Water Justice : Blatant grabbing practices, subtle recognition politics and the struggles for fair water worlds

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Blatant grabbing practices, subtle recognition politics and the struggles for fair water worlds

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Learning outcomes

- Explore the multiple ways in which water injustices are expressed.
- Learn that water conflicts are as much about quantities and qualities of water as about meanings, values, truths and knowledges.
- Consider the consequences of presenting water problems as merely technical and managerial issues and 'natural harms'.
- Think about the intimate connection between people, space, identity and struggles for water.
- Develop familiarity with the specificities of water justice research.

Introduction[1]

Today, the governance of water resources primarily concerns the combined socio-political, biophysical and technological issues of how to conserve, make available, allocate and organize water among competing uses and users. Water's decreasing availability and quality, and its unequal distribution, lead to growing pressures on society and nature, threatening future availability and intensifying conflicts. At the same time, the water pollution problem is also growing, as is vulnerability to flood risks, partly triggered by climate change. All these factors raise new questions about differential access to socio-environmental health, protection and security.

For this reason, issues of sustainability and **ecological integrity** in water governance cannot be dealt with in isolation from questions of fairness, solidarity and justice. Instead, the focus must be on the pressing societal problems of how rights and access to water and water-related decision-making are distributed along lines of class, gender, caste and ethnicity in the Global South and North. In many countries, contemporary water policies and legislative measures have tended to aggravate historically rooted inequalities rather than solving them; small-holder irrigator communities, Indigenous territories, or local drinking water committees, often with context-based water practices, are constantly overruled by bureaucratic water administrations, market-driven water policies, desk-invented legislation and top-down project intervention practices.

In this context, Eduardo Galeano's words from *News about the Nobodies* give a fitting background to the issue of water justice:

> Up till recently, poverty was the fruit of injustice. But times have changed greatly: now, poverty is the just punishment that inefficiency deserves, or simply a way of expressing the natural order of things. The world has never been so unfair in dividing up the resources, but the system that governs the world—now discretely called 'the market economy'—takes a daily dip in the bath of impunity.
>
> (Galeano, 1996, p. 1)

As for justice in general, many of today's water dispossessions and unfair accumulation practices find their legitimization in discourses of efficiency and arguments of rationality. And, commonly, those blamed for water governance problems are not the water-grabbing elites and industries, but rather those who suffer from large-scale water injustices—the presumed 'inefficient nobodies'. At the same time, water scarcity tends to be presented as a natural phenomenon rather than as something stemming from deeply political distributive choices. Social norms, policy agreements and scientific standards in water governance naturalize and normalize injustices and inequities, with water policies often endorsing rather than questioning the concentration of water rights in the hands of a few private powerful actors (e.g., Boelens et al., 2018; Perreault, 2014; Venot and Clement, 2013). For instance, the activities of agro-export companies, extractive industries and large-scale hydropower developments become ever more difficult to control as their operations transcend traditional jurisdictions of national water authorities (Menga and Swyngedouw, 2018; Yacoub et al., 2015; Zwarteveen, 2015). In contemporary water debates and governance frameworks, legalistic prescriptions, technocratic water expert formulas and/or neoliberal rationalities and concepts that presume that water is and should be a commodity, preferably a private right, to be managed by the market laws of supply and demand are presented as objective, neutral or even 'natural'. They are now so dominant that they have come to be accepted as normal and inevitable. This makes it difficult to recognize them and identify their true nature: of deeply ideological views and normative ideas that give a strongly biased representation of water realities, their problems and their solutions (Zwarteveen and Boelens, 2014).

Therefore, in line with Galeano's observations, there is a need to reflect on how water policy discourses, models and associated knowledge commonly justify far-reaching redistributions of water which often entail a profoundly unequal distribution of costs and benefits for different groups. Water (in)justices are as much about quantities and qualities of water and modes of access and distribution, as they are about meanings, discourses, truths and knowledges. They also include matters of authority and legitimacy, which extend into questions of culture, territory and identity (Roth et al., 2005, 2015; Zwarteveen et al., 2005).

Notions of justice, fairness or equity in water control and governance are commonly hidden in specific rules, categories or cultural codes of conduct that tend to remain unquestioned and outside of critical scrutiny because they appeal to what is considered 'normal', 'true' or 'natural'. Exposing and examining these '**truth regimes**' is central for questioning water injustices for the following reasons. As influential discourses, they interconnect power and knowledge—and the more power they represent, the more 'truthful' become the water knowledge claims they manifest and, consequently, the more other forms of water knowledge (for example, of peasant and Indigenous communities, women or poor neighborhoods) are subjugated or obliterated (Foucault, 1975). From this analysis, alternative ways of governing water and ordering societies may emerge based on important ideas from protest

movements and actions 'from below' which suggest that alternative modes of understanding and dealing with water are not only possible, but necessary.

Identifying and describing particular water realities or water allocations as either just or unjust cannot be done from the stance of an independent outsider, but, rather, always implies engagements that need to be made as explicit as possible (Baviskar, 2007; Haraway, 1991). An examination of the multiple layers of water injustice, ranging from brutal, 'visible' water-grabbing and pollution practices to the subtle politics of misrecognition and exclusion, as well as the covert techniques of equalization and subjugation, requires making our own claims to truth about equitable water governance and management manifest and explicit, in particular in interactions with those who experience water injustices in their everyday lives. This chapter seeks a water justice perspective that is grounded and relational, and engages with the realities, questions, needs and opportunities of those who have less voice and fewer rights in terms of water.

Complementary modes and interactive practices of 'water injustice'

In general terms, new concerns of water governance have triggered a new mix of scientific fields and intervention professionals populating the water policy-making, management and project development arena, be it with a strong presence from the domains of economics and natural resource governance. Environmental concerns have become increasingly prominent, and many water policies and projects have been converted (substantially or discursively) into climate change policy agendas. At the same time, water development and management are no longer the exclusive realm of the state, with knowledge and decision-making powers only concentrated in powerful public agencies and their associated engineers. Partly because of neoliberal reforms, private companies and civil society organizations have now become important actors in water policy arenas (Bakker, 2010; Molle et al., 2009; Swyngedouw, 2015), and the scales of water governance and notions of territorial sovereignty have changed profoundly. Water allocation and policy-making increasingly reside with global policy institutes and international companies, and water management accountability is ever more linked to anonymous transnational companies and global market forces, rather than to governments or local water-user collectives (Vos and Hinojosa, 2016; Zwarteveen, 2015).

Therefore, although competition for and conflicts about water are increasing, the question of who is responsible for the governance, allocation and control of water is becoming ever less clear: multiple new private-sector actors, invisible market mechanisms and global de-territorialized policy institutes now have a far stronger influence on local, national and transnational rule-making. This has a deep impact on aggravating already existing water injustice patterns. Manifestations of these developments range from brutal water grabs to much more subtle forms of misrecognition and exclusion, the effects of which may nevertheless be as dramatic or even more so.

The resulting water control conflicts and contradictions make clear that distributive, cultural and representational water injustices are closely entwined (see also Fraser, 2000; Schlosberg, 2004). Respectively, they deal with the (unequal) division of burdens and benefits of distributing water resources and services (see also Chapter 3 of this volume); (dis) respecting the socio-cultural diversity of water norms, rules and knowledge systems and the ways in which water-based environments are used, managed and controlled (see also Chapter 5 of this volume); and who is included or excluded from (co)decide-making; and on what basis of legitimacy, authority or power (see also Chapter 4 of this volume). The three issues

are intimately connected to struggles for socio-ecological integrity ('sustainability') against injustice, in terms of socio-environmental transformations: people and water, humans and nature, co-constitute and depend on each other, and so do present-day and future generations. **Water justice**, therefore, conceptually and politically, can be situated in the field of the political ecology of water, which may be defined as: "the politics and power relationships that shape human knowledge of and intervention in the water world, leading to forms of governing nature and people, at once and at different scales, to produce particular hydro-social order" (Boelens, 2015a, p. 9).

Water distributive inequities

A violent, spectacular form of growing water injustice is **water-grabbing**: the phenomenon involving wealthy investors and transnational companies buying up land in countries in the Global South to produce food, flowers or green fuels for export, as discussed in Chapter 14. This land is worth little if not accompanied with access to water. In most cases, therefore, land grabs are in fact water grabs, a process that works to displace and literally dry out existing users and producers (Veldwisch et al., 2018). This 'hydro-colonialism' goes beyond classic North—South opposition, as the research NGO GRAIN explains. In recent years, companies from Asia have bought more than 10 million hectares in the Nile basin to grow export crops that need water far beyond the entire water availability of the basin: a "hydrological suicide" (GRAIN, 2013, p. 25).

Box 16.1 Agro-export or food security? Unequal water allocation and access patterns

In general, national water policies, in particular in the Global South (but similarly in Northern hemisphere regions on occasion), are elite- and business-driven: they tend to respond to the (often short-term, extractive) commercial interests of market players looking for economic gains for their companies, rather than catering for the needs of national and local food and water security. So, in law, policy and project intervention practice, water is allocated to where 'its marginal returns are highest', to promote commercial export crops that earn money, but also replacing food crops and so endangering people's food security. A case in point is Ecuador: Gaybor (2011) explains how water allocation policies in the country work to accumulate water in the hands of the already wealthy. Official figures show how, nationally, capitalist farmers who constitute the private sector—with, for instance, large banana plantation companies, flower and other luxury crop farms, and wealthy animal husbandry 'hacienda' estates—represent only 1% of farms, but consume not less than 67% of the total available water flow. Peasant-Indigenous families working with community irrigation systems—whose produce is for home consumption and the local and national food security markets—represent 86% of water users, but only own 22% of irrigated land. What is even worse, they have access to a mere 13% of the total allocated water flow. In some provinces, water allocation inequality is outright appalling. In Imbabura Province in northern Ecuador, for example, the landlords account for 91% of the total flow (Gaybor, 2011, p. 200). According to Gaybor, actual water distribution is even more burdensome than these official figures show, as more than half of the water used by large-scale agribusiness companies is not registered but illegally tapped.

On a worldwide scale, from India to South Africa to Israel, majorities of subsistence farmers face dispossession of their water in favor of commercial farming sectors that produce high-value export products (Veldwisch et al., 2018; Woodhouse, 2012; Zeitoun et al., 2009). Poor families are gradually deprived of the water supplies that they used to access because of declining water levels. In this race to the bottom, to the deepest layers of groundwater, only those who can afford the cost of powerful pumping stations can access this resource. Such encroachments are often actively encouraged by national policies, supporting the 'more productive use of water' and investments in infrastructure by private companies. For instance, in Peru's Ica desert valley, with its fertile soils and strategic location near the capital Lima, rainfall is close to zero. Groundwater is the main resource for thousands of small farmers, and the valley has always been the 'food basket' for the megacity and its surroundings.[2] For the past decade, however, the aquifer has been dramatically over-extracted with a water table (groundwater level) dropping nearly 1 meter per year (Cárdenas, 2012). With significant government support and public funds, new agro-export companies have purchased most of the valley's land to produce high-consumptive export crops such as asparagus, grapes and vegetables. Small and medium-sized farmers are marginalized, and their wells have dried up. They cannot compete with the large owners' powerful water-pumping technologies. The agro-exporters, constituting 0.1% of the users, have amassed 36% of the water, while the smallholders, making up 71% of users, have access to only 9% (Cárdenas, 2012; Damonte and Boelens, 2019).

Encroachment of water territories by extractive industries is another illustrative example. Around the world, in the global North and South, mining companies appropriate upstream water sources, thereby diverting and polluting the downstream flows on which smallholders and Indigenous communities often depend. By buying up water rights and through their powerful presence in the area, mining companies take over de facto water control (e.g. Budds, 2010; Sosa and Zwarteveen, 2011; Stoltenborg and Boelens, 2016). Similarly, in many places, extractive hydrocarbon industries are increasingly dominating water control issues. As Bebbington et al. show, in Ecuador's Amazon region, approximately half of the total area is allotted in concessions to oil companies. In neighboring Peru, it is even worse, with nearly three-quarters of the Amazon region having been allotted to or subject to leasing by hydrocarbon transnationals (Bebbington et al., 2010, pp. 309–311). More generally, extractive industries place increasing pressure on water, requiring it for mining, hydrocarbon, agro-export and hydropower development and exploitation practices. These often systematically combine in capitalist 'Water-Food-Energy Nexus' projects, entailing large-scale hydraulic interventions and territorial transformations—thereby polluting or drying out downstream regions (Allouche et al., 2015).

Box 16.2 Rural to urban water transfers: drinking water for the poor?

Another visible (and often violent) water expropriation practice is when, in many other places in the world, the thirst of cities and industries is quenched at the expense of rural smallholders. Giving cities and industries higher allocational priorities is not necessarily inequitable per se, although it does often result from effective political–economic power lobbies (Hommes et al., 2019). Duarte-Abadía and Boelens (2019)

show how Andalusian rural users suffer water scarcity because luxurious tourist residences and golf courses in Málaga get priority. Large groups of subsistence farmers have lost their water rights. In principle, in nearly all countries, drinking water has priority over water for agriculture or for other water use sectors, and this is important to foster human rights and access to water. In practice, however—as Ioris (2016) explains for Lima; Goldman and Narayan (2019) for Bangalore; and Hommes et al. (2019) for cases around the world—these rural–urban water transfers, which are supposed to enhance 'water for all' and therefore quite frequently cite the 'Millennium Development Goals' and 'Human Right to Water' discourses, are often particularly beneficial to the elite city neighborhoods of the Global South. Radonic (2017) illustrates how in northwestern Mexico, the human right-to-water argument was mobilized to undermine Indigenous opposition to large-scale urban-biased infrastructure development, denying Indigenous rural water rights and fostering unequal water rights and access. Once inside the cities, access to water differs hugely between poor and rich urban neighborhoods, and between citizens and industries (e.g., Bakker, 2010; Damonte and Boelens, 2019). Many illustrative cases, such as the heavy metal poisoning of drinking water for the poorest neighborhoods in Flint, Michigan, make clear that the lack of water quantity and quality for particular population groups goes hand in hand with fundamental issues of ethnic discrimination, lack of economic power and political representation, as well as unscrupulous capitalist power-plays (Mohai, 2018; Perreault et al., 2018

The politics of recognition and participation: misrecognizing water normative diversity and controlling decision-making

As mentioned previously, water injustice combines issues of distribution with those of cultural recognition and political representation, in often complex and sometimes paradoxical ways (see Chapters 3–5 of this volume). Cultural, ethnic or gender discrimination cause not just exclusions and suffering, but also often constitute the implicit or explicit foundations for privileging the allocation of water rights to some over others. Exclusion from water-related decision-making may be quite open, based on caste, gender or ethnicity, but often it is less obvious—hidden, for instance, in the membership criteria of water-user organizations, or in behavioral norms in water-system operation and maintenance, or when accessing and using water (e.g., Bhushan Udas and Zwarteveen, 2005; Roth et al., 2005, 2015).

In on-the-ground water control, the existence of legal and institutional pluralism is a given. It produces a myriad of manifestations in everyday realities: **water rights**, rules, principles and authorities—of different origin and legitimization—co-exist and interact in the same water control territory. Local water institutions constitute a dynamic mixture of rules, principles and organizational forms from diverse normative sources. In many cases, they combine local, national and global rules, and mix Indigenous, colonial and current norms (see also Chapters 7 and 20 of this volume). Water-user collectives 'reconstruct' these norms in territory-grounded local law. Systems that at first glance seem to be irrational and disorderly, in practice are in fact a form of organized complexity. These '*living* water rights' often defend non-commodity water institutions as the backbone of the local community, while

taking a strategic approach to the market. Despite internal injustices and struggles, they too seek collective control.

In terms of **recognition**, in most countries, this diversity of context-based, 'intangible' water rights poses a tremendous problem for water bureaucrats, planners, and international companies. The existence of diverse water-user authorities, territorial autonomies and community rules that forbid water transfer to outside companies make state domination or free market operation very difficult, as to achieve this, the authorities need a level playing field. In practice, this situation triggers profound conflicts over legitimacy and political order. The question of which mechanisms of acquiring water rights and which allocation principles and management rules are to be considered legitimate is often an intrinsic part of struggles over water. Acceptance (rather than denial or rejection) of the existence of these plural normative/legal orders constitutes a pragmatic starting point for thinking about what water justice is or can be.

But existing forms of accessing, distributing and regulating water use (including Indigenous practices) often do not fit with newly proposed legal and policy arrangements, and recognition and participation then become tacit strategies to *make them fit*. Recognition politics may involve major pitfalls. By definition, recognition (and institutional participation) imply defining and creating institutions of access, property and control that represent particular forms of hierarchy between the 'recognizers' and the 'recognized', between the 'authorizers' and the 'authorized'.[3] Moreover, simply adding recognition and participation to distribution, without examining their precise characteristics, and without scrutinizing the normalizing powers that sustain them, may be detrimental to supporting initiatives for greater water justice.

Box 16.3 Integrated water resources management

A clear and influential example of an a-critical, a-contextual and a-historical 'adding on' of these three key notions can be found in the globalizing policy discourse of integrated water resources management (IWRM). Currently, IWRM is possibly the most significant water policy approach, mainstreamed in most countries of the world and placing great emphasis on recognition and participation of multiple stakeholders. In practice, however, IWRM is frequently used to legitimize 'participatory decisions' made by water experts or technocratic agencies which have crucial implications for distribution. Most IWRM strategies remain narrowly modernist and intervention-focused (Allen, 2006; Molle et al., 2009). They adhere to a market-based capitalist development model, construction of large-scale infrastructure and the formalization/uniformization ('recognition') of diverse water rights, to allow water to become transferable across uses and users. Following global templates, ironically, they 'reframe' the participation-recognition-distribution triangle to align it with the three basic ingredients of neoliberal typologies, popular in the policy-makers' world: namely, decentralized decision-making (multi-stakeholder participation), private property rights (recognition of users' rights) and markets (for equitable and efficient redistribution) (Boelens and Zwarteveen, 2005).

Equalization

The ideas of the prominent policy thinker and World Bank consultant Hernando de Soto serve to illustrate this subtle power game of entwining participation, recognition and redistribution. De Soto advocates the participation of the poor by recognizing their extralegal property rights, suggesting that this will lead to redistribution and overall welfare. Extralegal property rights (such as locally defined water rights) are known only to insiders and cannot be exchanged. Therefore, he argues, "these must be woven into a single system from which general principles of law can be drawn" (De Soto, 2000, p. 162). Helping developing countries to build formal property systems that embrace all their people, he states, is the new, civilizing mission of advanced nations and academics. His argument is that extralegal property owners wish to be recognized and participate, thus gaining freedom from their insecure, collective property relations. In short, they would like to join the win-win game of popular capitalism. His strategy of participation, integration and recognition of local rights and cultures appeals to common-sense notions of justice and equality. The hidden fundament, however, is one of the active destructions of **otherness**. De Soto posits that "private property is the most important institution of social and political integration, the vehicle for leading the population masses to respect for law and order, and preservation of the status quo" (2000, p. 196): the purpose of investigating local rights pluralism is, therefore, to include such rights in the uniform, formal property system that sustains the modern private property market economy.

In former days, the power strategies applied were based on force, inequality and the exclusion of the common people. Modern **equality** ideologies have radically changed the face of power: now 'others' need to be subtly seduced, included and made equal. Indeed, in modern water policies, everybody is potentially equal and *should be* equal. Evidence from around the world regarding water allocation and administration make clear, however, that this ideology of 'equality of all' is used not to abolish the enormously unequal distribution of water property or stop water-grabbing. In reality, making water users equal means oppressing their deviation from the formal rules, norms and rights. Despite the fact that the reference model of 'being equal' is, in practice, usually based on the class, gender, cultural standards and water interests of a powerful minority, the myth of a neutral legal justice framework is strong. Meanwhile, modern water policies are subtly imposing 'equalization' and 'commensuration' (Boelens, 2015b).

Alignment

At the same time, this imperative of equality makes it easy to measure to what extent 'others' deviate from the model (Foucault, 1975). Contemporary calls for inclusion and participatory stakeholder processes therefore need to be treated with caution. Indeed, 'making them normal'—according to outside standards and models—is at the heart of most modern water policies. Thus, neoliberal water policy discourses, for example, not only assume the existence of universally valid values and rules, but also actively establish them (Achterhuis et al., 2010). The production of water knowledge, disciplines and truths—and the ways these inform the shaping of particular water systems, rules and technologies—increasingly concentrates on the effort to align local people, mindsets, identities and resources with the interests and water worlds as imagined by national and global water-power hierarchies.

Across the world, modernist water development projects deploy new forms of governmentality (Foucault, 1991): as Foucault argued, they induce 'governors-mentality' and

'government-rationality', different subtle and less subtle 'arts of government'. In fact, through introducing new water technologies and institutions, they entail a re-patterning of water space and territory: reshaping rules and authority, redirecting labor and production, inducing new norms and values, and rearranging people in new, externally driven water governance environments. Many of the designs that underlie these water development projects, far beyond just installing new hydraulic technology, introduce new management hierarchies, commoditized (or privatized) water resources or services, and new legal frameworks, hostile to the survival of existing water-user collectives. It is plain to see that the norms embedded in these new designs—in irrigation and drinking water systems, watershed projects, **payment-for-environmental services** programs, etc.—though subtly framed in terms of progress and inclusion, fundamentally externalize users' knowledge, agency and authority. These designs are therefore not just 'technical' but simultaneously hydraulic, legal, political and organizational. New hydraulic power grids, commonly linked to nation-state authority, markets and companies, de-pattern and re-pattern local water control systems to establish so-called rational frames of 'water order' (Hommes et al., 2016; Duarte-Abadía et al., 2015). So, a fundamental question is: how is socio-natural order produced (and contested) via the control over water resources, infrastructure, investments, knowledge, truth and, ultimately, water users and authorities? Different groups imagine and realize their wished-for 'territory' differently; they compete and struggle over the definition and composition of its boundaries, elements and meanings to shape their territorial puzzle. Interconnected by their water flows, hydraulic technologies and water governance, these territorial components and definitions are simultaneously social, technological and natural, a **hydro-social territory**[4]: the territorial elements, boundaries, interlinkages and meanings are always, and necessarily, disputed. A fundamental question, therefore, is how governmentality projects try to re-pattern diverse water worlds and align humans, nature and thought within dominant hydro-social territories (Hommes et al., 2016). The next question is: how do people challenge and re-moralize these techno-political water systems to make their *own* water societies? And how do opposing and overlapping configurations shape 'territorial pluralism'? (Hoogesteger et al., 2016).

In contemporary water policy worlds, participatory and equalizing governance techniques to include, control and contain water-user collectives often do not replace the brutal force of former top-down imposition but, in many instances, they have the effect of complementing it. Most water expert institutes maintain the conviction that it is morally necessary to fight irrational water use and make out that all people speak the same water language. Consequently, nowadays, 'making water use and rights rational' has become a missionary process of substituting relationships of community, local property, knowledge and ethics.

In practice, the non-functionality of most mainstream water policy models and their support for large-scale water injustices does not seem to weaken their force. It is often assumed that water policies' non-adaptation to local reality is a proof of their incapacity. However, usually, their aim is not to adapt to local contexts, but to transform and control them: it is the water users' world that must be adapted, and local rights are often seen as systems that are beyond justice and control.

While most water justice studies focus on large-scale water-grabbing, there is also an urgent need to focus also, and in particular, on the manifold, invisible, everyday, bottom-up forms of encroachment upon local water societies. In many such cases, water dramas do not occur intentionally, and injustices are not committed on purpose. On the contrary, the intentions and interventions are generally highly moral, rational, development-oriented and, as current policy-language goes, 'pro-poor'.

A relational and engaged understanding of water justice: entwining layers, scales and actors

Water, as a fundamental life-enabling and life-threatening force, may generate strong collaboration and intense conflicts. Its deeply contested nature—in terms of meaning, values and ways to allocate and govern diverse waters—mean that water control conflicts are everywhere. These disputes occur over how water is to be used, distributed, managed, treated or talked about. While some of these conflicts may be open and visible, mostly they occur in subtler, less directly discernible ways. Both open water and subsurface water disputations evidence the fact that such contestations are not just about accessing and allocating water quality and quantity. Analytically, four interrelated echelons may be distinguished ('echelons of rights analysis' [ERA]: Boelens, 2015b; Boelens and Zwarteveen, 2005; Zwarteveen et al., 2005).

At a basic level, there is the dispute concerning access to and use of water-related resources: namely, which users and use-sectors have access to water, hydraulic infrastructure and the material and financial means to use and manage water resources. At the next level, there is contestation over the contents of rules and rights: the formulation and substance of water rights, management rules and laws that determine water distribution and allocation. At the third echelon, we see the struggle over the authority and **legitimacy** to make and enforce those water rights and rules: that is, who has the decision-making power about questions of water use, allocation and governance. And fourth, there is the conflict among *discourses*: the power-knowledge regimes that articulate water problems and solutions and make fixed linkages and standard logical relations between concepts, actors and objects, defining their identity, substance, position and hierarchies. These four echelons are intrinsically related; conflict and outcomes at one echelon define the contents and contestations at the next echelon. The struggle over discourses, the fourth echelon, is about inducing a coherent regime of representation that strategically links the previous echelons together and makes their contents and linkages appear natural, as the moral or scientific 'order of things'. Together, contestations over these four echelons range from defending/opposing current distributive inequalities and undemocratic forms of representation to conserving/challenging the very politics of truth itself, including the identities that are imposed upon marginalized water cultures and user groups by state and market-based governmentalities.

Attention to the cultural embeddedness, plurality and complexity of water rights requires a shift of focus, away from exclusive attention to formal structures and regulations towards an interest in how and by whom water rights and governance forms are produced, reproduced and transformed in particular ecological and cultural settings. It also deals with how people experience water laws (formal and informal) in the context of their own local society and how they use them as a crucial resource in their day-to-day aspirations and struggles (Roth et al., 2005, 2015). In their efforts, these water cultures continually re-invent rules and identities and traditions. Water-user collectives and federations know that their existence depends on defending their water rights and rule-making spaces, and so they continue to create non-conformity and complexities, while at the same time trying to achieve representation and bring about changes in the policy institutes, intervention projects and state institutional network.

Most water-user communities integrate with national and international policies, markets and partnerships, embedding the local in the global and the global in the local. Conflicts over water governmentality involve community–state contradictions, and conflicts among local smallholders and new water lords, as well as with the transnational extractive industries that operate across spatial scales. In many regions, grassroots organizations build multi-actor

federations to contest the neoliberalization of water, the negative effects of dams, water pollution, the separation of water rights and decision-making powers from local livelihoods, and policies and actions that attack rights pluralism, polycentrism and the integrity of their territories (e.g. Duarte-Abadía et al., 2019; Hoogesteger and Verzijl, 2015; Romano, 2017). Such networks also show that state, scientific and policy-making communities are not monolithic. Many state employees, professionals and scientists struggle *from within*, forming alliances with water-user groups to capture cross-scale opportunities. As Benford and Snow (2000) observe, social movements also need to frame their demands in ways that align with the values and ideas of national political parties and/or the general public.

Fundamentally, struggles over water are contests over resources and legitimacy, the right to exist as water control communities, and the ability to define the nature of water problems and solutions. By connecting materiality with cultural–political struggles, they demand both the right to be equal *and* the right to be different: affected water-user communities tend to combine their struggle against highly unequal resource distribution with their demands for greater autonomy and sharing in water authority. In other words, the intimate connections between people, water, space and identity fuses their struggles for material access to and control of water use systems (**distributive justice**) and the ecological defense of their neighborhoods and territories (socio-ecological integrity) with their battle over the right to culturally define and politically organize these socio-natural systems (cultural and representational justice). Therefore, to understand grounded water justice, there is a need to move from universalist, descriptive theories that prescribe what water justice should be to focus on understanding how people on the ground experience and define water justice, in actual practice. Understanding the embeddedness of particular ideals of justice—the way these get constituted through social practices—requires a grounded, comparative and historical approach.

In the formal water policy and governance world, liberal, socialist, or neoliberal models of equality have generally tended to reflect the dominant water society's elitist, capitalist or scientific-expert mirror—ignoring peasant, Indigenous and women's interests and views. Beyond abstract de-humanized models, but also beyond localized romanticism, it is urgent to systematically explore the sources of water injustice, local views on fairness and the impacts of formal laws and justice policies on human beings and ecosystems. Indeed, understanding water justice calls for a contextual, grounded, relational approach (Joy et al., 2014; Perreault, 2014; Roth et al., 2005, 2018; Zwarteveen and Boelens, 2014).

Appeals for greater water justice call for identifying, comprehending and acting upon both overt water-grabbing and those forms of suffering that are concealed by the modernist water science–policy nexus. This requires combining grassroots, academic, activist and policy action. Water justice theories, as well as water justice movements, have much to gain through the critical integration of heterogeneity, bringing together a plurality of contexts, experiences, views, tools and strategies. A critical pluralism approach to water justice, therefore, abstains from universalizing counter-discourses, claims and concepts, but is not relativist, calling for critical articulation and engagement across contexts and differences (cf. Schlosberg, 2004). Accordingly, we may understand water justice as: "the interactive societal and academic endeavor to critically explore water knowledge production, allocation and governance and to combine struggles against water-based forms of material dispossession, cultural discrimination, political exclusion and ecological destruction, as rooted in particular contexts" (Boelens, 2015a: 34).

Water societies based on greater social justice cannot be engineered by scientists or policy-makers; they result from interweaving cross-cultural water knowledge and

cross-societal pressures from the bottom up. Research and action, therefore, should engage diverse water actors to discover multiple water-truths and worldviews and co-create transdisciplinary knowledge about understanding, transforming and distributing natural resources. The aim is to explore connections among the diverse and disparate ways of viewing and struggling for water justice. In short, water justice involves critical engagement with water movements, dispossessed water societies and, step by step, on the ground, the interactive formulation and construction of alternative hydro-social orders.

Follow-up questions

- How is water scarcity constructed and by whom?
- How are water dispossessions and unfair decision-making practices legitimized in discourses of efficiency and arguments of rationality?
- How can water justice studies, beyond the focus on large-scale water-grabbing, scrutinize the manifold invisible, bottom-up forms of encroachment upon local water societies; in particular, those as deployed by neoliberal and state-centred recognition politics, alignment policies and participation projects?
- How can the power dimensions of truth claims in water science and development be unravelled?
- How to link diverse (natural/social science, policy, vernacular, Indigenous, subaltern) bodies of knowledge, including those of activists, women and smallholder water users, and engage them on equal terms?

Notes

1 This chapter is largely based on Boelens et al. (2018); Roth et al. (2005); Zwarteveen and Boelens (2014).
2 On food, agriculture and environmental justice, see Chapter 14 of this volume.
3 On justice as recognition, see Chapter 5 of this volume.
4 Hydrosocial territory can be defined as: "the contested imaginary and socio-environmental materialization of a spatially bound multi-scalar network in which humans, water flows, ecological relations, hydraulic infrastructure, financial means, legal-administrative arrangements and cultural institutions and practices are interactively defined, aligned and mobilized through epistemological belief systems, political hierarchies and naturalizing discourses" (Boelens et al., 2016:2).

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