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The powers of water-user associations: on multiplicity, fluidity, and durability in the Peruvian Andes

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Abstract

In this article we use insights from institutional bricolage and actor-network theory to make sense of an Andean water user association (WUA) and its bricoleurs in the Region of Ayacucho, Peru. Rather than being designed and clearly defined, we see natural resource institutions as continuously performed and patched together, through heterogeneous elements and practices, by those that live, experience and enact these institutions every day and by those who make sense of them. We present three cases, three supra-community efforts to secure water livelihoods, in which the Ayacucho water user association is enacted differently. Similar actors and practices like, water law, local customs, water bodies, and ecological services are performed in alternate ways for diverse purposes. It is this range of co-existing performances or enactments and the fluidity of actors and bricoleurs which enables an institution to adapt and adjust. We hold that an Andean WUA can be a bureaucratic imposition, but in many ways the WUA is something else too: a strategic ally; a prerequisite for subsidy consideration, a marketplace for exchanging goods and services and more. In the setting of the contemporary Peruvian Andes, the durability of natural resource institutions can be understood through the fluidity and multiplicity of performances and purposes. This has normative and political implications for researchers and policymakers as to what enactment they consider and target.

Keywords

Andes; Ayacucho; institutional bricolage; performativity; Peru; water user association

1. Introduction: performing water user associations

We met with Untal Quispe, the technical manager of the Ayacucho water user association (WUA) or JUDRA [1] in 2008. He was sitting behind a steel desk, in the JUDRA office in the city of Ayacucho. Untal explained how the JUDRA was created at the turn of the century and how, at the time of our meeting, it counted with more than 40,000 water users in 48 subsidiary Irrigator Commissions which in turn were subdivided in 450 Irrigator Committees. From these, 22 Irrigator Commissions received water from the Rio Cachi multi-purpose project (PERC); the rest used local water sources for small-scale irrigation. Given the occasion, such as a first interview with a foreign researcher about what JUDRA is, Untal sounded like an irrigation bureaucrat: "our organization is legally in charge of tasks like water distribution and maintenance of the main infrastructure, as well as communication with the ATDR [local water authority]. According to the 'zero-fifty-seven' [2] [water law], the users have to pay a tariff to the JUDRA [and]... are obliged to participate in general meetings and maintenance work". In later conversations he told us that maintenance was handled by governmental agencies and that no tariff was collected, despite attempts being made; and that he, a water user himself and an agronomist and concerned father, was working in a voluntary capacity. Untal had to "make do" with the situation. So he took consultancies on the side, mostly with the same Irrigator Commissions he was assisting as technical manager. Untal also worked with us, as a research collaborator, observing WUA electoral practices in the field. His appearance in WUA spaces – as water user, manager, consultant, and researcher – is fluid and ambiguous, maybe shifty to some. There are many stories similar to Untal's, such as the women water users who use WUA meetings to sell *cancha* and other snacks, or irrigators that use these assemblies to communicate broader, often political party, issues. In this paper we try to make sense of the multi-layered and messy practices and relations of Andean water institutions.

The institutional bricolage approach holds that WUAs are intertwined in and constructed through everyday practices, and aims to understand 'how institutions work' (Cleaver and Franks 2005). It is a response to conventional mainstream thinking about natural resource institutions and its poor, often static and apolitical accounting of local complexities and fluid realities (Cleaver 2000, 361; see also Roth 2009, 195). In mainstream thinking, institutions, such as WUAs, are manifested as having a clear purpose, defined boundary and incentive to participate; with transparent roles, rules and accountability. Local activities are functional, predictable and amendable; which allows crafting and designing of robust and sustainable institutions (cf. Uphoff 1986; Ostrom 1992, 2009). This type of logic is repeatedly favoured among scholars and water management professionals because it aims for, and is believed to lead to, efficient and rational water management, predicated by property rights and rule-based arrangements. Institutional bricolage (Cleaver 2001; de Koning 2011) instead underlines that institutions, rather than designed, are patched or woven together (un)consciously; following diverse purposes and objectives; and by enrolling and mobilizing certain actors, and contesting and excluding others. Bricolage is, nicely phrased by de Certeau (1984, xiv–xv), about the "poetic ways of making do": a makeshift of "innumerable and infinitesimal transformations" that tinker with and (re)shape institutions to people's own purposes and practices. Processes of bricolage play with the heterogeneity of materials and meanings (see also Benouniche et al. 2014) and "can reach brilliant unforeseen results" (Lévi-Strauss 1966, 17).

We understand institutions are about 'what actors do' – to who or what they associate to bring into being a relational network. Bricoleurs are the intermediaries whose tinkering and patching constantly (re)configures this network, by which they themselves are shaped in return (cf. Cleaver 2012). In this article we explore how the water user association (WUA) of the Peruvian Irrigation District of Ayacucho, the JUDRA, is enacted (or performed [3]), through the situated practices of bricoleurs, to secure water and livelihoods at supra-community levels. We hold that acts of bricolage and 'making do' – be that by water users, WUA staff or even local water authority agencies – are part and parcel of everyday Andean water realities (Boelens 2008; Guevara-Gil 2011) and often allow or enable mainstream institutional logics or state administrative ordering (see also de Certeau 1984; Scott 1998).

Since the 1960s, the Peruvian state started extending water control to the Andean highlands, imposing WUAs and new forms of distribution (cf. Lynch 1988; Bolin 1990; Gelles 1996; Vera 2011). This bureaucratic transition, as Lynch (1991, 45) calls it, refers to "a process of technological, social and political change" in local Andean irrigation institutions that was brought on by an increased presence of governmental agencies and interventions; which in turn were actively pursued by communities (*ibid.*, 46). The result was "the imposition of bureaucratic culture" (*ibid.*) onto the local irrigation institutions that relied on historically and culturally embedded practices, customs and (ritual) performances (cf. Isbell 1978; Mitchel 1991; Vera and Zwartveen 2007; Boelens 2008). However, Gelles (1996, 105) posits at the turn of the century that in many Andean communities this "bureaucratic transition has yet to take place".

At first sight it seems Gelles' observation concurs with events in Ayacucho. Or maybe? It is possible that the interactions of different irrigation and water logics – of state agencies, administrative irrigation ordering and local Andean communities – instead of amending towards a single planned, robust and rational WUA, enact or perform different "versions" of it in ever complex, shifting and fluid realities. In some stories, water scholars and managers in Peru conclude that Andean WUAs are weak organizations, after decades of government and NGO interventions did not bring predicted outcomes (cf. Huamanchumo et al. 2008). This was also what regional government engineers, NGO development experts and even JUDRA staff reiterated to us in 2009: JUDRA could not comply with some of its principal tasks (obliged by law). Construction and maintenance of main infrastructure, water distribution and tariff collection were problematic (see also Guevara-Gil 2010). Paradoxically, we found that the JUDRA was a durable and influential actor in regional water governance. This suggests that there are other stories, of different practices and performances, that

make this so; and that these multiple performances interact and overlap – liaise, contradict, resist and support (see also Mol 2010).

In this paper we hope to contribute to ongoing debates on natural resource institutions and critical institutionalism by drawing on actor-network theory (ANT) to argue that water and common pool resource institutions, in this case the JUDRA, are performative at two levels. First level are the actors who live, and continuously (re)enact these institutions through practices. We show that this one water user association is in fact multiple. It is performed in different versions depending on which actors are mobilized, at what sites and on who or what the bricoleurs or intermediaries are (Latour 2005; Cleaver 2012). These different versions – or performances – are not different disguises of a same underlying institutional essence. Instead it is precisely this multiplicity – of many patchworks – that is the crux of the durability of the JUDRA and enables it to shift and adapt to different objectives (purposes), conditions and alliances. This implies that institutions are not necessarily robust (or not-robust), but rather must be continuously re-enacted. It is, furthermore, possible for institutions to operate intermittently and to be enduring (see Lund 2001, 52; see also Cleaver and Franks 2005), since they can appear now, at this site, for this purpose and appear later, at a different site, for another purpose. Its polymorphism makes it fluid as well as durable (see also de Laet and Mol 2000; Mol 2010). At a second level, the JUDRA is a performance of those involved in sense-making, including local actors, water experts, policy advocates and researchers, like us (cf. Singleton and Michael 1993; Law 2004). A particular performative representation of an institution (as efficient resource management, a target population for development, an administrative apparatus, the arena of power struggles, but also as subsidy condition or meeting place for exchanging goods and services) is often itself part of a project (intellectual, political, cultural) of the sense-makers.

In the next section we briefly discuss the implications of our research method and the following of bricoleurs. Section three presents some insights from actor-network theory and institutional bricolage that help us better perceive performances or enactments of institutions. After this we briefly situate the JUDRA in the Ayacucho water setting, in section four. Sections 5–7 show the multiplicity of the WUA and how seemingly similar actors are different, tweaked and borrowed among performances to form a purpose-full patchwork. The conclusion reconnects our case to common pool resource institutions and critical institutionalism.

2. Method: on following bricoleurs

Between 2008 and 2012 we spent 18 months in the study area, which encompassed the Regions of Ayacucho and Huancavelica. Both regions are located in the south-central Andes and are among the poorest in Peru, with subsistence and complementary farming and pastoralist activities being the main source of people's livelihoods. The area was hit hardest by the Shining Path insurgency and subsequent military campaigns from 1980 to 1995. The majority of the population is Quechua speaking or bilingual. We study the development of a WUA in this post-conflict era. During our stays, we visited communities and Irrigator Commissions, interviewed officials from government agencies and NGOs, and collected field observations about water management tasks. We delved into different institutional and communal archives and assisted in community and agency practices.

We also worked closely with 6 research collaborators – local actors that had an active role as JUDRA staff or in one of the Irrigator Commissions – to cover the 2009 WUA election period. These elections are held every 3 years to renew the boards of the JUDRA at its subsidiaries, the Irrigator Commissions and Committees. Apart from these elections, the collaborators helped to gain insight on supra-local controversies to secure water in which the respective Commissions they researched were involved. For acceptability reasons, most of them followed their own Commission or one they had close relations with (see also Bolin 1990, 142). In conversations and reports we urged them to describe the events rather than merely give their opinion. This idea of co-researching extended our ethnographic method (Mol 2008, 9–10), when we did not have the time, access or qualification (absent Quechua language skills) to observe events and practices. When we could, we followed these actors, these bricoleurs, to meetings and conflict mediations, as well as in their daily activities at the JUDRA office, NGOs or local communities (see also Latour 2005, 12). They are no longer just 'the studied' but rather co-learners (Law 1994) and offered knowledge about the stories (of controversies or practices) they were themselves involved in, shaping our (partial) understanding of JUDRA.

The strategy to follow bricoleurs as with any method, does not just describe local realities but is also part of their enactment (Law 2004) and the traces of our engagement are left in the JUDRA patchwork. There is no observing from a distance or neutral method (Law 2004, 7), for we too interpret and weave together the strings and stories with a purpose: to better understand what people do to secure water livelihoods through a supra-local institution and what their daily struggles are to cope with water management institutions such as JUDRA.

By thinking in terms of institutional performativity and bricolage, we bring to the fore specific ways of enacting water management institutions, which hopefully critically and fruitfully challenges the mainstream way of how these institutions are seen. Our intention is to open up democratic natural resource management to the everyday politics of those involved in articulating particular "versions" of JUDRA out of the diversity of actors, actions and associations that make up and sustain it.

3. Enacting JUDRA

In this section we will discuss how natural resource institutions, like JUDRA, can be analysed as (multiple) performances or enactments rather than, for example, a set of rule based social arrangements. We depart from the observation that for rules and arrangements to 'work', a lot of stuff has to happen. In other words, rules and arrangements are predicated on many actors and elements linking (associating) together, which is already arduous work (see Latour 1986; Lund 2001). Hence, we consider it important to trace these associations that allow rules to regulate, among other things (Latour 2005). That is to trace 'what actors do' and (re)enact through multiple practices and connections to bring into being a particular version of JUDRA (Law 2004; Cleaver and Franks 2005).

For this we draw on insights from ANT theory and critical institutionalism that question foundational divisions such as modern-traditional authority, social-natural worlds, structure-agency, public-private action and human-nonhuman actors (cf. Law and Mol 1995, 278; Cleaver 2000, 362) that are frequently a-priori assumed in institutional analysis and consequently exclude certain actors or practices. [4]

Henceforth, an actor is considered as the entity that enables and shifts actions (Latour 2005), and refers to objects, human beings, texts, technologies, organizations, 'nature', ideas, geographical arrangements and more (see Law 2009, 141). [5] Furthermore, actors "don't exist in and of themselves, but are constituted in the networks of which they form a part" (Law and Mol 1995, 277; Woolgar and Lezaun 2013). Put differently, what an irrigator is, is an effect of the actors and objects she is connected to, as well as the meaningful practices that are performed. These can be, for example, her fellow irrigators, the quality of the soil she waters, how water is transported, conduct at meetings, weather variations and more. Likewise water sources are constituted in networks that govern what they are.

Things get complex when actors are part of different networks (Law 2004; Mol 2010). Let's, for example, consider droughts or diminishing water sources in the JUDRA constituency. They exist and certainly are real, however, we have no way of knowing, outside of discourses or enacted networks, if this 'reality' is due to climate change or an upset mountain deity (see also Laclau and Mouffe 1985, 108). It is 'ontology dependent' (Zegwaard et al. 2014). What follows from this is that, for example, a reservoir experienced by local community members is not the same actor as that reservoir administered by a water authority or maintained by technical management agencies. Enactments of the reservoir – or, for that matter, of irrigators, water laws, sustainability, and hence the JUDRA itself – differ sites and over time.

Studying the different ways in which JUDRA performances co-exist, may offer new insights to the analysis of natural resource institutions. An enactment of JUDRA for the purpose of administrative control would then exist next to other purposes and objectives, like efficient water use, subsidy prerequisite, strategic alliance or other ways of the JUDRA 'being done'. These performances might be parallel, but they often overlap which can cause friction or tension as to what the main concerns are and how they should be handled (Law 2004; Mol 2010). This interaction of different JUDRA performances is a play of politics, in which actors and practices continuously 'leak into others' (see also Cleaver 2001). In other words, actors, like users, laws, infrastructure or ethnicity are not univocal but are constantly and fluidly transformed and re-constituted in particular enactments.

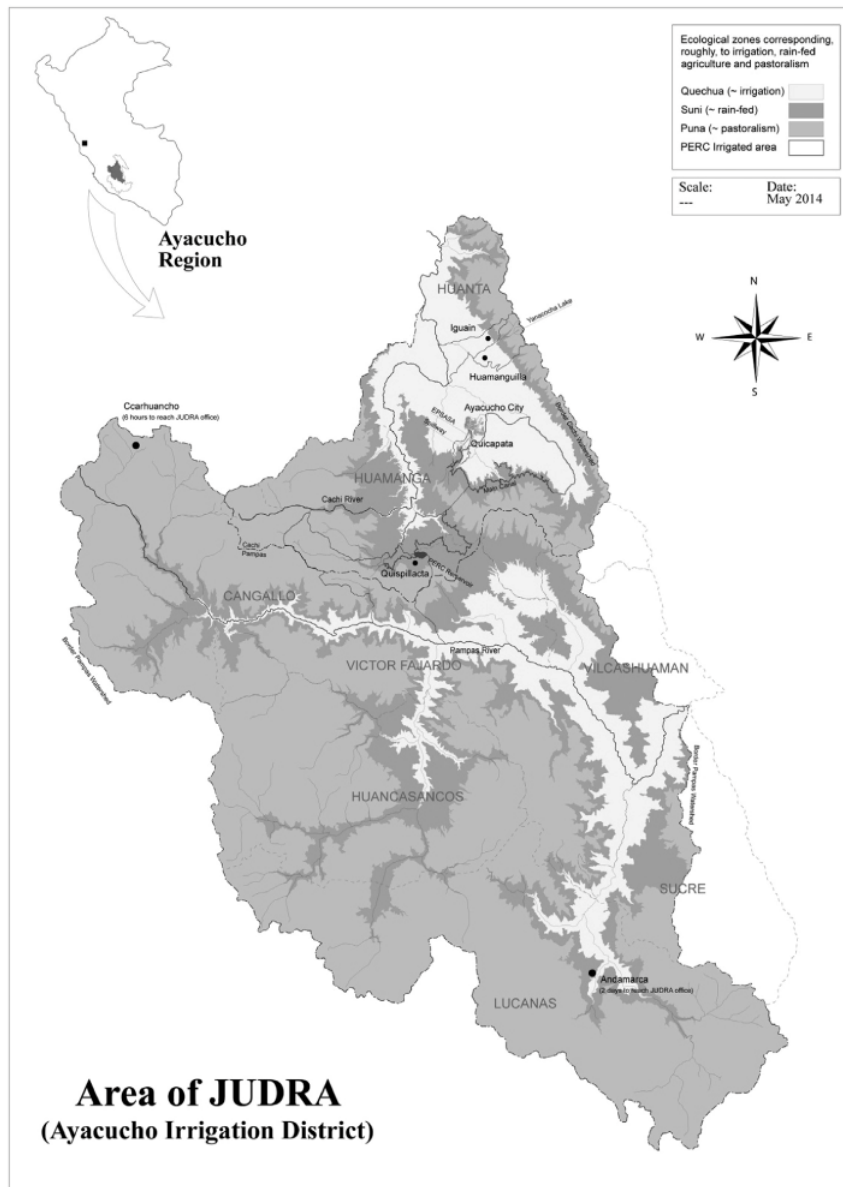
Here bricoleurs, who are persons that harness an array of roles, identities and skills (see also Cleaver 2001; de Koning 2011), are crucial as they actively borrow, transform and patch material and discursive elements to articulate a certain performance and purpose (*ibid.*); or disarticulate others. Institutional enactments after all are partial and contingent. It is important to note that a bricoleur is not simply a multifaceted irrigator, engineer or scientist who engages in, for example political or economic activities (see Singleton and Michael 1993, 229). She is at the same time both irrigator and engineer (and community leader, woman, indigena and more). This suggests that bricoleurs can hold several positions and fall back on diverse identities while operating in multiple JUDRA performances, depending on time, place and occasion.

It is this multiplicity of performances, and fluidity of actors and bricoleurs, which gives the JUDRA the ability to shift shape and adjust to different settings and purposes, allowing it to endure and sustain over time. Paradoxically, even when performances contradict or collide, they legitimate (enable), in a certain way, the other by comparison. At least in the setting of the contemporary Peruvian Andes, an institution that is adjustable and polymorphic – that exists in multiple forms – might well prove more durable than one which is firm and robust (see also de Laet and Mol 2000).

4. Situating JUDRA

In this section we will briefly elaborate on some aspects of the Ayacucho water sector that will help situate the JUDRA performances described in the next sections. After our first meeting with Untal Quispe, the JUDRA technical manager, he handed us a booklet: the JUDRA strategic development plan, in which a map introduced us for the first time to the JUDRA constituency. [6] The map showed two watersheds, Pampas and Cachi, that make up the Ayacucho Irrigation District (see also Figure 1). To the west, both watersheds extend into the Region of Huancavelica. The communities in this area, by law, are part of the WUA, but otherwise never assisted in, or were referred to during meetings or in documents of JUDRA. In the north lies the Apu Razuhuilca, a mountain range with historic spiritual meaning throughout the region. The two main rivers run in deep canyons, well below agricultural fields, and can only be passed at the (few) existing bridges. Mountain ranges and deeply carved rivers are formidable obstacles in the geography of JUDRA and in general the WUA has a more limited outreach to the territory west and south of these rivers. Members of irrigation communities in the south of the JUDRA constituency have to travel two days to reach the JUDRA office. That, in fact, these user groups assist in mobilizations and annual reunions is indicative of a broader objective that has to do with general dissent. The JUDRA strategic development plan also presented its vision and mission: it defined itself as a grassroots organization that will cultivate leaders which contribute to the socio-economic and cultural well-being of the Ayacucho population. A broader focus on development, peace-keeping, agricultural policy, and change of attitude featured more prominently in the JUDRA vision and mission than issues of water management. The booklet also mentioned the date 10-12-2000 as the formation of JUDRA, recognized by the local water authority, through resolution 031-2001-CTAR-AYAC-DRAI-ATRDA.

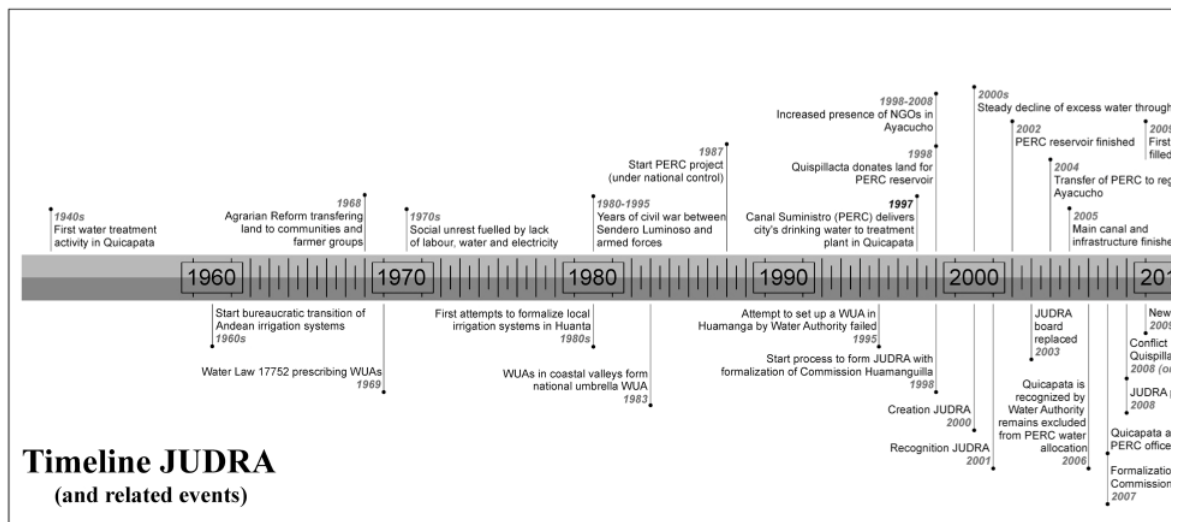
Figure 1
Area of Judra (Ayacucho Irrigation District).



To explain what the JUDRA was Untal Quispe frequently referred to the General Water Law 17752 (GWL). Issued in 1969, the GWL stated that water users were required to form WUAs or Juntas de Usuarios at each Irrigation District. The main objective of Juntas was to support the local water authority of the Irrigation District (ATDR), who was a decentralized representative of the Ministry of Agriculture. This support entailed assistance in construction and maintenance of irrigation works; the administrative task of tabulating users, land holdings and crop choice for operation and distribution purposes; and to collect a water tariff. In 1989 an amendment of the GWL transferred responsibility of these functions to the WUAs. This WUA was a three tier organization of the Junta assembly, Irrigator Commissions and Irrigator Committees. The Junta was responsible for administration of rights, resolutions, budgets and projects of the Commissions, as well as tariff collection and management of large scale infrastructure. The Commissions were in charge of water distribution within a 'sector' of the irrigation district. The Committee is to assist mostly in maintenance and assembly tasks (cf. Vos 2002; GSAAC 2003; Verzija 2007).

At the beginning of the 1990s there were no attempts in Ayacucho to form the mandatory WUA. Yet, some Irrigator Commissions existed since the 1980s, for example in the Province of Huanta. These were longstanding, locally managed irrigation organizations and the formation of Irrigators Commissions was often pursued by communities in relation to a development objective (see also Lynch 1988; Bolin 1990). Around that time, the construction of a large multi-purpose river project, PERC, [7] had started in the Cachi watershed. PERC would mainly service the capital city of Ayacucho and the surrounding Huamanga Province with drinking water, canal irrigation and electricity. Its design included a reservoir of 80 million cubic meters (MMC) on the territory of the community of Quispillacta in the upper part of the Cachi Watershed, (discussed in Section 7). From here a main canal would transport the water (7 m³/s) close to the main city, where it separates in a main irrigation canal (5 m³/s) and the canal Suministro (2 m³/s). The latter would supply the city's drinking water, (future) hydro-power generation and ecological flow (see Section 6). In 1997, drinking water reached the main city of Ayacucho, which was the priority objective. The storage reservoir was finished in 2002, and the main irrigation canal a few years after that (see also Ore 2007). Figure 2 presents a timeline of JUDRA related events.

Figure 2
Timeline Judra (and related events).



In 1995, following the presence of PERC multi-purpose project, a first attempt was made, to our knowledge at least, to create a WUA in the Ayacucho Irrigation District. In that year the ATDR of Ayacucho was installed (almost three decades after the GWL instigated these local water authorities) and tried to organize the communities that would benefit from the PERC project once completed. These were mainly from the Province of Huamanga and had no prior irrigation experience. Surprisingly perhaps, this ATDR attempt to impose the JUDRA failed. Communities in Huamanga could not be interested. More so, irrigators of the Province of Huanta resisted the attempt. Here communities maintained centuries old, local irrigation systems (cf. Ore 2007) and for years, Huanta irrigators were the focal point of state irrigation development in Ayacucho. They were concerned that the PERC [8] project would marginalize their position and thwarted and threatened the ATDR who finally resigned. No WUA was formed.

5. History of a huamanguilla irrigator

A few years after the failed attempt to form a WUA in Ayacucho, an irrigator from the municipality of Huamanguilla, in the province of Huanta, tried anew. He was a member of a local Andean irrigation institution that used water from nearby Yanacocha Lake since pre-Incan times (cf. Valdez and Valdez 1998). During the Shining Path insurgency, the military established a stronghold in the adjacent municipality of Iguain (also in the province of Huanta). The military presence allowed Iguain peasants to take control of water that was previously used by their neighbours in Huamanguilla. [9] In the aftermath of the civil war, Huamanguilla was left with severe water shortage. Although the lake was located on Huamanguilla territory, the stream that emanates from it becomes the border with Iguain further downstream and a conflict ensued over water allocation. [10]

This irrigator who tried to form a WUA, was Untal Quispe, technical manager of the JUDRA from 2007 to 2009 and its inaugural president in 2000. To understand how he successfully created the JUDRA, while the ATDR could not, we have to see which actors he enrolled and which associations or connections he managed to make. Untal is our bricoleur, and this is his story. As a young community member, water user and a recently graduated agronomist, Untal converted in the indispensable intermediary in securing water. For Huamanguilla irrigators there were basically two avenues for this: to get legal backing against what they believed was an illegitimate capturing of their water source; or to increase the capacity of the lake. An official WUA could address both.

Untal enrolled several actors for this project: his community members, the lake, the Huanta (province) identity, neighbouring irrigation institutions, hydrological studies, water and agricultural professionals, the agronomy department of the Huamanga University and a stack of agreements among these actors. First, Untal Quispe convinced community leaders and members of his plans. They supported him in arranging the prerequisites to form an Irrigator Commission that would represent their system and elected him Commission president. Secondly, the dam project was revamped that would enhance capacity of the lake. Hydrology studies, technical drawings and engineering performance were to persuade others (local irrigators but also governmental agencies) of the importance of the lake. However, to constitute a WUA at the level of the Ayacucho irrigation district, the GWL indicated that at least three Irrigator Commissions were needed. So Untal convinced other Huanta communities and Irrigator Commissions to join Huamanguilla. The idea to have a Huanta bloc was appealing to several local irrigation communities given the focus on the PERC multi-purpose project in Huamanga. Interestingly, also Iguain eventually joined to strengthen the dam alternative. Finally regional agricultural agencies and a new ATDR were persuaded with the prospects of Commissions and users incorporated in a water administrative structure according to law.

The Huamanguilla irrigator successfully enlisted these actors to create the JUDRA. In 2000, Untal Quispe became its president. There was still little participation from communities of Huamanga as water delivery from PERC remained unreliable or absent. All but one of the irrigation organizations that had joined, and all WUA-board members, came from Huanta; the same organizations that had thwarted the earlier, 1995, attempt of the ATDR. In this case the WUA enactment was not a bureaucratic imposition, but a performance of various actors for the purpose to strengthen their local historic common property systems and remain (in) the focus of irrigation in Ayacucho.

A Postscript. In 2004, despite being re-elected, the ATDR replaced Untal and the JUDRA board with representatives from Huamanga. In 2007, a new, third, JUDRA president was elected, who came from the PERC serviced Irrigator Commission of Carmen Alto. By now it was an accepted truth statement in the Ayacucho water sector, that the JUDRA was created by resolution 031-2001-CTAR-AYAC-DRAI-ATDRDA, in response to the realization of the PERC project (cf. Warner and Ore 2006). Many actors that formed the JUDRA only intermittently re-appear. Huanta irrigation institutions started operating as 'sub-Junta Huanta', to distinguish themselves from the rest of the JUDRA, for example in mobilizations or protests. At other sites, like JUDRA meetings many of them gradually stopped participating, while at the ATDR office they continued to perform as a stack of legal resolutions. Under the new JUDRA president (2007–2009), JUDRA staff consisted of Untal and secretary Julia Tejada. She was also a member of the Irrigator Commission of Carmen Alto.

6. The canal suministro and spillway story

Julia Tejada is an active member of Quicapata, [11] a small semi-urban community, on the outskirts of the city of Ayacucho. The treatment plant of EPSASA, [12] the Ayacucho drinking water company, is located there. According to the GWL, EPSASA is also a member of JUDRA. Together with Electro-Centro they are two permanent board members (vocales) representing non-agrarian water users. The community of Quicapata emerged from a farmer group that was given control of hacienda land after the Agrarian Reform of 1968. At that time a treatment plant, though much smaller, already existed. In 2009, both the village and the EPSASA plant were swallowed by the expanding city. In fact, a few hundred members of Quicapata live interspersed with over 2000 other persons, many of whose houses stand on former community land. Still, Quicapata members could hold onto about 100 hectares of arable land. Historically, lack of water sources was a constraining factor in the community.

We followed Julia in this case of JUDRA, however, the key actor that afforded this enactment was the canal Suministro – and in particular the spillway structure at the end of the canal that disembogued the water into the environment uphill from EPSASA and Quicapata. The canal is to deliver drinking water and further provide an ecological flow to the city and its surroundings as well as water for (future) hydropower. Its construction was the main priority of the PERC project and finished in 1997, while other components, like a storage reservoir and irrigation infrastructure would take several more years to finish. According to PERC engineers and JUDRA staff in 2009, EPSASA was responsible for the water (transport) after the spillway structure. The latter, however, instead of designing some conveyance structure, led the water flow freely into the Alameda Valley and captured it instead downstream, closer to its treatment plant. During the first years the Suministro canal carried abundant water over the spillway (as other parts of PERC were not finished). This assured the ecological flow for the Alameda River that runs through the city and also allowed Quicapata and three other communities to start developing local irrigation systems.

EPSASA had called on the community leaders of Quicapata to assist in the maintenance of its infrastructure even before the Suministro canal was constructed. In return they would receive some water to irrigate their land, albeit a small portion of it. At the end of the 1990s, the new spillway, delivered much more water. Unfortunately, Quicapata and its three neighbours were never recognized in the PERC hydraulic scheme and with the completion of infrastructure elsewhere, that surplus water started to dwindle.

In 2006, the four communities each formed their own Irrigator Committee, and became part of the Irrigator Commission of Carmen Alto. They were legally recognized by the ATDR, but without a permanent right they were only permitted to use 'excess' water. By 2007, Quicapata and the other Irrigator Committees were left to 'commandeer' the ecological flow (150 l/s in the hydraulic scheme), which was erratic and not designated for irrigation use. To be considered in the hydraulic scheme, the four communities started negotiating with the government agencies in charge of PERC. Here Julia and the JUDRA president (both from the Commission of Carmen Alto) were crucial for negotiations. Despite enrolling the ATDR and obtaining legal recognition, having the local mayor as an ally and their strong link with EPSASA, the communities could not convince PERC engineers – who in turn disapproved of the ATDR move to recognize the Committees. More drastic measures were taken later that year when the communities, together with JUDRA staff, managed to occupy one of the PERC offices as a way of protest. This episode was published in the newspaper and entered in the portfolio of documents that the communities used to legitimize their claim, which also included signed (but later retracted) commitments of PERC officials.

In March 2009, a new water law came into effect that replaced the GWL. Notwithstanding criticism, [13] two aspects that were virtually absent in the GWL are worth mentioning, since these were enrolled in the communities' cause. First, the environment and ecological flow (for downstream use) were unmentioned in the old law and are to be guaranteed in the new one. [14] Second, the new law prescribes an increased recognition of ancestral 'usos y costumbres' [15] (tradition and customs) of local irrigation institutions.

Quicapata and the other Committees appropriated these elements, which they interwove with their own practices and performances. They considered 'usos y costumbres' applicable to them, since they had been using the water for 10 years and thus held a historic claim. Equally, the legally guaranteed ecological flow was adapted to their logic. With active help from the JUDRA staff and board (Untal, Julia and the president), they argued that they were part of the 'ecology', keeping the slopes stable and environment, of which they were part, sound. Quicapata and its neighbours drew on notions of good governance and sustainability to claim a right to water. Conversely PERC engineers, also referring to ideas of good governance and sustainability, reasoned the opposite. In their logic ecological flow did not foresee irrigation traditions and customs, which Quicapata and its neighbours would not even have if not for a new technology. Despite early denial, the four communities were included in the PERC hydraulic scheme in 2011. They were assigned half of the reserved ecological flow. In the case of Quicapata, the JUDRA is enacted as a close ally to the communities' struggle for water, which placed it in conflict with PERC and its ideas of rational water management.

7. The curious case of Quispillacta

Quispillacta is a community with 5000 inhabitants living in 12 smaller hamlets, located in the municipality of Chuschi in the province of Cangallo. We follow Fernando Ventura, an agronomy student and member of Quispillacta who lives in the city of Ayacucho, but travels regularly to the community for NGO work. He is involved in a small company that sells sprinkler technology and the WUA meetings also work as a suitable marketplace. Like Untal and Julia, he collaborated with us during the JUDRA election period in 2009.

Quispillacta consciously and continuously performs a Kanas ethnicity, through associations and meaningful practices (cf. Munoz and Nunez 2007 [16]). One of these practices is the 'sowing and nurturing' of small lakes in the wetland area above the PERC reservoir, which is preceded by cultivating plants called 'mother of water' on that site. These are ritual customs that improve landscape spirit and water sources below these lakes (Machaca 2009). Two local NGOs, founded by and staffed with community members – including Fernando, [17] are involved in these practices, but also engage with PERC.

In 1998, Quispillacta donated a lower part of its territory for the construction of the PERC reservoir. The community was initially not considered for irrigation in the PERC hydraulic scheme, because dominant irrigation knowledge did not consider allocating water above a regulating reservoir, let alone if it was over 3700 masl. [18] This was fiercely contested by the community until it was included in the scheme – with the condition that Quispillacta formed Irrigator Commissions. Connected to this, Fernando's NGO was awarded funding to create and strengthen local water user organizations. The donor, [19] however, insisted on appointing a specialist with whom it had previous experience for the diagnostic study. That specialist was Untal Quispe, who worked with Fernando's NGO as a private consultant and (later) as JUDRA staff. The collaboration resulted, in 2007, in the formation and ATDR recognition of three Irrigator Commissions in Quispillacta. One Commission was located above the reservoir and conveyance structure, in the area of the

'nurtured lakes'. The other two obtained water from PERC, one from the canal leading into the reservoir, the other from infrastructure below it.

In 2008, a latent conflict about the land donation and agreed compensation flared up. According to Quispillacta, this donation corresponded to a stored water volume of 55 (MMC). PERC and the JUDRA insisted this was 80 MMC. The latter would serve downstream Irrigator Commissions, but also submerge additional community land. In the conflict that ensued Quispillacta and its three Irrigator Commissions referred to their cultural and spiritual customs attached to their land and 'nurtured' water sources. This included the sources and wetlands that once existed where the reservoir rose after 2002. Other parties insisted on rational water management following the logic of the PERC objectives. In 2009, Quispillacta succumbed to the 80 MMC but with negotiations and confrontations about annual refilling of the reservoir still ongoing. The community of Quispillacta and its Irrigator Commissions, despite being part of JUDRA, were accused of stubbornness and of sabotaging progress and regional development.

Behind this statement, however, lies the normative and political concern of how landscape, lakes and ways of living should be practiced and performed. It has less to do with stubbornness and backward tradition versus rational water use and formal authority – as framed, by PERC agencies, regional government and even voices within JUDRA. An account of the interaction of a strong authority and local tinkering and bricolage might surprise us. We use the example of the nation-wide process of WUA elections in 2009 that Fernando, Julia and Untal co-researched with us and in which JUDRA and subsidiary boards were elected.

In June of 2009, the National Water Authority drafted and issued a resolution on electoral procedures. This was sent to the Ayacucho ATDR, who adapted it and issued a second resolution with further details. After this the JUDRA elaborated a third document with practical regulations and instructions. The three documents included a manifold of procedures, deadlines to form sub-committees and instructions for users, as well as formats to report the results. The aim of the National Water Authority was to control and monitor from a distance.

We observed the election day of one of Quispillacta's three Irrigator Commissions, on the 10th of October 2009, the day of the legal deadline. Of the 353 users only about 80 were present. About two-thirds were women and children. Among the men present were three board members of the Commission, the president of the community (as water user) and Fernando, who was actually also board member (vocal). In fact, all three Irrigators' Commissions in Quispillacta had young board associates (vocal), which were university students in the city Ayacucho. The others were anthropology students from different hamlets, also involved in NGO work. They assisted during JUDRA meetings in case those living in Quispillacta could not attend. In general they served as intermediaries, moving around institutions and government agencies in the city, gathering, interpreting and communicating information in and to their home community. For this they were given a small symbolic spot of land within the respective Irrigator Commission; a precondition to be eligible. As NGO professional, vocal and bricoleur, Fernando had a prominent role this day.

Despite all efforts of the National Water Authority, ATDR and JUDRA to instruct the users, no preparations were made: no electoral board was formed; no lists prepared and not enough voters were present. What is more, several households had plots in more than one sector and were counted twice as users and some women and children were representing several family members at once as the absence of men, so was explained, was due to the payday of PERC rehabilitating work in the area.

About an hour into the meeting, the president of the community, assisting as a user but also principle authority in Quispillacta, intervened. He was visibly upset with the board of the Commission and lack of organization. He demanded a better job or, if this new institution was not a fit for their community, that they terminate the Commission all together. He ventilated a discontent to the constant presence of external agencies and professionals (PERC, JUDRA) that were operating in his community, causing problems more than prosperity. More so, the area above the reservoir and conveyance canal, the bulk of community land, was not receiving benefits from this presence at all. He also lashed out at Fernando, whose NGO introduced and organized these Commissions that now appear to barely function.

Looking belittled, Fernando and the Commission board decided to pragmatically go through the list of ATDR requirements. In the next couple of hours they chose an electoral committee, closed the meeting, opened a second meeting led by the electoral board and cancelled it for not reaching quorum, opened a third meeting and choose a new board by raising hands. Everything happened in an ad-hoc, haphazard manner, with lots of laughter. Afterwards in Ayacucho, Fernando handed over the required documents to JUDRA.

It has to be noted that also in the offices of JUDRA and ATDR things were arranged by 'making do'. For more than a week, the technical manager of JUDRA, the chief Water Authority and two secretaries were feverishly trying to figure out, for 48 Irrigators' Commissions, how to bend practices into rule. Peasant delegates were called back in, forms and documents were corrected afterwards and often records were backdated, after which resolutions were issued (that recognized the new boards) and sent to the National Water Authority in Lima. There is a fine line between practices of tabulation and manipulation to legitimize institutional space. Bureaucratic bricolage at its best?

A postscript. In 2011, Quispillacta continued to negotiate the 80 MMC. They, and in particular the Commission located above the PERC infrastructure, demanded irrigation, and for a while an alternative was considered to pump water from the reservoir up hill. Since 2012 the community mobilizes the reservoir controversy to push for an environmental services program. They enrol ATDR resolutions, Kanas identity, nurtured lakes, NGOs, Ayacucho government, and diagnostic studies in an attempt to develop their territory by having downstream actors invest in the upper catchment. It turns out that PERC and most Irrigator Commissions of JUDRA are not enthused by this Quispillacta initiative. Here the JUDRA performs as an ally of PERC, with different significance of 'usos y costumbres' and ecological services than in the Quicapata case. Finally, the election episode demonstrates that something like formal authority or acts of bricolage depends of what we are trying to make sense off, who we are following and for what purpose. We turn to this in our conclusion.

8. Conclusion: on multiplicity, fluidity and durability

This article departed from a paradox: an Andean WUA, the JUDRA, is critiqued for poorly performing designated water management tasks, yet, we found, it is also a durable and influential organization. This longevity of JUDRA is because it performs or enacts other projects and purposes too. First, by local actors and bricoleurs, in Huanta, Quicapata or Quispillacta, that everyday live, practice and re-enact these institutions. Secondly, by those that make sense of these practices and performances, for example Peruvian water professionals, mainstream and critical institutional analysts, as well as the local bricoleurs (Law 2009). Although the notion of multiple purposes of natural resource institutions has been well recognized (van Koppen et al. 2006; Kerr 2007; Cleaver 2012), our intention has been to dispute, through our cases, the capture of these in some overarching institutional logic. Instead, a focus on coexisting performances, or so we hope, will contribute to ongoing debates about democratization of natural resource institutions.

We showed that the JUDRA is contingent and enacted in multiple ways, often intermittently through different (power-saturated) practices and associations at various sites (Law 2009; Mol 2010). Certain allies, elements and ideas – like lakes, hydraulic infrastructure, 'usos y costumbres' ecological services, or water laws – are differently practiced in the JUDRA performances we traced in Huanta, Quicapata and Quispillacta. We have indicated how bricoleurs, depending on time, place and occasion, mobilize their multiple roles, identities and skills with other material and discursive elements to articulate a particular performance (Cleaver 2001); or disarticulate others. Following Singleton and Michael (1993, 232), we see the JUDRA made durable by the way actors and bricoleurs occupy margin and core (e.g. the GWL); are at once critics and stalwarts (bricoleurs); and are simultaneously inside and outside (e.g. the Quispillacta community). Rather than defined with clear roles, purpose, boundaries, or rules, the JUDRA endures because it is ambiguous and flexible. It appears as one and many (multiplicity), as similar and contradictory (fluidity).

Consequently, whether JUDRA 'works', if it is efficient, or rather a lame duck, depends on who makes sense of what performances for what purpose or objective (Law 2004). This has normative and political implications regarding policymaking and what 'ought to be'. As bringing certain enactments into being (e.g. efficient resource management) means that others might not; which is precisely what was at stake in the Quispillacta case. Also the claim that JUDRA is a bureaucratic imposition is a performative statement, which does not

seem to correspond to the (his)stories described in this article, but might very well be by others that do not focus on what Huanta irrigators did to secure their water livelihoods.

From this we conclude that, at least in the setting of the contemporary Peruvian Andes, an institution, which is adjustable and polymorphic proves more durable than something which is prescribed and robust (see also de Laet and Mol 2000). It is this multiplicity of performances, and fluidity of actors and bricoleurs – giving JUDRA the ability to shift shape and adapt to different settings and purposes – that allow it to endure and sustain over time.

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Literature cited

- [Benouniche et al. 2014.](#) Benouniche, M., M. Zwarteveen, and M. Kuper. 2014. Bricolage as Innovation: Opening the Black Box of Drip Irrigation System. *Irrigation and Drainage* 63(5):651-658.
- [Boelens 2008.](#) Boelens, R. 2008. *Rules of the Game and the Game of the Rules. Normalization and Resistance in Andean Water Control*. PhD. dissertation, Wageningen University, Wageningen.
- [Boelens and Seemann 2014.](#) Boelens, R., and M. Seemann. 2014. Forced Engagements: Water Security and Local Rights Formalization in Yanque, Colca Valley, Peru. *Human Organization* 73(1):1-12.
- [Bolin 1990.](#) Bolin, I. 1990. Upsetting the Power Balance: Cooperation, Competition and Conflict Along and Andean Irrigation System. *Human Organization* 49(2):140-148.
- [Cleaver 2000.](#) Cleaver, F. 2000. Moral Ecological Rationality, Institutions and the Management of Common Property Resources. *Development and Change* 31(2):361-383.
- [Cleaver 2001.](#) Cleaver, F. 2001. Institutional Bricolage, Conflict and Cooperation in Usangu, Tanzania. *IDS Bulletin* 32(4):26-35.
- [Cleaver 2012.](#) Cleaver, F. 2012. *Development through Bricolage: Rethinking Institutions for Natural Resource Management*. London: Routledge.
- [Cleaver and Franks 2005.](#) Cleaver, F., and T. Franks. 2005. *How Institutions Elude Design: River Basin Management and Sustainable Livelihoods*. Bradford: Bradford Centre for International Development.
- [de Certeau 1984.](#) de Certeau, M. 1984. *The Practice of Everyday Life*. Berkeley, CA: California University Press.
- [de Koning 2011.](#) de Koning, J. 2011. *Reshaping Institutions. Bricolage Processes in Smallholder Forestry in the Amazon*. PhD thesis. Wageningen University.
- [de Laet and Mol 2000.](#) de Laet, M., and A. Mol. 2000. The Zimbabwe Bush Pump. Mechanics of a Fluid Technology. *Social Studies of Science* 30(2):225-263.
- [Degregori 2007.](#) Degregori, C. I. 2007. ¿Por qué Apareció Sendero Luminoso en Ayacucho? El Desarrollo de la Educación y la Generación del 69 en Ayacucho y Huanta. In *Historizar el Pasado Vivo en América Latina*, ed. Anne. Pérotin-Dumon, http://etica.uahurtado.cl/historizarelpasadovivo/es_contenido.php.
- [Gelles 1996.](#) Gelles, P. 1996. The Political Ecology of Irrigation in an Andean Peasant Community. In *Canals and Communities. Small-Scale Irrigation Systems*, ed. J. B. Mabry, 88-115. Tucson, AZ: University of Arizona Press.
- [GSAAC 2003.](#) GSAAC. 2003. *Legislación Peruana sobre Recursos Hídricos, 1969–2003*. Lima: GSAAC.
- [Guevara-Gil 2010.](#) Guevara-Gil, A. 2010. Water Rights and Conflicts in an Inter-Andean Watershed: The Achamayo River Valley, Junin, Peru. In *Out of the mainstream. Water Rights, Politics, and Identity*, eds. R. Boelens, D. Getches and A. Guevara-Gil, 183-196. Washington, DC: Earthscan.
- [Guevara-Gil 2011.](#) Guevara-Gil, A. 2011. *El Derecho y la Gestión Local del Agua en Santa Rosa de Ocopa*. PhD. dissertation University of Amsterdam, the Netherlands.
- [Huamanchumo et al. 2008.](#) Huamanchumo, J., Y. Peña, L. Silva, and J. Hendriks. 2008. Developing Capacity in Water User Organizations: The Case of Peru. *Irrigation and Drainage* 57(3):300-310.
- [Isbell 1978.](#) Isbell, B. J. 1978. *To Defend Ourselves: Ecology and Ritual in an Andean Village*. Boulder, CO: Westview Press.
- [Kerr 2007.](#) Kerr, J. 2007. Watershed Management: Lessons from Common Property Theory. *International Journal of the Commons* 1(1):89-109.
- [Laclau and Mouffe 1985.](#) Laclau, E., and C. Mouffe. 1985. *Hegemony and Socialist Strategy. Towards a Radical Democratic Politics*. New York: Verso.
- [Latour 1986.](#) Latour, B. 1986. The Powers of Association. In *Power, Action and Belief. A New Sociology of Knowledge*, ed. J. Law, 264-280. London: Routledge and Keagan.
- [Latour 1987.](#) Latour, B. 1987. *Science in Action: How to Follow Scientist and Engineers through Society*. Milton Keynes: Open University Press.
- [Latour 2005.](#) Latour, B. 2005. *Reassembling the Social: An Introduction to Actor-Network Theory*. Oxford: Oxford University Press.
- [Law 1994.](#) Law, J. 1994. *Organizing Modernity*. Oxford: Blackwell.
- [Law 2004.](#) Law, J. 2004. *After Method: Mess in Social Science Research*. London: Routledge.
- [Law 2009.](#) Law, J. 2009. Actor Network Theory and Material Semiotics. In *The New Blackwell Companion to Social Theory*, ed. B.S. Turner, 141-158. Oxford: Blackwell.
- [Law and Mol 1995.](#) Law, J., and A. Mol. 1995. Notes on Materiality and Sociality. *The Sociological Review* 43:274-294.
- [Lévi-Strauss 1966.](#) Lévi-Strauss, C. 1966. *The Savage Mind*. London: Weidenfeld and Nicolson.

- [Lund 2001](#). Lund, C. 2001. Seeking Certainty and Aggravating Ambiguity. On Property, Paper and Authority in Niger. *IDS Bulletin* 32(4):47-53.
- [Lynch 1988](#). Lynch, B. 1988. *The Bureaucratic Transition: Peruvian Government Intervention in Sierra Small-scale Irrigation*. PhD dissertation, Cornell University, Ithaca, NY.
- [Lynch 1991](#). Lynch, B. 1991. Women and Irrigation in Highland Peru. *Society and Natural Resources* 4 (1):37-52.
- [Machaca 2009](#). Machaca, M. 2009. Cosecha y Siembra del Agua como Alma del Paisaje. *Cambio Climatico y Sabuduria Andino Amazonica. Practicas Percepciones y Adaptaciones Indigenas*, ed. PRATEC. 108-114. Lima: PRATEC.
- [Mitchel 1991](#). Mitchel, W. P. 1991. *Peasant on the Edge: Crop, Cult and Crisis in the Andes*. Austin, TE: Texas University Press.
- [Mol 2008](#). Mol, A. 2008. *The Logic of Care: Health and the Problem of Patient Choice*. London: Routledge.
- [Mol 2010](#). Mol, A. 2010. Actor-Network Theory: Sensitive Terms and Enduring Tensions. *Kölnner Zeitschrift für Soziologie und Sozialpsychologie* 50(1):253-269.
- [Munoz and Nunez 2007](#). Munoz, U., and O. Nunez. 2007. *Tesauru Kana. Ritos y Tradiciones de Quispillacta*. Ayacucho, Peru: Proyecto Kana.
- [Ore 2007](#). Ore, M. T. 2007. 'Yakunchik': Coming to Agreement after Violence in Peru. In *Multi-stakeholder Platforms for Integrated Water Management*, ed. J. Warner, 137-159. Aldershot: Ashgate.
- [Ore and Rap 2009](#). Ore, M. T., and E. Rap. 2009. Políticas Neoliberales de Agua en el Perú. Antecedentes y eRetrelones de la Ley de Recursos Hídricos. *Debates en Sociología* 34:32-66.
- [Ostrom 1992](#). Ostrom, E. 1992. *Crafting Institutions for Self-Governing Irrigation Systems*. San Francisco, CA: Institute for Contemporary Studies.
- [Ostrom 2009](#). Ostrom, E. 2009. A General Framework for Analysing Sustainability of Socio-Ecological Systems. *Science* 325:419-422.
- [Roth 2009](#). Roth, D. 2009. Property and Authority in a Migrant Society: Balinese Irrigators in Sulawesi, Indonesia. *Development and Change* 40(1):195-217.
- [Scott 1998](#). Scott, J. C. 1998. *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven, CT and London: Yale University Press.
- [Singleton and Michael 1993](#). Singleton, V., and M. Michael. 1993. Actor-Networks and Ambivalence: General Practitioners in the UK Cervical Screening Programme. *Social Studies of Science* 23 (2):227-264.
- [Uphoff 1986](#). Uphoff, N. 1986. *Improving International Irrigation Management with Farmer Participation: Getting the Process Right*. Boulder, CO: Westview Press.
- [Valdez and Valdez 1998](#). Valdez, L. M., and J. E. Valdez. 1998. Inkapyarqan: un canal en las punas de Ayacucho. *Boletín del Museo de Arqueología y Antropología, Universidad Nacional Mayor de San Marcos* 1(6):4-9.
- [van Koppen et al. 2006](#). van Koppen, B., P. Moriarty, and E. Boelee. 2006. *Multiple-Use Water Services to Advance Millennium Development Goals*. Colombo, Sri Lanka: IWMI Research Report 98.
- [Vera 2011](#). Vera, J. 2011. The Ethno-Politics of Water Security: Contestations of Ethnicity and Gender in Strategies to Control Water in the Andes of Peru. PhD. dissertation, University of Wageningen, the Netherlands.
- [Vera and Vincent 2013](#). Vera, J., and L. Vincent. 2013. Community Irrigation Supplies and Regional Water Transfers in the Colca Valley, Peru. *Mountain Research and Development* 33(3):195-206.
- [Vera and Zwartveen 2007](#). Vera, J., and M. Zwartveen. 2007. The Public and the Private Domain of the Everyday Politics of Water: The Constructions of Gender and Water Power in the Andes of Peru. *International Feminist Journal of Politics* 9(4):503-511.
- [Verzija 2007](#). Verzija, A. 2007. *Derechos de agua y autonomía local: Análisis comparativo de los Andes peruanos y los Alpes suizos*, Instituto de Estudios Peruanos, WALIR, Lima, Peru.
- [Vos 2002](#). Vos, J. 2002. *Metric Matters. The performance and organisation of volumetric water control in large-scale irrigation in the North Coast of Peru*. PhD. dissertation, University of Wageningen, the Netherlands.
- [Warner and Ore 2006](#). Warner, J., and M. T. Ore. 2006. El Niño Platform: Participatory Disaster Response in Peru. *Disasters* 30(1):102-117.
- [Woolgar and Lezaun 2013](#). Woolgar, S., and J. Lezaun. 2013. The Wrong Bin Bag: A Turn to Ontology in Science and Technology Studies? *Social Studies of Science* 43(3):321-340.
- [Zegwaard et al. 2014](#). Zegwaard, A., A. C. Petersen, and P. Wester. 2014. Climate Change and Ontological Politics in the Dutch Delta. *Climate Change Accepted*, online DOI: 10.1007/s10584-014-1259-0.

Notes

- 1 *Junta de Usuarios del Distrito de Riego Ayacucho*.
- 2 Legal Decree DS 057-2000-AG which deals with water user organizations (in effect until the new water law of 2009).
- 3 In this paragraph we introduce 'bringing into being', 'enacting' and 'performing' – three related terms used to question 'essentialism and... the notion that entities somehow pre-exist our apprehension of them' (Woolgar and Lezaun 2013, 324) – we understand these terms similarly in the article.
- 4 We should also be cautious with a dichotomy that is frequently considered in analysis of common pool institutions between *bureaucratic* and *socially embedded* institutions (Cleaver 2012). The characterization is not unproblematic as managerial institutions are (also) performed daily, culturally and locally; and are fully bricolaged (cf. Latour 1987; Mol 2010). Similar alertness is called for in a distinction between formal and informal (de Koning 2011). We encountered more informality in our initial dealings with JUDRA board or water authority then we did approaching certain local communities. JUDRA can be formal in certain places and informal in others, but so can community institutions.
- 5 Furthermore each actor (a technology, organization, nature) is always a network of entities, of which many parts often remain hidden (Law 2009).
- 6

- Which overlaps 10 Province, 69 Municipalities and hundreds of local communities in two Regions, Ayacucho and Huancavelica.
- 7 *Proyecto Especial Rio Cachi*. Created in 1987. Construction started, arguably, in 1991. In 2007 the PERC was cancelled: separated in three regional government agencies with took over tasks. We continue to use the term PERC throughout the article.
 - 8 There is historic animosity between these Provinces of Huamanga and Huanta which is linked to political power of the first, and water access of the second (Degregori 2007).
 - 9 Both were communities with a few hundred families.
 - 10 With their neighbours, but also with internally displaced groups.
 - 11 The story of Quicapata we describe is based on interviews with Julia and three (former) leaders.
 - 12 *Empresa Prestadora de Servicios de Saneamiento S.A.*
 - 13 An analysis is beyond the scope of this article. We refer to Ore and Rap (2009), Vera (2011) and Boelens and Seemann (2014).
 - 14 DL 29338, Art 53 & 57.
 - 15 DL 29338, Art 64 & 32.
 - 16 Written by community teachers and NGO members.
 - 17 The case of Quispillacta is based on accounts of NGO members and inhabitants that participated in a focus group meeting (in Quechua) that we were invited to give input questions on.
 - 18 See Vera and Vincent (2013) for similar case in south Peru.
 - 19 OXFAM America.