteit en sociaaltechnische actor-netwerken; en een conceptuele uitwerking van conflicterende en interacterende mechanismen van machtsuitoefening. Hoofdstukken 2 t/m 13 dragen verdere concepten en voorbeelden aan ter verdieping en voor de ordening van de stukjes van deze theoretisch-empirische puzzel, zodat nieuwe conceptuele begrippen vorm krijgen.

Waterrechten en eigendomsverhoudingen zijn centraal komen te staan in debatten over waterbeleid, interventiepraktijk en hervormingsprogramma's. Beleidsinstanties, overheden, projectorganisaties, consultancy bureaus en expertise centra, gesteund door hun eigen ontologie en disciplines, neigen ernaar waterrechten als standaard 'zwarte dozen' te beschouwen die goed passen binnen het positivistische karakter van de technische en economische waterwetenschappen. Waterwetten en regels worden gewoonlijk beschouwd als zowel de instrumenten om een waterwereld te 'bouwen' en als de leveranciers van standaardnormen waarmee de bestaande waterwerkelijkheid beoordeeld kan worden. Maar ver verwijderd van dergelijke standaard handleidingen en irrigatierichtlijnen bestaat een heel andere waterwereld, diep geworteld in de dagelijkse levens van echte mensen; mannelijke en vrouwelijke watergebruikers. Deze studie laat zien op welke manier groepen in de Andes een enorme variëteit aan waterrechten en waterbeheer hanteren: ingebed in historische en cultureel-politieke contexten scheidt men hybride vormen van lokale, nationale en internationale herkomst die worden bekrachtigd in de lokale beheerpraktijk. Zoals het onderzoek aantoont gaat dit veelal in tegen de belangen van dominante actoren, die ernaar streven om de controle over water en de sociale relaties eromheen 'tastbaar' te maken, door de lokale rechtssystemen aan te laten sluiten en te stabiliseren in extern gecontroleerde structuren en netwerken, doorgaans strategisch gepresenteerd als objectieve, universele ontwerpen voor watercultuur, identiteit en 'eigenheid'.

Ik conceptualiseer en analyseer conflicterende discourses (Foucaultiaanse combinaties van macht en kennis) als 'sociaaltechnische stabilisatoren', die strategisch het sociale met het technische verlijmen, met specifieke verbanden, betekenissen en posities, om een specifieke politieke waterorde te scheppen of in stand te houden. In de Andes regio worden bestaande waterrechten en organisatievormen veelal actief miskend door beleid van erkenning en disciplineren, als onderdeel van de culturele en materiële verdelingspolitiek. De kern van mijn onderzoek is het proces van het 'normaal' maken van lokale watergebruikers, watergebruiken, en waterrechten: volgens de standards, categorieën en modellen van anderen (middels machtspraktijken die de normen 'top-down' en/of gewelddadig opleggen alsmede door participatieve, 'gelijkmakende', van onderaf stuwende vormen van machtsuitoefening). Tevens onderzoek ik de strijd van lokale gebruikers om hun eigen politieke waterorganisatie en projecten vorm te geven. Ik laat hier zien hoe processen van 'mimetische begeerte' (de wens om 'gelijk' te worden aan heersende disciplinerende normen, beelden en modellen) worden gerepareerd door een andere imitatie strategie: de bewuste nabootsing middels een 'schutkleur-strategie' (de strategische adoptie van dominante machtsmiddelen ten behoeve van verzet). Ik verbind verzet tevens met andere vormen van macht, die verband houden met collectieve actie en identiteit.

De materiële controle over waterrechten en irrigatiesystemen en het recht om deze cultureel te definiëren en politiek te organiseren, zijn een onlosmakelijk onderdeel van deze strijd. Waterrechten zijn hierbij een sociale relatie en een uitdrukking van macht. Dit onderzoek beziet de strijd over waterrechten op verschillende abstractie niveaus, omvattende vier lagen: (i) toegang tot water en gerelateerde materiële *middelen*; (ii) de inhoud en betekenis van de water *regels*; (iii) de *autoriteit* en legitieme beslissingsbevoegdheid; (iv) de *representatie regimes*, ofwel de discourses die een specifieke waterbeleids-praktijk opleggen of verdedigen. Daarom, gezien het feit dat een analyse van de inhoud van rechten en structuren slechts een gedeeltelijk inzicht geeft in het Andes waterbeheer, zijn niet alleen de *Regels van het spel* maar ook het *Spel van de regels* onderzocht.

Om ‘levende’ waterrechten te benaderen als het kloppend hart van door boeren beheerde systemen, wordt in **hoofdstuk 2** een raamwerk uitgewerkt om deze normatieve repertoires te analyseren als systemen van ‘georganiseerde complexiteit’. De diversiteit van de praktijk laat de veelvoudige gelaagdheid van toegangs-, gebruiks-, en besluitvormingsrechten op water zien en hoe die verband houdt met de meervoudige, interacterende rechtsbronnen en -kaders. Rechten en eigendomsverhoudingen zijn ingebed in de culturele, agro-ecologische en politieke ‘watergebruik territoria’; waar het tot stand komen van collectieve en individuele rechten nauw samengaat met de creatie en re-creatie van infrastructuren en organisaties, en met de permanente vitalisering van vormen van identiteit en wederzijdse verbondenheid. De inhoud en verdeling van rechten zijn zowel onderwerp van interne en externe strijd, het resultaat van machtsverhoudingen en machtsverhoudingen op zichzelf.

Hoofdstuk 3 bestudeert het ‘meta’ achter het ‘fysieke’ in het Andes waterbeheer, en laat tegelijkertijd het ‘politieke’ zien achter de metafysische water werkelijkheid: net als tegenwoordig was ook vroeger de lokale controle over water gelieerd aan supra-lokale identiteits- en insluitings-politiek. Ik conceptualiseer de intrinsieke interdisciplinariteit van waterrechten en waterbeheersystemen, door de Andes watercultuur en cultuurpolitiek als ingang te nemen. Waterrechten opereren binnen verschillende, gerelateerde conceptuele domeinen die, om deze te kunnen bevatten, elk een specifieke blik werpen op de waterwerkelijkheid. Waterrechten krijgen vorm en inhoud zowel in materiële infrastructuur, in normatieve patronen en in organisatorische kaders, alle in wisselwerking met de politiek-economische en culturele context. Na een kritische beschouwing van diverse academische pogingen om interdisciplinariteit in het waterbeheer te conceptualiseren, stel ik de depolitisering en objectivering van veel van deze visies ter discussie, en betoog ik dat het noodzakelijk is om ook de disciplinaire focussen zelf te herdefiniëren om een interdisciplinaire visie mogelijk te maken.

In **hoofdstuk 4** leg ik uit hoe waterrechten zijn ingebed in streekgebonden (re)productie strategieën, in boerenhuishoud-economieën en in bredere machtsstructuren. Ik analyseer de fundamentele rollen en taken van watergebruikorganisaties, en geef aan hoe deze vorm krijgen binnen de voortdurende wisselwerking tussen de marktgerelateerde en niet-marktgerelateerde werkgebieden van de gemeenschap. Verre van ideologische solidariteit, is de materiële totstandkoming en ontwikkeling van een watergemeenschap in de zware fysieke en politieke Andes context vooral een gevolg van wederzijdse afhankelijkheid en de noodzaak voor intensieve samenwerking, die niet vervangen kan worden door slechts op individu, overheid of markt gebaseerde oplossingen. Terwijl ik het felle debat uiteenzet aangaande de ‘Andes gemeenschap’, laat ik zien hoe veel benaderingen zich nog steeds baseren op stereotypen en de Andes gemeenschap en cultuur beschrijven in binaire termen van positief en negatief, radicaal verschillend van het ‘Westen’. Dergelijke beeldvorming gaat hand in hand met beleids-politieke besluitvorming. Ontkenning van de lokale werkelijkheden is veelal een feit binnen zowel ‘romantische’ als ‘articulatie-’ en kritische ‘deconstructie-visies’. Andes gemeenschappen en dus ook het dagelijkse waterbeheer worden sterk beïnvloed door gender, klasse, leeftijds-, en etnische verschillen; tegelijkertijd is een dergelijke (water) ‘samenleving’ een inspanning, een proces en een capaciteit om de wederzijdse afhankelijkheid concreet te maken en aan het grenzeloze netwerk van relaties sturing en inhoud te geven, gericht op het vervullen van gemeenschappelijk doelen m.b.t. het beheer van de natuurlijke hulpbronnen.

Hoofdstuk 5 onderzoekt de huidige debatten rondom waterbeleid en hoe deze een reflectie zijn van zowel de waterbeheertradities in de regio, de internationale modellen en de privébelangen van de machtige spelers in het waterveld. Vier uiteenlopende beleidslijnen worden beschreven. Ofschoon gedecentraliseerd stroomgebiedbeheer de theoretische beleidsoriëntatie is, is de effectiviteit ervan in de praktijk beperkt. De verschillende mo-

dellen blijken niet in staat te zijn om stroomgebieden te conceptualiseren als lokale waterrechten arena's; ook hebben ze geen antwoord op zaken als machtsongelijkheid en rechtspluralisme. Dit leidt er toe dat boeren- en inheemse organisaties de staat en het formele rechtssysteem bezien, gelijktijdig, op drie verschillende wijzen: als een ideologische constructie van 'weldoener', als een geheel van hen uitsluitende instanties en vertegenwoordigers, en als een strijdtoneel om een democratische publiekrechtelijke staat te bouwen.

Als een rode draad door de geschiedenis van de Andes hebben dominante groepen gebruik gemaakt van de nauwe relaties tussen de lokale arbeidsinvesteringen, het creëren van water eigendomsvormen en identiteitsvorming. **Hoofdstuk 6** laat zien hoe achtereenvolgens de Inca's, de Spanjaarden en de grootgrondbezitters deze lokale rechten/identiteits-rationaliteit wisten over te nemen en naar hun eigen hand te zetten. Veelal probeerde men regelrechte uitbuiting te maskeren middels wederkerigheids-ideologieën en politiek-culturele categoriserings-tactieken. Van oudsher werden verticale machtsmechanismes toegepast om samenlevingen en watergebruikers gehoorzaam te krijgen; door uitsluiting, ongelijke behandeling, hiërarchische machtsoplegging en openlijk geweld. De intrede van moderne gelijkheidsideologieën betekende een schijnbare ommekeer: van uitsluiting naar het erbij betrekken van ondergeschikten. Ik analyseer echter hoe participatieve, 'capillaire machtstechnieken' mensen subtiel betrekken in hun eigen ondergeschikte posities, als 'potentieel gelijke burgers in een onverdeelde natie'. (Zelf-)correctie van waterrechten, identiteiten, wensen en praktijken, voorziet in hun deelname in een normaliserend waterbeheer- en beheersspel, dat tegemoet komt aan de belangen van de heersende macht. Ik laat echter zien hoe deze verschillende manieren van onderdrukkende machtoefening elkaar niet vervangen maar strategisch naast elkaar bestaan en samenwerken. Door een Januskoppige continuïteit en hybride combinaties wisselen ze elkaar af en vergroten ze de mogelijkheden van de heersende groep om de lokale watergemeenschappen te domineren en de overheersing te stabiliseren.

Hoofdstuk 7 beschrijft hoe de modernisering van irrigatie in de regio, bewust of niet, sociaaltechnische netwerken in de vorm van 'hydro-politieke droomstelsels' voorziet waarin alle menselijke en niet-menselijke componenten productief zijn gelieerd. Ik onderzoek in detail de waterontwerpen en bestuurstechieken en laat zien hoe moderne 'functionele waterrechten', 'efficiënte waterverdelingsroosters', 'rationeel land- en watergebruik', 'bestuurbare tertiaire-vak organisaties', enzovoort, strategisch hand in hand gaan om de beheersmacht te externaliseren en watergebruikers te corrigeren en te onderwerpen. Ik analyseer hoe technologische en waterrechten-ontwerpen de interventieprogramma's depolitiseren, juist om een politieke orde te creëren, doorkomt met 'morele richtlijnen', 'morele moderniseringsdrang' alsmede gericht op de 'destructie van de moraal' om 'regime verandering' te bewerkstelligen en de micro waterbestuur-niveaus te koppelen aan het meso- en macro-bestuur. Hoewel het concretiseren hiervan bestreden wordt en zelfs onrealistisch is, is de modernistische overtuiging dat het realiseren van deze droomstelsels rationeel en moreel *noodzakelijk* is, dermate sterk dat het grote invloed uitoefent op het waterbeleid en de interventie praktijk.

In **hoofdstuk 8** onderzoek ik het beleid ten aanzien van legale erkenning en de politiek van legaal-gecodeerde insluiting. De autonome waterrechten in de Andes zijn het voornaamste obstakel voor de watermarkt elite en de formele wetgevers en handhavers, omdat staat en markt instituties een voorspelbaar en uniform speelveld vereisen die hun controle over waterbeheer mogelijk maakt. Complexe lokale rechtssystemen worden beschouwd als tekenen van irrationele en ongrijpbare wanorde. Lange tijd heeft de wetgeving in de regio deze 'waterrechten-ongehoorzaamheid' ontkent, of op velerlei manieren getracht het in te dammen of te annexeren om te voorkomen dat de status-quo bedreigd zou worden. Peru, Ecuador en Chili laten zien hoe hun beleid van erkenning beslist geen antwoord geeft op de vraag van lokale beheerscollectieven naar meer autonomie. Erkenning betekent vaak de re-definitie en transformatie van een complexe realiteit om rechten en gedrag van watergebruikers 'tastbaar' te maken, terwijl ze worden ingesloten in een allesomvattend overheids- en markt kader dat hen vraagt te concurreren 'als gelijken' vis-à-vis (trans)nationale water machts- en belangengroepen.

De neoliberale moderniseringsprogramma's van de afgelopen jaren hebben grootschalige hervormingen teweeg gebracht en de lokale watergemeenschappen in the Andes in de kern geattaqueerd, inclusief hun watergerelateerde culturele en normatieve repertoires. Deze programma's hadden de onvoorwaardelijke steun van nationale water elites en internationale water beleidsinstanties, die het 'Chileense experiment' oplegden aan de buurlanden. Kern van de discourse vormen het private eigendoms-moralisme, de markt-gestuurde toekenning

van waterrechten, de uniformisering van gebruikers en rechten, en het primaat van een economisch-wetenschappelijke rationaliteit. **Hoofdstuk 9** laat zien dat deze moderniserings-discourse een opvallende gelijkenis vertoont met eerdere pogingen die ‘het bijbrengen van beschaving’ associeerden met het invoeren van privé eigendomsrechten. Collectieve waterrechten en de gebruiken van inheemse watergemeenschappen worden aangemerkt als anomalieën die een neoliberale normalisering nodig hebben of dienen weg te kwijnen gezien hun vijandigheid t.o.v. de moderniteit. Ofschoon dit hoofdstuk de enorme praktische en conceptuele fouten van het neoliberale model illustreert, wordt het de lokale collectieven verweten (en wordt ervoor gezorgd dat ze zich zelf gaan verwijten) schuld te hebben aan hun ‘achterstand’ en aan het feit dat ze ten onder gaan aan het neoliberalisme. Paradoxaal genoeg richten de oplossings-strategieën zich op hun insluiting in het neoliberale model, waarmee zowel de rationaliteit van de lokale rechten repertoires als de vooruitzichten op een meer rechtvaardig, democratisch en efficiënt waterbeheer onder vuur worden genomen..

Hoofdstuk 10 beschrijft de wijze waarop ‘water expert-netwerken’ vaak bijdragen aan de standaardisering van lokale waterrechten, en normen van ‘goed beheer en bestuur’ als universeel geldig verklaren, terwijl hun moderniseringsplannen de lokale waterinstituties buiten spel zetten. Voorbeelden van interventies in Ecuador en Peru laten zien hoe de objectiverende Ivoren Toren modellen voor waterbeleid (zowel de hiërarchische als de participatieve) van deze expert netwerken, de neiging hebben om de rationele planning te scheiden van de menselijke capaciteit om hun werkelijke impact te overzien: de gevolgen voor het dagelijkse leven en functioneren van lokale gebruikscollectieven. Tegelijkertijd met het ontkennen van de relatie tussen macht en kennis, en de subjectiviteit van experts, wordt er een technische correctheid gepresenteerd alsof die is gebaseerd op neutrale wetten, ontdaan van enige morele, culturele of politieke oordeelvorming. Positivistische water experts koesteren de illusie dat ze zich verre van de water praktijk kunnen houden maar zich wel objectief kunnen blijven bemoeien en kunnen oordelen over deze zelfde realiteit. De expertocratie eigent zich vaak de autoriteit toe om gebruikers als ‘klanten’ te definiëren en hun behoeftes voor hen vast te stellen. Het ‘rationaliseren van het watergebruik’ vervangt doorgaans de lokaal bestaande behoeftes, kennis en principes. Om deze systematische hermodellering van de ‘waarden’ van water en water principes, kennis en controle te begrijpen, onderzoek ik de achtergronden van de expert-rationaliteit en laat ik zien waarom gedepolitiseerde interventies in de Andes de problemen van waterschaarste vaak slechts verergeren in plaats van deze op te lossen, en waarom mainstream IWRM die high-tech waterbouwkunde vervoegt met nieuwe institutionele economie leidt tot een grotere afhankelijkheid van de deskundigen-markt in plaats van het zelfbestuur op te leveren zoals het beweert te doen.

In zowel de regelgeving van de staat als in lokale wetgeving zijn mannelijke gebruikers duidelijk in het voordeel als het gaat om toewijzing van water. **Hoofdstuk 11** specificeert de vier meest invloedrijke discourses aangaande de gender/waterrechten-relatie in de Andes. Voorbeelden uit het veld tonen hun bevooroordeeldheid aan en laten zien hoe ze de gender/water-werkelijkheid amputeren en objectiveren en hun eigen visies verabsoluteren. Vervolgens bestudeer ik de verbanden tussen zichtbaarheid, macht en controle en trek ik de mainstream aanname in twijfel dat het generiek zichtbaar maken van vrouwen (of gender, kleine boeren of inheemse bevolking) ook altijd in hun belang zou zijn. Ik analyseer de risico’s van ‘onderwerping door belichting’ inherent aan inclusie-gerichte benaderingen die tot doel hebben om onderworpenen, hun rechten, doelen, middelen en strategieën algeheel zichtbaar te maken (terwijl de manier waarop macht zelf werkt, verborgen blijft). Vrouwelijke (en mannelijke) kleine boeren en watergebruikers geven, naast het feit dat ze hun misrepresentatie door elitaire ideaalbeelden bekritisieren (of strategisch gebruiken), ook zelf vorm aan hun eigen zichtbaarheid en besluiten zelf over het hoe, wanneer en waar, als eigen strategische keuzes. Zo gebruiken ze afwisselend eenheidslabels van klasse, gender, etniciteit of andere wijzen van representatie, evenals waterrechten discourses die veranderen naar gelang de arena’s waarin hun belangen worden aangevallen of verdedigd.

Waterrechten zijn het resultaat van onderhandeling en vormen zich in processen van sociale strijd. **Hoofdstuk 12** laat zien dat strijd om water, gevoerd door Andes gemeenschappen, niet begrepen kan worden los van hun geworteldheid in wat ik heb geconceptualiseerd als dynamische onderstromen: de gelaagde, vaak verborgen en moeilijk grijpbare waterrechten-fundamenten van lokale gebruikerscollectieven. Daar worden ‘levende waterrechten’ materieel en politiek-symbolisch vormgegeven. Temidden van niet zelden felle disputen over het regelen van de rechten wordt een collectieve ‘thuisbasis’ gebouwd die de verschillende domeinen van waterbe-

heer verweeft. Onderstromingen vormen eveneens de socio-territoriale basis voor de inspanningen van gebruikersgroepen om hun strijdtoneel voor waterrechten naar het niveau van bredere legaal-politieke netwerken te tillen. In het publieke domein is dit meestal in gemaskeerde politieke vormen: middels schutkleur-mechanismen en nabootsings-strategieën, die hen ook in staat stellen gebruik te maken van de middelen uit de machtsfabriek van degenen die de dienst uitmaken. Zoals de cases laten zien maken onderstromen zowel reactief als actief verzet mogelijk. De dynamische, ondergrondse vorming en uitbreiding van waterrechten-repertoires leveren een sterke basis en bron van verdediging tegen de aantasting van rechten en tegen disciplinair beleid.

Hoofdstuk 13 richt zich op de strijd van watergebruik(st)ers en groepen om hun water-territoria en -systemen onder lokale controle te brengen en te 're-moraliseren', waarbij het gevecht tegen onderdrukking op basis van klasse, gender en etniciteit samengaat met de strijd tegen de op mimese gebaseerde onderwerping die aan het 'waterbeheer- en beheersspel' ten grondslag ligt. Deze strijd lokaliseert ('brengt thuis') de creatieve, collectieve verbeelding en totstandkoming van sociaal-technische ontwerpen en weerstaat op die manier de 'fantasieloosheid' van de hydro-politieke droomstelsels. De voorbeelden laten zien dat, om waterrechten te begrijpen – als functionele instrumenten, als strategische wapens en als strijdtoneel op zichzelf – het belangrijk is om verder te kijken dan de regels waarnaar mensen refereren en de blik te richten op de aard van regels in sociaal-technische en cultureel-politieke actie. Ik laat zien hoe de strijd om de symbolische en politieke waterbeheersorde te 'dekoloniseren' gelieerd is aan het lokaal verankeren van waterrechten, het herverdelen van middelen, het re-moraliseren van irrigatietechnologie, het hervormen van de beslissingstructuren en het herdefiniëren van de manieren en categorieën van identificatie. Andes gemeenschappen, in dagelijkse confrontaties, betwisten de waterrechten en identiteiten die hen zijn toegewezen en construeren nieuwe, als strategische instrumenten om grotere controle over waterbeheer te verkrijgen. Het selectief kopiëren en overnemen van 'externe' structuren, middelen en symbolen is inherent aan hun strategie. Ik analyseer hoe subtiele, 'ondergrondse wortelstok-netwerken', 'schutkleur-tactieken' en controle over 'mimese' meestal ten grondslag liggen aan de verzets-inspanningen. Om normalisering het hoofd te kunnen bieden, worden 'versmelten' (*fusion*) en 'verwarren' (*confusion*) strategisch gebundeld in 'verzet als *con-fusion*'. Meer nog dan tegen de stroom inzwemmen, richt de meest effectieve strategie zich op het verdiepen en uitbreiden van de non-conformistische pluriformiteit.

Hoofdstuk 14 reflecteert op de uitkomsten. Strijd over waterrechten leidt doorgaans niet tot uiteindelijke uitkomsten; het onderzoek karakteriseert de tegenwerkende krachten en strategieën, waarin verschillende spelers met tegengestelde belangen en verschillen in macht de wederzijdse behoefte zien om zich van elkaars middelen, technieken, normen en regels meester te maken. De staat, modernistische expert-, en neoliberale beleids-netwerken construeren zelf hun eigen ontologische en socio-technische (hiërarchisch geordende) subjecten. Het gegeven dat de meeste modernistische (technische-legale-politieke) waterontwerpen fundamenteel 'onaangepast' zijn aan de lokale wensen en rechten-diversiteit is geen bewijs van hun onkunde: het doel is niet zozeer de aanpassing *aan* de lokaliteit maar juist om deze te veranderen en onder controle te krijgen; de aanpassing *van* de watergebruikers wereld. Premodernistische, modernistische, postmodernistische en antimodernistische visies delen allemaal één fundamentele karakteristiek: hun visies op 'verschil en gelijkheid' leiden allen tot onverschilligheid. Terwijl de krachtige hydro-politieke droomstelsels 'potentieel gelijken' construeren en volledig uit het oog verliezen hoe diverse mensen – mannen en vrouwen – sterk verbonden zijn met water, de omgeving, en met elkaar, verzetten lokale watergebruikerscollectieven zich tegen zowel de verticaal opgelegde als de participatieve strategieën die de grenzen stellen tussen 'normaal' en 'abnormaal' waterbeheer. Op deze wijze vechten ze de exclusiviteit en vanzelfsprekendheid van door de staat en markt opgelegde waterregelgeving aan. Zij verwerpen watervdeling en identiteit als een mechanische weerslag van heersende machtsverhoudingen en gaan op zoek naar het verweven van wederzijdse vormen van 'waterkennis' en van strijd voor watergerechtigheid. Tijdens de zoektocht naar en het vinden van bondgenoten - ook binnen de staat, expert- en andere netwerken – geven ze vorm aan hun politieke waterprojecten, verwerpen ze zich tegen onverschilligheid, strijden ze voor herverdeling en bieden ze het hoofd aan de politiek van universele waarheid, waarbij ze gelijktijdig de wereld van context-specifieke waterrechten en claims op 'water-waarheden' uitbreiden.

Resumen

Las Reglas del Juego y el Juego de las Reglas Normalización y resistencia en la gestión del agua en los Andes

Esta tesis tiene una estructura triple. Primero, examina los contenidos, la constitución, el contexto y la racionalidad cotidiana de los derechos de agua en los sistemas de riego en las comunidades altoandinas. Luego, investiga la manera en que las (entretrejidas) redes estatales, de mercado y expertas tratan de reestructurar las sociedades de agua locales, de acuerdo con sus propios intereses y dentro de marcos estandarizados dominantes. La tercera parte analiza la forma en que los colectivos de usuarios locales desarrollan estrategias para defender, reclamar y ‘re-embeber’ sus derechos de agua, dando la cara tanto por sus recursos hídricos como por sus comunidades y culturas de agua.

El primer capítulo presenta y conceptualiza la pregunta general de investigación que orienta estos campos: ‘¿cómo dan las reglas y los derechos locales sustancia a los sistemas de gestión de agua en el riego andino (y viceversa), y de qué modo los procesos de normalización reestructuran y subyugan a estas instituciones locales de agua? ¿Cómo se defienden los colectivos de usuarios y usuarias contra la usurpación de los derechos de agua, cómo se resisten al sometimiento de sus repertorios sociolegales, y cómo crean un espacio estratégico para la definición y puesta en vigor de derechos de agua autocontrolados por la comunidad?’ Las (sub)preguntas básicas guían mi investigación hacia las profundidades de ‘la normalización y la resistencia’:

- Capítulo 2. ¿Cómo son definidos, adquiridos y sustanciados los derechos de agua en los regímenes de propiedad de agua que prevalecen en los sistemas de riego andinos?
- Capítulo 3. ¿Cuáles son los ámbitos conceptuales de gestión y derechos de agua, y cómo interactúan y se constituyen mutuamente?
- Capítulo 4. ¿Cómo están embebidos los derechos de agua andinos en las estructuras de control (inter)comunitarias, las estrategias de sustentos locales y el contexto mayor de la sociedad hídrica?
- Capítulo 5. En la Región Andina, ¿cuáles son los enfoques fundamentales de política hídrica para enfrentar ‘la crisis del agua’ y los conflictos sobre derechos de agua?
- Capítulo 6. En la historia del control del agua en los Andes, ¿cómo se ejerce el poder para influir tanto en la identificación como en la autoidentificación de la gente para subyugar su trabajo y su acción colectiva, y controlar sus derechos de agua y sus recursos hídricos?
- Capítulo 7. El entrelazado estratégico de las redes sociotécnicas de riego por parte de la agencia estatal (alineando lo social y lo material para fomentar las fuerzas dominantes y moralizadoras), ¿de qué manera ordena la sociedad hídrica local, efectiviza un comportamiento productivo y disciplinado de las familias y comunidades sujetas, y normaliza sus reglas y derechos de agua?
- Capítulo 8. ¿De qué maneras los sistemas legales de los países andinos han tratado la pluralidad de derechos de agua, y qué políticas de tangibilización y disciplina de los derechos e identidades locales son inherentes en estas estrategias legales y políticas oficiales de reconocimiento?
- Capítulo 9. ¿Cuáles son los cimientos y estrategias de las políticas y élites hídricas neoliberales para usurpar, socavar y normalizar a las comunidades andinas de usuarios y usuarias de agua y sus derechos colectivos?
- Capítulo 10. ¿Qué mecanismos son los que expanden la expertocratización del control de agua en los Andes y cómo contribuyen las redes expertas generadoras de hidropolítica a estandarizar los derechos de agua existentes?
- Capítulo 11. ¿Cuáles son los problemas y peligros de las ‘estrategias de visibilidad’ influyentes con respecto a ‘género y derechos de agua’, y cómo defienden y dan forma las mujeres regantes andinas a su derecho a auto-definir su ‘invisibilidad y visibilidad’?
- Capítulo 12. ¿Cómo resisten las comunidades andinas contra procesos de usurpación de derechos de agua, y de subordinación de sus repertorios sociolegales para la gestión del agua?
- Capítulo 13. Dados los intereses de agentes poderosos por domesticar las reglas y derechos de agua locales, y considerando la multiplicidad de intereses e identidades de los usuarios y usuarias de agua, ¿cómo emerge la comunidad de agua de la pluralidad y cómo se establece la ‘unidad dentro de la diversidad’ para actuar contra la normalización y defender la definición y el fortalecimiento endógenos de los derechos de agua?

Mis estudios se dieron como un proceso de varios años de investigación académica y acción-investigación con organizaciones de riego, organizaciones campesinas y federaciones indígenas, interacción con ONGs, institutos estatales y centros de investigación, y coordinación de programas de investigación internacional sobre derechos de agua en la región andina. El estudio se enfoca sobre una serie de eventos y casos de sistemas de riego y cuencas, y su interacción con los contextos nacionales e internacionales. El control del agua en la región altoandina del Perú y el Ecuador constituye el punto focal de mi análisis; las frecuentemente vinculadas políticas, legislación y prácticas en Bolivia y Chile proveen de casos de referencia.

Necesariamente, mi investigación es interdisciplinaria; básicamente ‘mezcla’ los campos analíticos de la gestión de los recursos hídricos, la sociología rural y los estudios de género, la filosofía social, el pluralismo legal, las ciencias políticas y la antropología cultural. El **Capítulo 1** fundamenta el tema de investigación al proveer de una orientación teórica básica, la que desarrollo, reviso y extiendo en los capítulos siguientes. Este capítulo especifica y vincula las nociones conceptuales claves del estudio: derechos y complejidad legal; identidad y diversidad cultural; normas y normalización; los triángulos y discursos poder-conocimiento-verdad; la agencia humana y las redes sociotécnicas, junto a un desarrollo conceptual de ‘modos de poder’ en conflicto pero interactuantes. La investigación se dirige tanto a las formas de poder centradas en el agente como a aquellas centradas en el sujeto, ya sea que promuevan dominación/normalización o resistencia/inconformidad. Los conceptos, casos y eventos del trabajo de campo, combinados con hallazgos de fuentes secundarias, ilustran, cuestionan, profundizan y ordenan los contenidos del rompecabezas teórico-empírico y así permiten la elaboración de nuevas nociones teóricas.

Los derechos de agua y las relaciones de poder se han vuelto ejes en los debates, reformas y programas de intervención hídricos. Los institutos de política, los gobiernos, las agencias de intervención y los centros expertos, sustentados por sus ontologías y disciplinas, tienden a considerar los ‘derechos de agua’ como meras cajas negras estándar que se yuxtaponen a los marcos de las ciencias técnicas y económicas positivistas. Habitualmente, la ley y los derechos de agua son vistos tanto como instrumentos para ‘ingenierizar’ la sociedad del agua, cuanto como sus objetivos finales, suministrando los estándares para juzgar a la sociedad de agua. Pero mucho más allá de los manuales y las regulaciones de riego, hay otro mundo del agua íntimamente ligado a la vida diaria de gente real, hombres y mujeres que usan el agua. El estudio deja claro cómo los colectivos andinos practican una enorme variedad de derechos de agua y formas de gestión, como híbridos locales-nacionales-internacionales que se crean y afirman en los territorios hídricos locales, embebidos en contextos históricos y cultural-políticos. Esta investigación también muestra cómo y por qué esto va contra los intereses de los grupos y actores de agua dominantes, que pretenden hacer ‘tangibles’ las relaciones de control de agua al alinear y estabilizar los sistemas locales de derechos en estructuras y redes controladas desde afuera, a menudo presentadas como esquemas objetivos, universales de cultura, identidad y pertenencia relativas al agua.

Conceptualizo y analizo los conflictivos discursos (conjunciones foucaultianas de poder y conocimiento), como ‘estabilizadores sociotécnicos’ que ‘engoman’ estratégicamente lo social y lo material: con nexos, significados y posiciones particulares para asegurar un particular orden político del agua. En la región, las políticas de reconocimiento y disciplina activamente reconocen de manera equivocada los derechos de agua y las comunidades de usuarios. En la médula de mi estudio está el proceso de ‘hacer normales a los usuarios, los usos y los derechos de agua’ según estándares, categorías y modelos de otros (mediante ya sea ‘modos de poder coercitivo’ de arriba abajo, o ‘modos de poder capilares’ inclusivos y equalizadores, o ambos). También investigo las luchas locales por definir sus propias comunidades y practicar sus propios proyectos políticos de agua. Muestro cómo los procesos de ‘deseo mimético’ (el deseo de ‘equalizarse’ a las normas de disciplina dominantes) son enfrentados por otra estrategia de imitación: el ‘mimetismo’ (la adopción estratégica de herramientas de poder dominantes para resistir). También conecto la resistencia con otras formas de poder que se relacionan con la acción y la identidad colectivas.

Las batallas se relacionan con el control material de los sistemas y derechos de agua, y el derecho a definirlos culturalmente y organizarlos políticamente. Aquí los derechos de agua son una relación social y una expresión de poder. La investigación indaga y conceptualiza las luchas por los derechos a cuatro niveles de abstracción. El primero trata de la lucha por el acceso al agua y otros *recursos* materiales relacionados. Un segundo campo

de contención se refiere a la sustancia y el significado de las *reglas*. Un tercer nivel de conflicto tiene que ver con el *control regulatorio*. El cuarto nivel de las batallas por los derechos de agua se refiere a los *regímenes de representación*, discursos que imponen o defienden ciertas políticas de agua. Así, considerando que el análisis de los contenidos y estructura de los derechos provee sólo parcialmente de una visión del control de agua en los Andes, era vital no sólo investigar las Reglas del Juego, sino también estudiar el Juego de las Reglas.

Para enfrentar la cuestión de los derechos de agua ‘vivientes’ como la médula de los sistemas autogestionados, el **Capítulo 2** desarrolla un marco para analizar estos repertorios normativos como sistemas de ‘complejidad organizada’. A través de la presentación de una diversidad de prácticas, revelo las múltiples capas del acceso y control del agua y cómo éstas se vinculan a fuentes y marcos sociolegales interactuantes. Estos repertorios ligan facultades, tareas, condiciones y reglas de operación y mecanismos para adquirir el agua; se relacionan con formas de legitimidad y autoridad; distinguen entre derechos de uso internos y externos, y toman forma concreta en el proceso de traducción de ‘derechos de referencia’ hacia ‘derechos activados y materializados’. Los derechos y las relaciones de propiedad están embebidos en los territorios culturales, agroecológicos y políticos, donde la creación de derechos colectivos/individuales se entrelaza con la (re)creación de infraestructura y organización, y vitaliza las ‘relaciones de pertenencia mutua’. Los contenidos y la distribución de los derechos son, al mismo tiempo, objetos de contestación interna y externa, productos de las relaciones de poder, y una relación de poder en sí mismos.

El **Capítulo 3** estudia lo ‘meta-’ detrás de lo ‘físico’ en el control del agua andino, a la vez que muestra ‘lo político’ detrás de la construcción metafísica de la realidad del agua: actual e históricamente, la gestión local del agua ha estado conectada a políticas más amplias de identificación e incorporación. Me enfoco sobre la conceptualización de la interdisciplinariedad intrínseca de los derechos de agua y los sistemas de control. Examinó la cultura y las políticas culturales del agua en los Andes como una entrada para ver cómo los derechos de agua comprenden ‘ámbitos’ distintos pero vinculados. Estos aplican diversos enfoques hacia ‘imaginar lo real’ (esto es, derechos de agua y sistemas de control). Los derechos de agua se manifiestan al mismo tiempo en la infraestructura, los patrones normativos y los marcos organizacionales, en su contexto político-económico y cultural. Tras presentar un panorama de los esfuerzos académicos por conceptualizar la ‘interdisciplinariedad’ en la gestión del agua, cuestiono la despolitización y la objetivización inherente a muchos de ellos y arguyo por la necesidad de reenmarcar los propios focos disciplinarios para permitir la interdisciplinariedad.

El **Capítulo 4** explica la manera en que los derechos de agua están embebidos en estrategias de sustento territoriales, economías campesinas y estructuras de poder más amplias. Presento los roles y tareas básicas de las organizaciones de riego, situándolas dentro del tira y afloja que hay entre las ‘esferas mercantiles y no mercantiles’ de la comunidad. Lejos de ser una construcción ideológica de solidaridad, la creación y reproducción material de la ‘comunidad de agua’ en el adverso contexto físico-político andino se basan en la dependencia mutua y la necesidad de cooperar intensamente; no pueden ser suplantadas por soluciones individuales, estatales o mercantiles. Indago sobre el intenso debate acerca de la ‘comunidad andina’ y detallo cómo muchos estudios continúan esencializando la comunidad y la cultura andinas en marcos binarios positivo/negativo separados de Occidente. Las imágenes de referencia y las representaciones políticas se toman de las manos. Argumento cómo los esfuerzos tanto de ‘reificación’ como de ‘articulación’ y ‘desempaquetamiento’ deniegan lo local. La práctica es más obstinada que estas enseñanzas académicas. Las comunidades y el control cotidiano del agua están repletas de divisiones de género, clase, edad y etnia; especifico cómo ‘comunidad’ es un esfuerzo, un proceso y una capacidad de materializar la interdependencia y dirigir la red sin límites que se constituye hacia los objetivos de gestión comunitaria del recurso.

El **Capítulo 5** examina los debates actuales sobre política hídrica y la manera en que los discursos se enfatizan en las ‘tradiciones’ de gestión del agua en la región, en los modelos internacionales y en los intereses privados de actores poderosos. Se detallan cuatro enfoques políticos divergentes. Si bien el manejo descentralizado de cuencas es la orientación política teórica, su efectividad es limitada. Muestro cómo los modelos divergentes fallan en su conceptualización de las cuencas como campos de encuentro entre repertorios legales plurales, y niegan enfrentar los temas de poder. Como muestro, para los grupos indígenas y campesinos esto lleva a conceptualizar el Estado y su sistema legal simultáneamente como una construcción ideológica benéfica,

un conjunto de instituciones y agentes discriminadores, y un campo de batalla para construir un ‘Estado de derecho público democrático’. Sus esfuerzos por el reconocimiento legal no remplazan, sino que complementan sus luchas ‘en el campo’.

A lo largo de la historia andina, los grupos dominantes han usado los íntimos vínculos entre inversión de fuerza de trabajo, creación de propiedad de agua y formación de identidades. El **Capítulo 6** muestra cómo Incas, españoles y hacendados los manipularon y confiscaron, combinando una explotación directa con ‘pactos de reciprocidad’ y tácticas de organización cultural. Tradicionalmente, los mecanismos de ‘poder coercitivo’ fueron aplicados para generar comunidades y usuarios obedientes. Detallo sus preceptos principales, tales como exclusión, desigualdad, control desde arriba y violencia visible. Junto a ciertas ideologías modernistas de igualdad, aparentemente ocurrió un cambio hacia la inclusión de los subalternos. Analizo el modo en que las ‘técnicas de poder capilar’ de manera sutil involucran a la gente en su propia sumisión como ‘ciudadanos potencialmente iguales en Estados indivisos’. La autoidentificación y autocorrección de los derechos, identidades, deseos y prácticas de agua prevén su participación, entre otros, en un juego normalizador del control del agua que calza con los intereses extractivos y de control de los grupos dominantes. Muestro cómo estos modos de poder subordinantes no se remplazan mutuamente, sino que coexisten e interactúan estratégicamente. Por medio de una continuidad de doble cara y en combinaciones híbridas, se alternan y así incrementan la capacidad de dominación de los grupos dominantes sobre las sociedades de agua y estabilizan la subyugación.

El **Capítulo 7** detalla cómo la modernización del riego en la región, de manera consciente o no, prevé la ingenierización sociotécnica de los ‘sistemas hidropolíticos imaginarios’ en que todos los componentes humanos y no humanos se alinean productivamente. Analizo los diseños hidráulicos y las técnicas de gobernanza para ver cómo los modernos ‘derechos de agua funcionales’, ‘horarios eficientes’, ‘uso racional de tierra y agua’, ‘bloques hidráulicos manejables’, etc. se entrelazan de manera estratégica para externalizar el control. Por tanto, también específico cómo los derechos de agua y los diseños tecnológicos despolitizan los programas para crear un orden político particular. Para ello, entrelazan los ‘códigos morales’, la ‘urgencia moral’ y los actos de ‘bombardeo moral’ para inducir un ‘cambio de régimen’ y vincular las sociedades de microcontrol de agua con las escalas de meso y macrogobernanza. Aunque su materialización es contestada e incluso poco realista, la convicción modernista de que concretar el sistema hidropolítico imaginario es racional y moralmente *necesario* influye poderosamente en las políticas y prácticas de intervención.

El **Capítulo 8** examina las políticas del reconocimiento legal y las políticas de confinamiento codificado. La autonomía y la diversidad de los derechos de agua en los Andes son un gran obstáculo para las agencias de agua, las élites y quienes ponen en vigor la ley, ya que las instituciones estatales y mercantiles requieren de un campo de juego predecible y uniforme. Los órdenes de derecho local son vistos como un desorden irracional e intangible. Aquí estudio las diversas maneras en que la legislación en la región ha tendido a rechazar, frenar o asimilar esta ‘desobediencia en derechos de agua’ para que el *statu quo* no se vea desafiado. El Perú, el Ecuador y Chile ilustran cómo las políticas de reconocimiento no son sólo respuestas a demandas de grupos subyugados por una mayor autonomía. El re-conocimiento a menudo apunta a una re-presentación y transformación de una realidad compleja para hacer que el comportamiento de los usuarios sea algo ‘tangible’. Para asimilar a las comunidades usuarias, juegos sutiles las invaden desde abajo, aparentemente reconociendo sus derechos pero absorbiéndolas en un estado acaparador y en un marco mercantil que las hace competir como ‘iguales’ frente a grupos (trans)nacionales interesados en el agua.

En la década pasada, los programas de modernización neoliberal han promovido grandes reformas para transformar profundamente las sociedades de agua andinas y sus repertorios culturales y legales. Han recibido un poderoso espaldarazo de parte de las élites nacionales y de los institutos de política internacionales, quienes a menudo han impuesto el ‘experimento chileno’ en los países vecinos. El moralismo de los derechos privados, la reasignación de los derechos de agua mercantiles, la eculización de usuarios y derechos, y la racionalidad económico-científica naturalizada forman la médula del discurso. El **Capítulo 9** muestra que estos discursos de modernización guardan una semejanza notable con los anteriores esfuerzos que también asociaban la ‘civilización de los atrasados’ con la inducción de derechos de propiedad privados. Los derechos y usos colectivos del agua de comunidades indígenas y campesinas son etiquetados como ‘anomalías’ que requieren de una

normalización neoliberal o que merecen marchitarse por ser antimodernos. Si bien el capítulo ilustra los enormes errores conceptuales y prácticos del modelo neoliberal, son precisamente los colectivos locales los que son culpados, o llevados a culparse a sí mismos, por su atraso y su colapso bajo el neoliberalismo. Paradójicamente, los remedios para tratarlos pretenden incluirlos en el modelo liberal, atacando críticamente la propia racionalidad de los repertorios de derechos de agua locales y los prospectos de un control del agua más equitativo, democrático y eficiente.

En el **Capítulo 10** detallo cómo las ‘redes expertas’ a menudo contribuyen a estandarizar los derechos de agua locales, universalizando las normas de ‘buen gobierno’ y poniendo al margen las instituciones locales de agua por medio de una modernización planificada. Los casos de intervención en el Perú y el Ecuador ilustran cómo la naturaleza objetivizadora de sus torres de marfil de modelamiento hidropolítico (ya sea desde arriba o participativa) tiende a separar la planificación racional y las intervenciones hídricas de la propia capacidad de *imaginar* su impacto sobre la vida real de las familias y colectivos de usuarios. Al rechazar la subjetividad de los expertos y las relaciones poder/conocimiento, se presenta la ‘exactitud técnica’ como si estuviera basada en leyes neutrales, carentes de significado moral, cultural o político. La experticia positivista del agua venera la ilusión de que se pueden disolver de la práctica diaria y, sin embargo, continuar con la penetración y juzgamiento ‘objetivos’ esta misma realidad. La expertocracia asume a menudo que tiene la autoridad para definir a quienes usan el recurso como ‘clientes’ y determinar sus necesidades de agua. La ‘racionalización del uso del agua’ con frecuencia se manifiesta como el remplazo de las necesidades, las normas morales y los conocimientos existentes. Para entender este remodelamiento sistemático de normas, conocimiento y control ‘valiosos’ del agua, escruto las raíces de la racionalidad experta. También explico por qué la intervención despolitizada en los Andes podría profundizar los problemas de escasez de agua en vez de resolverlos, y por qué el discurso dominante de GIRH, que vincula ingeniería hidráulica de alta tecnología con economía neoinstitucionalista, tiende a fortalecer la dependencia del ‘mercado de expertos’ más que a promover la autogobernanza que promulga.

Tanto en las leyes estatales como en las locales, la asignación del agua está marcadamente sesgada hacia los usuarios masculinos. El **Capítulo 11** especifica los cuatro ‘regímenes monoculares de representación’ más influyentes relacionados con ‘género y derechos de agua’ en los Andes. La evidencia de los casos revela sesgos, y cómo estos amputan y objetivizan la realidad y promueven sus propias perspectivas. Luego, más allá de los temas de exactitud de tal visibilización, el capítulo estudia los nexos entre visibilidad, poder y control, y reta la presunción de la corriente principal acerca de que ‘hacer visible’ en forma genérica -a las campesinas (o género, campesinos, gente indígena)- siempre va a favorecer sus intereses. Analizo los riesgos de la ‘subordinación por iluminación’ de los enfoques ‘incluyentes’ que pretenden una visibilización general de los actores subyugados, sus derechos, recursos, objetivos y estrategias, a la vez que invisibilizan las estrategias del poder dominante. Las campesinas (y campesinos), aparte de desafiar (o usar estratégicamente) su ‘representación errónea’ por parte de estas visiones divinas elitistas, también activamente estructuran su propia visibilización y deciden cómo, cuándo y dónde se presentan como su propia resolución estratégica. Pueden intermitentemente adoptar etiquetas de clase, etnia y género u otras herramientas de representación, así como otros discursos relacionados con el agua que difieren de acuerdo con los escenarios en los cuales sus intereses se desafían y defienden.

Los derechos de agua se negocian y ponen en vigor en procesos de lucha social. El **Capítulo 12** explica cómo las luchas por el agua de los grupos subyugados no puede entenderse sin tomar en cuenta su enraizamiento en ‘resacas’ dinámicas: los cimientos ‘multicapas’, a menudo ocultos, de los derechos de agua en las comunidades andinas. Como muestro, en estas capas, donde se entrelazan fuentes legales plurales, estrategias de sustento y relaciones comunitarias, material y discursivamente se estructuran los derechos de agua vivientes. En medio de enconadas disputas internas acerca de los arreglos sobre los derechos, se construyen ‘bases socio-territoriales’ donde se entrelazan los ámbitos del control hídrico. Las resacas también constituyen bases para subir de escala las batallas por la defensa de sus derechos hacia redes político-legales más amplias. En el ámbito público, esto a menudo está disfrazado en formas políticas: por medio de escudos y estrategias de ‘mimetismo’ que también permiten hacer uso de los medios de poder de quienes gobiernan. La creación y la proliferación subsuperficiales y dinámicas de los repertorios sociolegales del agua constituyen una fuerte base y fuente de defensa contra la usurpación de los derechos de agua y contra las políticas disciplinarias.

El **Capítulo 13** se centra en las luchas de los usuarios y usuarias de agua y sus comunidades para localizar y remoralizar sus sistemas y ‘territorios de agua’, desafiando al mismo tiempo la opresión clasista, la discriminación de género y la subordinación racista. Estas luchas ‘hacen volver a casa’ la imaginación y la construcción creativas y colectivas del diseño sociotécnico y así se rebelan contra la pérdida de fantasía de los sistemas hidropolíticos imaginarios. Los casos ilustran que para entender los derechos de agua –como herramientas funcionales, como armas y como campos de batalla- es urgente ver más allá de los derechos de referencia y enfocar sobre la naturaleza de las reglas en la acción sociotécnica y cultural-política. Aquí ilustro cómo tal lucha para des-colonizar los órdenes simbólico y político de la gobernanza del agua crea vínculos entre los derechos de agua re-embebidos, los recursos re-distribuidos, la tecnología de riego re-moralizada, las líneas de comando re-estructuradas, y los métodos y categorías de identificación re-definidos. Muy lejos de esquemas abstractos (universalistas o panandinos), en las confrontaciones cotidianas los colectivos andinos desafían los derechos e identidades de agua asignados a ellos y construyen nuevos como herramientas estratégicas para adquirir autonomía en el control hídrico. El copiar e incorporar selectivamente estructuras, recursos y símbolos externos es algo inherente a su estrategia. Si bien hay conflictos abiertos presentes, como explico, formas sutiles de ‘resistencia en rizoma’, ‘técnicas de imitación’ y control sobre ‘mimetismo’ a menudo son parte del núcleo de la resistencia. Para resistir la normalización, los actos de fusión y confusión se unen estratégicamente en la ‘resistencia como con-fusión’. Más que sólo ir contracorriente, las estrategias más eficaces parecen construirse sobre la profundización y la extensión de una pluralidad no conformista.

El **Capítulo 14** reflexiona sobre los hallazgos de los capítulos. Las batallas sobre derechos de agua comúnmente no llevan a resultados finales; la investigación caracteriza sus fuerzas y estrategias opuestas, en las cuales entidades con intereses en conflicto y poderes desiguales ven una necesidad mutua de tomar deliberadamente los recursos, técnicas, normas y reglas del otro. Aquí, el Estado y las redes de expertos modernizantes y políticas neoliberales construyen ontológica y sociotécnicamente sus sujetos de agua. La falla profunda de la mayoría de los diseños legales y técnicos para ajustarse a las demandas locales y a la diversidad de derechos no es una prueba de su incapacidad: la meta no es ajustarse sino alterar y controlar, ajustar el universo de los usuarios y usuarias para que se alinee con las verdades, categorías y marcos de referencia ‘externos’. Reflexiono sobre los enfoques premodernistas, modernistas, posmodernistas y antimodernistas que comparten una característica fundamental: todas sus perspectivas sobre la diferencia y la igualdad producen indiferencia. Si bien los poderosos sistemas hidropolíticos imaginarios construyen ‘iguales potenciales’ pero fundamentalmente pierden de vista cómo la gente, hombres y mujeres, se relacionan de manera diversa y profunda con el agua, el sustento y entre ellos, los colectivos usuarios de agua locales desafían tanto las estrategias coercitivas como las participativas que regulan los límites entre lo ‘normal’ y lo ‘anormal’ en el control del agua. Cuestionan así la exclusividad y la autoevidencia de las reglas de agua estatales y mercantiles. Rechazan la distribución y la identidad del agua como un reflejo mecánico de las relaciones de poder dominantes y más bien buscan entrelazar conocimientos y luchas mutuas por la justicia hídrica. Al buscar y encontrar aliados, también dentro del Estado y de las redes expertas y otras, dan forma a sus proyectos políticos de agua y combaten la indiferencia. Se involucran en luchas por la redistribución y se resisten a las políticas dominantes de la verdad, extendiendo así el mundo de las definiciones locales-contextuales y los reclamos sobre la verdad acerca del agua.

Curriculum Vitae

Rutgerd Boelens was born in Meppel, the Netherlands, on 25 October 1965. In 1984 he started to study Tropical Land and Water Use (*Tropische Cultuurtechniek*) at Wageningen University, which he combined with working with solidarity organizations. He wrote M.Sc. theses with the departments of Rural Sociology (action-research on water development in Peru), Irrigation & Water Engineering (field research on water development in Zimbabwe), Rural Engineering (field research on land use systems in Spain), Communication Sciences (literature research on Grassroots Education), Social Philosophy (literature research on the social construction of water scarcity) and, again, Irrigation & Water Engineering (literature research on Andean irrigation). He finished his B.Sc. and M.Sc. degrees both with distinction, graduating in 1990.

For two years he worked in the Netherlands in the field of North-South solidarity. From 1992 to 1997 he lived in Ecuador, where he worked as an action-researcher and water management advisor on the subjects of interactive irrigation development, user-oriented water legislation, multiple-stakeholder watershed platforms, organizational strengthening, and customary water rights. He has worked with and in NGOs, peasant organizations, indigenous federations and water user platforms in the Andean countries.

Since 1998 he has joined the staff of the Irrigation & Water Engineering group at Wageningen University, working as a researcher, lecturer, and scientific program coordinator, on the issues of water rights, water policies, institutional development and the cultural politics of water control. Together with colleagues in Latin America, Europe, and the USA he has organized a number of congresses, research programs and action-research networks on water rights, identity and legal complexity. He is general coordinator (with United Nations-ECLAC) of the Water Law and Indigenous Rights (WALIR) program with researchers in Peru, Bolivia, Chile and Ecuador (and comparative cases in Mexico and the USA); and consortium coordinator for the inter-Andean Concertación program (water policy research and training in Bolivia, Peru and Ecuador). Along with his Ph.D. research and teaching courses in Wageningen he has organized and coordinated multi-annual NUFFIC water capacity-building programs in Bolivia, Ecuador and Peru; the ongoing, inter-Andean 'Course on Water, Law, Agronomy and Anthropology', and the documentary film program 'Tail-enders' on water rights in times of neo-liberalism (Ecuador, Spain, India). A new WOTRO integrated research program on water user federations and defense struggles in Peru and Ecuador starts in 2008. With the IEP Publishing House (Lima) he set up the Andean/Latin-American 'Water & Society' book series on water rights, water struggles and legal pluralism, for which he acts as coordinating Academic Editor.

He has published a number of books on the links among water rights, water cultures, water politics and power. His articles also deal with the issues of water law and property relations, water reforms and interventions, and their relationship with social mobilization, mediation processes and struggles over water resources, rights and authority.

Acronyms, Figures and Tables

Acronyms

ATDR	Administrador Técnico del Distrito de Riego (Peru)
CADEP	Centro Andino de Educación y Promoción (Peru)
CAMAREN	Consortio de Capacitación para el Manejo Sostenible de los Recursos Naturales Renovables (Ecuador)
CEDLA	Center for Latin American Research and Documentation (Netherlands)
Centro AGUA	Centro Andino para la Gestión y Uso del Agua (Bolivia)
CEPAL	Comisión Económica para América Latina y el Caribe de las Naciones Unidas / ECLAC - United Nations Economic Commission for Latin America and the Caribbean
CESA	Central Ecuatoriana de Servicios Agrícolas (Ecuador)
CGIAB	Comisión para la Gestión Integral del Agua (Bolivia)
CIDH	Comisión Interamericana de Derechos Humanos
CNRH	Consejo Nacional de Recursos Hídricos (Ecuador)
CODERECH	Corporación de Desarrollo Regional de Chimborazo (Ecuador)
CODOCAL	Corporación de Organizaciones Campesinas de Licto (Ecuador)
COMADES	Comité de Defensa del Medio Ambiente y de Desarrollo Sostenible (Peru)
CONACAMI	Confederación Nacional de Comunidades del Perú Afectadas por la Minería
CONAIE	Confederación de Nacionalidades Indígenas del Ecuador (Ecuador)
CORSICEN	Corporación de Desarrollo Regional Sierra Centro (Ecuador)
DGIS	Directoraat Generaal Internationale Samenwerking (Netherlands)
FAO	United Nations Food and Agriculture Organization
FEDURIC	Federación de Usuarios de Riego de Cotopaxi (Ecuador)
FMIS	Farmer Managed Irrigation Systems
FONCODES	Fondo Nacional de Cooperación para el Desarrollo (Peru)
Foro RRHH	Foro de los Recursos Hídricos (Ecuador)
FTAA	Free Trade Area of the Americas / ALCA - Área de Libre Comercio de las Américas
GID	Gender in Development
IMF	International Monetary Fund
INERHI	Instituto Ecuatoriano de Recursos Hidráulicos (Ecuador)
IDB	InterAmerican Development Bank
IEP	Instituto de Estudios Peruanos
IFPRI	International Food Policy Research Institute
ILO	International Labor Organization
IMT	Irrigation Management Transfer
INDA	Instituto Nacional de Desarrollo Agrario (Ecuador)
IPROGA	Instituto de Promoción para la Gestión del Agua (Peru)
IWE	Irrigation and Water Engineering Group, Wageningen University (Netherlands)
IWMI	International Water Management Institute
IWRM	Integrated Water Resource Management
MAS	Movimiento al Socialismo (Bolivia)
NAFTA	North American Free Trade Agreement
NUFFIC	Netherlands Organization for International Cooperation in Higher Education
PCR	Plan de Cultivo y Riego (Peru)
PES	Payment for Environmental Services
PPP	Public Private Partnership
PRATEC	Proyecto Andino de Tecnología Campesina (Peru)

SCOT	Social Construction of Technology
SINAMOS	Sistema Nacional de Mobilización Social (Peru)
SNV	Netherlands Development Organization
COSUDE	Agencia Suiza para el Desarrollo y la Cooperación / SDC Swiss Agency for Development and Cooperation
WALIR	Water Law and Indigenous Rights
WID	Women in Development
WOTRO	
NWO-WOTRO	Netherlands Organization for Scientific Research – Foundation for the Advancement of Tropical Research
WTO	World Trade Organization
ZOPP	Zielorientierte Projektplanung / GOPP – Goal Oriented Project Planning

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