

Cultural Politics, Communal Resistance and Identity in Andean Irrigation Development

RUTGERD BOELENS

Irrigation and Water Engineering Group, Wageningen University, Wageningen, the Netherlands

PAUL H. GELLES

Department of Anthropology, University of California, Riverside, USA

This article uses two case studies to illustrate how Andean irrigation development and management emerges from a hybrid mix of local community rules and the changing political forms and ideological forces of hegemonic states. Some indigenous water-control institutions are with us today because they were consonant with the extractive purposes of local elites and Inca, Spanish and post-independence Republican states. These states often appropriated and standardised local water-management rules, rights and rituals in order to gain control over the surplus produced by these irrigation systems. However, as we show in the case of two communities in Ecuador and Peru, many of these same institutions are reappropriated and redirected by local communities to counteract both classic ‘exclusion-oriented’ and modern ‘inclusion-oriented’ water and identity politics. In this way, they resist subordination, discrimination and the control of local water management by rural elites or state actors.

Keywords: Andes, water control, collective action, identity, cultural politics, resistance.

Introduction

Against a historical and theoretical backdrop concerning the cultural politics of irrigation development, our article compares local and state norms for managing water in two Andean communities. In addition to detailing different political, economic and cultural forces that affect irrigation management and development in these

communities, we examine the ideologies that modernising nation-states extend to irrigation systems on their periphery. These ideologies claim to work to the benefit of these systems and the communities dependent upon them, while in fact they often serve the controlling interests of the state and national and international power holders. Our article demonstrates that local communities dynamically resist these subordinating water and identity politics through different means.

In large part the product of each nation's colonial and postcolonial history, national irrigation institutions and policies in the Andean region are tied to an international bureaucratic tradition of development (Lynch, 1988). Notwithstanding the last decade's shift to neoliberal economic policies and state downsizing, official policies have often used decentralisation discourses and privatisation programmes to strengthen, not weaken, their control over local water management. This was done by prescribing new 'rational' forms of water management, and by transferring responsibilities while maintaining decision-making power. The main pillars of the bureaucratic tradition remain in place: the preponderance of technocratic 'expert' knowledge, top-down rule-making and the use of system design and 'modern' management models based on the class, cultural and gender norms of the designers, not the users (Scott, 1990; Diemer and Slabbers, 1992; van der Ploeg and Long, 1994; Escobar, 1995; Bauer, 1997; Zwarteveen, 1997; Pacari, 1998).

After providing the larger historical and theoretical contexts, we illustrate the dynamic political struggles found in highland water control and development through two case studies, one from Ecuador (Licto) and the other from Peru (Cabanaconde). The two cases were chosen because they illustrate both covert and overt forms of domination by outsiders as well as differing local strategies of resistance. Our general argument is that changes in local normative systems must be understood historically in relation to the cultural, political and economic foundations of Andean society, as well as in relation to diverse contemporary power structures within which local irrigation systems are generated, reproduced and transformed. Imperial and postcolonial states appropriated 'indigenous' water-management norms and expanded upon them to legitimate their authority and effectively organise surplus extraction. However, our article shows that diverse forms and rules of water management, such as water rights creation mechanisms in Licto and dual organisation in Cabanaconde, have been reappropriated by indigenous peasants and now serve counter-hegemonic purposes in these and many other highland communities.

The Appropriation of Local Beliefs and Institutions by Inka and Spanish Regimes

The rituals, beliefs, norms and institutions for collective action associated with Andean communities are those most easily exoticised and romanticised in representations of the Andes. Conversely, critiques of such representations often relegate Andean livelihood strategies and worldviews to the margins, thus trivialising a key component of highland cultural identity. Forged within indigenous and Iberian colonial contexts, Andean livelihood strategies and practices are dynamic and vary greatly from place to place,

interacting with other cultural spheres and political ideologies (Gelles and Martínez, 1993; Baud, Konings, Oostindie, Ouweneel and Silva, 1996; Baud, 1997). But even the seemingly autochthonous, local worldviews are often not entirely indigenous to the places where they are practised, but were forged in a colonial context, albeit that of an indigenous empire, the Inka.

Local practices and beliefs of water control, in both the technical and cultural sense, were connected to wider 'identification policies' and embodied political processes of incorporation and standardisation. For example, local mountain cults (often directed to sources of irrigation water) were strongly linked to beliefs about primordial origins and to ethnic identities; these cults were symbolically appropriated by the Inka empire and incorporated in the broader framework of Inka state religion. The empire used the most local and primordial of religious beliefs to establish its legitimacy and extend its hegemony throughout the Andes. So, too, with water itself.

The Inka claimed Lake Titicaca, the largest body of water in the Andes, as the source of its imperial origin. This was an extension of the widespread belief that the ancestors of local communities and polities originated from particular mountains, springs, lakes and other sources of water (Sherbondy, 1998). By appropriating Lake Titicaca as its origin place, the Inka empire made itself the centre of this hydrological cosmovision. While their elaborate road system connected the most remote areas to a centralised power apparatus in a military and tribute-paying sense, the symbolic incorporation of all local water sources into one, centralised religious and hydrological presentation became a powerful ideological tool.

We also find that pre-Inkaic forms of cultural and social dualism were appropriated and expanded upon by the Inka state as a means to legitimate its power (by using an existing symbolic and ritual resource, that is, dualism), to organise productively subject peoples and nations (they and their resources were divided along dual lines) and to extract surplus production (tributation was organised along dual lines, i.e., through two ethnic chieftans assigned to each conquered group). Indeed, the dual spatial divisions, that is, opposed halves or moieties (*anansayalurinsaya* or upper/lower moiety) found in many Andean communities today, are a legacy of Inka and Spanish domination (Gelles, 1995). Under the Inka, for example, this classification was central to the social and spatial organisation of the Inka empire (Sherbondy, 1982, 1998; Urton, 1990; Zuidema, 1990), including the irrigation systems and other productive resources of the distinct peoples they conquered. Because different social and cultural dualisms were present in many pre-Columbian polities, Inka dual organisation restructured the resources and people of the conquered areas in a way that was consonant with pre-existing worldviews. Such ideological control facilitated the extraction of resources and surplus value along these dual lines; the Spaniards later appropriated many of these dual divisions for their own extractive purposes (see Gelles, 2000, for more detail).

Because of its key role in the organisation of production, and because it even had some affinity with Spanish models of social and political organisation, the Spanish state appropriated the *saya* divisions, which continued to be used as a means of extracting surplus from Andean communities. Today, a variety of activities in many villages and towns throughout the highlands of Ecuador, Bolivia and Peru are still organised along

dual lines. As we will see in the second case study below, the *saya* division often finds its most explicit expression in local models of irrigation.

Another important local norm that was appropriated by both the Inka and Spanish colonisers was the ancestral principle regarding access to irrigation facilities and the creation of water rights. Water users earn water rights and create collective hydraulic property by investing their labour and resources in the construction and maintenance of irrigation facilities (Boelens and Hoogendam, 2002). Today, as we will see in our first case study, this mechanism of water rights creation remains a leading principle in Andean communities. Yet, we also find that the collective labour of local communities was also used for extractive purposes by Inka and Spanish rulers, as well as by local elites: communal labour benefiting the local populace was thus transformed into *corvée* labour.

In sum, mountain cults, cultural categories based on dualism, the creation of water rights and hegemonic models of water management have conditioned each other in complex and variable ways over the last centuries. Local cultural orientations, symbolically and administratively incorporated into state systems, were active agents in the development and organisation of centralised political authority. Today, however, modernising nation-states have other means of extracting surplus production and other models for organising irrigation.

Imagined Communities and the Cultural Politics of Andean Irrigation Development

In the Andean nations today, irrigation bureaucracies and the politics of development must be understood in the context of state policies which reflect and deploy the political will and cultural hegemony of a dominant ethnic group, one which has controlled nation-building processes since Independence (in this case since the early nineteenth century). As Herzfeld, in a different context, puts it, 'Nationalist ideologies usually lay claim to some kind of constructed "national character". Their bureaucracies have the task of calibrating personal and local identity to this construct' (1992: 3). In a word, the institutional cultures generated within irrigation bureaucracies are inevitably shaped by the particular kind of 'imagined community' (Anderson, 1983) to which they belong (Maybury-Lewis, 1982; Arce and Long, 1999).

As such, national irrigation and other bureaucracies are directly tied 'to long-established forms of social, cultural, and racial exclusion in everyday life' (Herzfeld, 1992: 13). They treat particular individuals and groups differentially, depending on whether they are seen as sharing the bureaucrats' social world and cultural orientations; this is often expressed with metaphors of race and bloodlines. State officials usually ignore indigenous models of resource management not only because of the alleged superiority of 'modern' Western cultural forms and organisation, but because the power holders and dominant cultures of these nations regard indigenous peoples as racially and culturally inferior (Gelles, 2000). And, as Lynch (1993) and Boelens and Zwarteveen (2002) have shown, this devaluation and exclusion extends to women, as the gender discrimination found in the field and in irrigation offices is part and parcel of this bureaucratic tradition.

Here, we need to examine an important change that clearly differentiates power relations in the Republican states from their Inka and Spanish colonial predecessors: there is a move from political exclusion to an imagined political 'inclusion' of indigenous peoples, from a discourse of racial (and thus 'natural' social) differentiation to a discourse of equality.¹ In addition to appropriating local cultural norms for their own extractive purposes, the Inka emperors and other indigenous leaders, as well as the kings, *conquistadores* and *hacendados* during the Spanish colonial period, differentiated and elevated themselves by *excluding* the subordinated classes from social life, services and the public sphere (Flores Galindo, 1988; Bolin, 1990; van der Ploeg, 1998). Many different means, including public displays that glorified and reified the might of the groups in power, reinforced this differentiation and social exclusion.

In the postcolonial area, the opposite occurs with the establishment of the new republics: it is not so much the powerful authorities and landlords that are made 'visible', but rather the common people, including those living in peasant and indigenous communities, who are now included as 'citizens' in the national project. Indigenous peasants thus become 'key target groups' and 'subjects of development', and are brought to the fore, by means of a Foucauldian 'disciplining', 'participatory' power of 'equalising normalisation', which is present in everyday interactions; 'it actually manifests and reproduces or transforms itself in the workplaces, families and other organisational settings of everyday life' (Foucault, 1980). Yet, the powerful groups that benefit from this 'inclusive' power, as well as the new mechanisms and rules of subordination, in fact remain invisible (Achterhuis, 1988).

New irrigation legislation and state policies are thus often an expression of post-colonial equality discourses; inclusive power strategies gradually get the upper hand, in some instances completely replacing earlier exclusive strategies, at others joining forces with them. As De la Cruz (1993) observed, 'the principle of equality before the law is valid for the identical and profoundly unjust for the diverse' (Stavenhagen and Iturralde, 1990; IUAES-CFLLP, 2000). 'Participation' and 'equality' as citizens in mainstream society becomes an important and subtle tool of subordination. This horizontal, disciplining power functions because it penetrates people and society as a whole. 'This power is exercised rather than possessed; it is not a "privilege", acquired or preserved, of the dominant class, but the overall effect of its strategic positions – an

1 It is important not to oversimplify the issue of 'exclusion' in prerepublican eras. For example, in the colonial era, Indians were considered 'miserable but human' and the need for a legal system of guardianship was proposed. As Guevara (1993) has observed, a system of 'miserable-ness' was established, which was discriminatory, but which was also designed to protect Indians from other colonial agencies. Colonial law was established in paternalistic, clientelistic terms, and indigenous peoples had to operate under two legal systems: that of the 'Republic of Spaniards' and that of the 'Republic of Indians'. In this regard, both juridical plurality and interlegality were daily situations in the colonial world (Flores Galindo, 1988; Guevara, 1993; Salman and Zoomers, 2003); certain aspects of the relationship between these two 'Republics' even reflected a pact of reciprocity (Platt, 1982). So, then, at the same time that indigenous communities' water resources were exploited and usurped, their 'rights, uses and customs' were also defended, for example, in the Laws of the Indies and by decisions of the Crown.

effect that is manifested and sometimes extended by the position of those who are dominated' (Foucault, 1995).

Thus we see, for example, that in the Andes and many world regions, irrigation technicians and development professionals introduce virtually the same irrigation techniques, knowledge and norms (developed in Western research centres, universities and development enterprises). But they are not just 'imposed' in a top-down way: in many instances, it is the indigenous peasants *themselves*, in the Andes and elsewhere, who ask for this same technology, in order to 'progress' and leave behind their traditional 'backward' technology, in order to become like the western-oriented, 'modern farmers, in order to gain economic parity' (van der Ploeg and Long, 1994; Escobar, 1995; Boelens, 2003).

In this way, power in modern nation-states seeks for the *inclusion*, rather than the *exclusion* of Andean communities, indigenous peasants and other oppressed classes (Achterhuis, 1988; Boelens and Dávila, 1998). At the same time, this 'uniformity' and 'equality' supposedly makes it easy to measure these social groups: they are individualised, classified and made 'cases' according to the ways that they do or do not fit the model. Yet, their participation often results in disappointment, in social and cultural disintegration, and in their being defined as 'permanently backward people', due to the impossibility of meeting the norms for being equal. In the words of Fanon (1963: 163): 'Bourgeois ideology [...] which is the proclamation of an essential equality between men, manages to appear logical in its own eyes by inviting the submen to become human, and to take as their prototype Western humanity as incarnated in the Western bourgeoisie. [...] The Western bourgeoisie, though fundamentally racist, most often manages to mask this racism by a multiplicity of nuances which allow it to preserve intact its proclamation of mankind's outstanding dignity'.

Another clear example of this is found in the normalising, 'equalising' and categorising properties of neoliberal market ideologies penetrating the Andean nations, including the legal and policy frameworks regarding water management. Neoliberal economic principles are, on the one hand, imposed on Andean states by international institutions and national power groups, but, on the other hand, many of these basic principles have been adopted and internalised by Andean communities, penetrating and subtly transforming local management forms and often disarticulating indigenous water control. The gradual individualisation of land and water rights, the commoditisation of labour and exchange relationships in local water control and the acceleration of monetary water rights transactions and the demise of customary rights acquisition mechanisms are all examples of this transformation. Thus, the deployment of secular, rational, universally applicable irrigation models, supported today by water-management privatisation ideologies, is a powerful means by which contemporary nation-states and private interest sectors extend their control.

In sum, it is clear that contemporary nation-states employ a new and different symbology of power – espoused in modernisation and development discourses as well as in neoliberal economic policies, which aims to 'include', not to 'exclude'; it pretends to provide universal benefits – while in fact extending state control and the cultural orientations of national and international power holders. This does not mean that vertical, exclusive power strategies have disappeared. Rather, inclusive and

exclusive power strategies are the two, changing sides of the same coin, one that sometimes shows its 'soft', participatory face while at other times appearing as an outright oppressive, top-down strategy. Within this context, the recognition and balanced valuation of local beliefs and practices is necessarily precluded because any legitimisation of these local norms calls into question the state's and market ideology's supposed monopoly on rationality and legitimate culture.

Constructing Identity and Water Rights in an Ecuadorian Irrigation System

Licto, the name of a highland area in the Chimborazo province of Ecuador, encompasses 28 indigenous rural communities; it is also the name of the main town. In these communities, which are located between 2700 and 3600 m above sea level, demographic pressure has led to the rapid degeneration of natural resources. Consequently, subsistence agriculture, carried out primarily by women, does not meet basic needs. Intermittent migration and wage labour, especially by men, is a necessary complement to local production.

The total population of Licto is 13,000; 90 per cent are indigenous and ten per cent *mestizo* (mixed). The latter, who traditionally constitute the local elite, generally reside in the town of Licto. As in many Andean regions, there is a long history of white-mestizo landowners and other local powerholders subordinating the indigenous communities. The situation has been characterised by discrimination and exploitative trade relations; so, too, collective labour investment was until recently expropriated by these landlords to serve their private economic goals.

Although the forms and relationships of exploitation have shifted in the last few decades, poverty and ethnic and class-based discrimination endure. There have been countless promises from outsiders and development institutions to help these indigenous communities, and just as many disappointments. Therefore, when local communities, through the rural indigenous Corporation of Rural Organizations of Licto (CODOCAL), were invited in 1989 to take part in an ambitious irrigation project, many local indigenous residents were wary. Indeed, it was precisely the white-mestizo people living in Licto town who had promoted this project through their contacts with the Ecuadorian Institute of Water Resources (INERHI), at that time the governmental irrigation agency. Nevertheless, some indigenous leaders from the communities, and many poor women from the town of Licto, also saw this project as a potential means to alleviate their poverty and to challenge existing power structures.

INERHI had been working on the studies and execution of the system since 1974. It was a classic example of the kind of vertical design and implementation reviewed in the last section, one that completely excluded the rural population from any decision-making. In their offices in Quito, technical staff who were completely unfamiliar with rural Licto provided the technical and organisational designs, which were presented in 1990 as 'the final designs'.

According to the plans, the main canal would first benefit the town's mestizos, some 500 ha at the head-end of the system. This would yet again weaken the situation of the

indigenous communities, located at the tail-end of the system, thus reinforcing prevailing power structures. And contrary to local norms, the design would redistribute water to irrigators according to the size of their holdings, regardless of their active labour investment in building or maintaining the system. Moreover, no night reservoirs were included in the design, thus mandating nocturnal irrigation. This implied severe problems for the great majority of future irrigators: women. The difficulties of getting permission to go out at night and of leaving little children behind, and the threat of sexual violence, would make it difficult, if not impossible, for women to enact their water rights. Finally, the canals and hydraulic sectors were designed purely on the basis of technical and geographical criteria, ignoring community boundaries.

This top-down blueprint was bolstered by an organisational and legal design grounded in national law and uniformly enforced nation-wide. For example, INERHI's Regulations for Administration of Irrigation Systems established that each hydraulic sector should appoint five officers (such as president and vice president). Considering that Licto would have some 120 hydraulic sectors, this would entail appointing some 600 new leaders, and these would be *parallel* to the existing community leadership structures. As has happened elsewhere in the region, these imposed structures would have interfered with communal institutions that assure collective survival. Moreover, the Regulations set a single blanket fee that everyone would pay for water service, in this way ignoring user labour and organisational contributions, as well as the broad, national diversity in system productivity and profitability.

The combination of these organisational, legal and technical designs clearly illustrates the Foucauldian techniques of governance, or instruments of discipline, mentioned in the last section. The power of the state agency, as well as that of local elites, would now have an even stronger influence on the daily running of the irrigation system. Most communities that joined the project did not question the sociotechnical designs since these were portrayed as being 'normal' (i.e. according to the set standards), as well as 'modern and efficient' (based on expert knowledge). The majority of water users thus saw their communities' self-regulation according to these modern norms as a rational, coherent and even progressive response to the project's water-development opportunities. Nevertheless, these uniform, 'equalising' rules from outside institutions would deny local control over decision-making; they would also facilitate extraction and intensify exogenous domination over local livelihoods. The design of the system would thus further strengthen state control by the so-called 'inclusion' of the indigenous communities in exogenous, 'modern' management.

However, in the course of 1992 and 1993, the sociopolitical panorama changed dramatically in Licto. CODOCAL elected new, strongly committed leaders who wanted to solve conflicts between communities, bringing them together within a unified indigenous organisation. They established a water users' organisation, the Irrigation Directorate, within CODOCAL's intercommunal structure and rooted it in community organisation – not based on the hydraulic sector formula prescribed by law. An Ecuadorian NGO, CESA (Central Ecuatoriano de Servicios Agrícolas) joined the water-development efforts of the local communities and supported their claims vis-à-vis the government agency.

In late 1993, INERHI sent the official regulations for administering and organising governmental irrigation systems. But rather than accepting the organisational blueprint and simply paying for the water at nation-wide rates (the official approach, which in practice favoured some powerful white-mestizo families), the communities decided to establish their own rules and rights based on a fundamental principle: *The right to water and management decision-making is earned by those who work in the communal labour work-parties, who participate in the water users' organisation, and who pay their dues according to collectively established contribution rates.* The crux of the indigenous peasants' protest and proposal was that *'rights cannot be purchased – they must be earned'*. This is in keeping with notions of 'proportionality' and equity found elsewhere in the Andes (Mitchell and Guillet, 1994; Mayer, 2002; Trawick, 2003).

At the same time, the communities, with support from the NGO, carefully analysed the technical, organisational, and normative designs and discussed their implications and probable consequences; they then redesigned the system. However, the government agency's technical and administrative officers would not agree to such fundamental changes in 'their system'. In addition to having to discard the designs and norms in which they were professionally heavily invested, they would have to agree to the design criteria of 'outsiders', indeed, that of 'Indians', which was entirely counter to the prevailing racial logic in Ecuador.

But after two years of struggle and negotiations,² in which the countervailing power of the indigenous communities grew strongly, the agency had to accept that the project was destined to fail and, even worse, was in danger of becoming a political fiasco; social peace, public image, and election votes were at risk. INERHI was forced to redesign the system with the participation of the communities and the NGO. But they refused to discuss the 'illegal' organisational and normative proposals proposed by the communities.

Again the communities prevailed. Despite the fact that the State agency was unwilling to ratify the rules formulated by the indigenous organisation, the latter quickly enforced those rules as the guiding principles of their own system. According to these principles, paying fees to the State was not enough to obtain rights to water and decision-making; rather these rights would be 'created' during system construction and 'recreated and consolidated' through the users' participation in operation and maintenance. This ancient Andean norm, which in the past had been appropriated by states for their own hegemonic interests, was now reappropriated by local communities; it became the solid foundation for the system's management, and, indeed, much more.

This norm became an all-purpose tool that indigenous communities could use to challenge both the State as well as the town's white-mestizo families. On the basis of this criterion of *'creating rights'*, there has been a consciousness-raising process in which communities built a new identity, a 'hydraulic identity', based on their own specific rules. First, the tail-end indigenous communities were united in an indigenous irrigators' association with its *own* principles; second, once they were on solid ground with clear, strong norms and the capacity for negotiation, this organisation 'invited the

2 For an elaboration of this political, sociotechnical and discursive struggle, see the film 'The Right to be Different' (Wageningen University-Agrapen, 2003), Chapter 36 of Boelens and Dávila (1998) and Chapter 7 of Boelens and Hoogendam (2002).

town to join'. The white-mestizo townsfolk of Licto thus had to accept the equitable criteria already established by the communities themselves.

As one might expect, this organisational strategy and transformation at first faced great resistance from white-mestizo power groups in the town of Licto. When they saw their power dissipating, some tried to keep manipulating the situation; as one indigenous informant, recreating a conversation between powerful mestizos that he had overheard, related: 'Don't worry – when the water gets here we'll just talk with our buddies at the irrigation agency and we'll get all the water. There's no need to work in the communal work parties. C'mon, how could we possibly work with Indians?!' (Boelens and Hoogendam, 2002: 162).

Nevertheless, the strategy of the intercommunity irrigation organisation, structured within the indigenous peasant organisation CODOCAL, succeeded; it has now grown to become the strongest political force in Licto. But change has come about, not only through the empowerment of indigenous communities and the efforts of CODOCAL and the NGO, but also through 'subversive' processes in the town of Licto itself. The poorest groups in town, many headed by women, called together all the neighbourhoods in the town of Licto in order to form a democratic irrigation organisation, just as the indigenous communities had done (for a gendered analysis, see Arroyo and Boelens, 1997). Despite protests from the priest, the town's administration board, and many white-mestizo families, this Licto irrigation committee joined forces with CODOCAL. The indigenous communities' criteria for equitable rules and water rights were accepted by these poor townspeople; so, too, the communities helped the poor of Licto to weaken the internal oppressive structures in the town of Licto itself.

We see, then, that together, indigenous communities and the poor of Licto properly successfully faced down the abusive power relationships of the region. And since that time, through a series of ups and downs, the Licto irrigators' organisation has earned increasing respect from development and state agencies, as well as recognition from more and more of the local mestizos, who have been forced to 'make the best of a bad situation' and who have now applied for membership in the irrigation organisation.

Obviously, this is not the end of Licto's struggle for a well-functioning and more equitable irrigation system, but part of an ongoing battle as new threats gain momentum. For example, at the national level, neoliberal policies currently threaten to bring about the privatisation of water rights and the individualisation of collective water control.³ However, the indigenous and peasant movement of the Licto region described above has created an important and solid base to counter such threats.

Cultural Identity, Resistance, and Reappropriation in a Peruvian Irrigation System

Cabanaconde, located at 3270 m above sea level in southern Peru (Province of Caylloma, Department of Arequipa) and founded as a *reducción* in the 1570s, is the

3 Boelens and Zwarteveen (2003) present an elaborate discussion of the important implications of the neoliberal water policy model in the Andean region.

largest community of the Colca Valley. The people of Cabanaconde, numbering upwards of 5000 at present, are bilingual Quechua and Spanish speakers who distinguish themselves ethnically from other groups in the region. There has long been a considerable amount of seasonal and permanent outmigration, and today the community has migrant colonies in Arequipa, Lima and Washington, DC, with approximately 1000, 3000 and 600 members, respectively. So, too, in the last few years, the community has been further joined to the outside world through the introduction of television, the telephone and other media technologies. But together with transnationalism and these other cultural transformations, the mountain worship and the Inka-derived dual organisation reviewed in the second section of this article continue to structure many community activities, including irrigation.

All of Cabanaconde's agriculture is irrigated, the water coming from the Majes Canal and the snow melt of Hualca-Hualca, a 6000-m high peak. Twenty-four hours a day, for several months a year, irrigation water descends the Hualca-Hualca River and passes directly through a series of canals to more than 1200 ha of agricultural terraces found in Cabanaconde's main fields. Hualca-Hualca Mountain, alongside 'Earthmother' and figures in the Catholic pantheon, is a principal deity and the object of much worship.

The cult to Hualca-Hualca Mountain is ancient. In 1586, the ethnic lords of the ancient Cavana polity told a Spanish crown official that their ancestors emerged from Hualca-Hualca Mountain, the source of their irrigation water. The same document states that the Cavana people dutifully worshipped her (Ulloa Mogollón, [1586] 1965). As we saw earlier in the article, beliefs about origins in, and the worship of, mountains and other sources of water is very much part and parcel of widespread and long-standing Andean notions of identity that link people, place and production.

Today, the irrigation and ritual practices associated with the cult of Hualca-Hualca Mountain are exemplified in the 'local model' of irrigation. During most of the yearly distribution cycle, water management is in the hands of two men who carry snake-headed staffs of authority and often have flowers adorning their hats. They alternate, each spending four consecutive days and nights in the fields 'together with the water'. These are the water mayors (*yaku alcaldes*), the men responsible for the distribution of irrigation water. They are at the centre of the local model of dual organisation and distribute water to the land classified as belonging to their moiety, either 'anansaya' or 'urinsaya'.

The water mayors are ritual actors and carry out countless rituals throughout the irrigation cycle. The ritual attainment of fertility and the symbolic control over the sources of water through worship of mountain deities and the earth are crucial aspects of the local model, and its rationale and practice must be understood in terms of these. Water, however, can also bewitch, and can even be deadly to those who do not carry out the proper rituals. The dual organisation of the anansaya and urinsaya fields is a remnant of the extractive form of Inka dual organisation reviewed early in this article. At the same time, dual organisation involves alternation and an overriding conceptual dualism that seeks equilibrium through the complementarity of opposites (Maybury-Lewis, 1989) and is a fundamental element in the Cabaneños cosmovision (Gelles, 1995).

But the cultural orientations embodied in this local model are challenged by the policies and bureaucracies of the Peruvian state. Officially, the Peruvian state ostensibly has the right to decide not only the uses and allocation of water, but also the organisational models by which it is managed. While the Peruvian state has declared that all water in Peru is the property of the state since the early twentieth century (Andaluz and Valdez, 1987), it is only since the 1960s that the state has centred its energies on extending its control to highland irrigation by imposing water user associations and new forms of distribution.

Since the 1970s, the state has consistently attempted to intervene in the distribution practices of Cabanaconde. Today, for a brief but important period during the yearly agricultural cycle, there is a different type of 'repartitioner', or person in charge of redistribution. These individuals, who are community members like the water mayors, implement the state's model of distribution. They are called controllers (*controladores*), and distribute water to the fields *de canto*, that is, sequentially from 'one end to the other', ignoring the dual classification of the plots found in the local model.

A whole series of cultural norms that accompany the state model of distribution are different from those of the local model. The controllers, for example, do not receive coca and liquor from the irrigators as the water mayors do. Rather, they receive money. They are not fulfilling a major *cargo*, as are the water mayors, but rather a minor civic duty. Instead of a snake-headed staff to legitimate their authority, the controllers have an official decree from the local Irrigators Commission. They neither perform elaborate rituals nor sponsor large social events, as do the water mayors.

The *de canto* model, which is the official model imposed throughout the Peruvian highlands, is supposedly more rational and efficient since it avoids the loss of water that occurs when one water mayor has to irrigate a few plots of his *saya's* land in fields predominantly classified as belonging to the other *saya* and which the opposing water mayor has already irrigated. People admit that water is lost in the *saya* system and it sometimes causes damages. However, the general sentiment is that these inconveniences are made up for by the competition between the two water mayors and the well-established *ansaya/urinsaya* dual circuit that water follows. As one man put it, 'They [the official controllers] don't give a damn, they don't care if the water moves along as long as they get paid. They'll even slow it down to collect more money, and they leave their posts without a thought'. Moreover, the dual model provides a cognitive map and fixed sequence of distribution not found in the *de canto* state model; local elites can easily manipulate the latter to irrigate unauthorised fields.

Today and over the last 50 years, there have been attempts by local elites and state officials to supplant completely the local model of distribution with that of the state. This 'inclusion-oriented' strategy, whereby local production is 'rationalised' in terms of the state's universal model, would in fact reinforce the political power of local elites and serve the extraction purposes of both state and private interest sectors. However, the power of the local model, and its capacity for resisting and absorbing the state model, is remarkable (Gelles, 2000).

We see that state and local models of irrigation represent two extremely different ways of conceptualising and implementing water management. One is focused on ritual assurance, and views water as part of a larger social and symbolic universe, while the

other takes a secular and bureaucratic view of water management. The latter has recently received greater impetus from the neoliberal water policy initiatives that are currently sweeping the Andean nations. In this sense, the imposed state model represents the cultural interests and power not only of local elites, but also those of the dominant coast-based *criollo* society and international power holders. This is recognised by the townspeople of Cabanaconde and partially explains why it is that, although the state model has gained ground over the years, key elements of the local model remain firmly entrenched. In sum, the 'state' model of yesteryear, based originally on Inka and Spanish appropriations of local forms of dual organisation, has become a 'local' model of cultural resistance today.

Conclusions

This article began with a consideration of key issues in the history and contemporary cultural politics of Andean irrigation. We examined how local forms and rules of water control have been appropriated and affected by colonial and postcolonial State policies. Both the classic 'exclusion-oriented' policies of earlier states and the 'inclusion-oriented' policies of contemporary nation-states have been used to extract surpluses from communities and to legitimate State authority. Against this backdrop, we then used the case studies from Licto, Ecuador and Cabanaconde, Peru, to illustrate the reactions of local communities to these imperial power plays and to the contemporary politics of development.

As this article has demonstrated, the top-down, secular, bureaucratic, monetary, and supposedly more rational and efficient state models of water management claim to provide universal benefits, while in fact extending state control and the cultural orientations of national and international power holders. In the last several years, neoliberal policies, sustained by national and international institutions and power groups, have joined the battlefield, reinforcing market rules and imposing the privatisation of water rights on the communities, thereby attempting to externalise water control and shape the internal 'needs' that counteract collective action and community survival. Implicit in these ideologies of development is the assumption that indigenous peoples must renounce their cultural orientations, identities and communal forms of organisation to progress.

The perspective advanced here challenges this assumption and the trivialisation of indigenous ways of life; at the same time, it problematises indigenous irrigation beliefs, norms, and practices in Andean communities by examining their production and reproduction in relation to larger political and economic forces. The production and reproduction of local water-management rules, forms of user organisations and water-related cultural identities in the Andes served the extractive and hegemonic purposes of imperial and postcolonial states. Ironically, many of these same norms and organisational forms are today being strategically reappropriated and adjusted by local communities to resist control and surplus extraction by the state and 'outside' interest groups. Indeed, as demonstrated in both Licto and Cabanaconde, international and

national imports have a hard time displacing local models of irrigation and community action.

In the case of Licto, we saw that indigenous communities reappropriated fundamental water-control norms in their struggle against domination by elites and against the external control of local water management. By creating infrastructure, the water users establish their water rights and create their 'hydraulic property', a common ownership of the system which bonds irrigators together and is the motor of their collective action (Coward, 1986). The creation and maintenance of collective hydraulic property, grounded in shared history, customs, rituals and struggles, links family and collective rights to their collective 'hydraulic identity'. This process also guarantees that local collective bodies have effective control over the development and application of their own norms; it also establishes their right to dispute the very legitimacy of the normative systems and authorities imposed by external political forces. Clearly, then, the collective management of water resources in Andean communities, and the struggle to obtain, reclaim and defend both water access and water rights is a powerful means to give shape and meaning to local processes of identity formation.

In the case of Cabanaconde, we see once again that the State imposes a universal irrigation model, one that is supposedly more rational and efficient than local indigenous practices. But, as with Licto, the community of Cabanaconde disputed and resisted the State's control over 'its' water. Alternating water mayors and dual divisions, time-worn vestiges of Inka and Spanish state hegemony, today constitute the local 'indigenous' model of irrigation. As we saw earlier in the article, dualism and a diverse complex of pre-Inka cultural frameworks gained further impetus through Inka domination and were used as an ideological tool to naturalise state control over local resources and labour; this continued throughout the Spanish colonial, as well as much of the Republican, period. But it is the cultural staying power of duality and mountain ritual – that is, the instrumental meanings and ritual efficacy of the local model of irrigation – that today has transformed dual organisation into a form of resistance against interference by local elites and the contemporary Peruvian state.

The materials from both Licto and Cabanaconde clearly show the problematic and damaging nature of instrumental thinking, practised by 'experts' in 'social and legal engineering' (Long and van der Ploeg, 1989; von Benda-Beckmann, von Benda-Beckmann and Spiertz, 1998; Bruns and Meinzen-Dick, 2000; Vincent, 2001). Instead of trying to formulate and implement 'the best universal rules, rights and procedures' as state agents and development officials would have it, it is essential to understand the locally based process of creating water-control norms; we must focus on the nature of rules in social action (Schaffer and Lamb, 1981; Cleaver 2000; Boelens and Doornbos, 2001). As both of our case studies show, different social groups confront each other not to only establish rules and water rights, but also to define the legitimate framework by which they will be applied.

In conclusion, this article has studied why it is that in many Andean communities today, indigenous peasant irrigators claim both the right to equality and the right to be different. On the one hand, there is a general demand for greater justice and equality regarding the unequal distribution of decision-making power, water and other benefits in Andean society. On the other, there are demands for internal distribution to be based

on autonomous decisions, locally established rights and principles and indigenous cultural frameworks that reflect the diverse strategies and identities found in Andean communities today. As the materials presented here clearly show, these demands are not to be taken lightly.

References

- Achterhuis, H. (1988) *Het rijk van de Schaarste. Van Thomas Hobbes tot Michel Foucault*. Ambo: Baarn.
- Andaluz, A. and Valdez, W. (1987) *Derecho ecológico peruano: inventario normativo*. Editorial Gredes: Lima.
- Anderson, B. (1983) *Imagined communities: reflections on the origin and spread of nationalism*. Verso: London.
- Arce, A. and Long, N. (eds) (1999) *Anthropology, development and modernities: exploring discourses, counter-tendencies, and violence*. Routledge: London.
- Arroyo, A. and Boelens, R. (1997) *Mujer campesina e intervención en el riego andino. Sistemas de riego y relaciones de género, caso Licto, Ecuador*. CAMAREN: Quito.
- Baud, M. (1997) *In de Schaduw van de Bosrand*. Leiden: Rijksuniversiteit Leiden.
- Baud, M., Konings, K., Oostindie, G., Ouweneel, A. and Silva, P. (1996) *Etnicidad como estrategia en América Latina y el Caribe*. Abya Yala: Quito.
- Bauer, C. (1997) Bringing water markets down to earth: the political economy of water rights in Chile, 1976–1995. *World Development* 25(5): 639–656.
- von Benda-Beckmann, F., von Benda-Beckmann, K. and Spiertz, J. (1998) Equity and legal pluralism: taking customary law into account in natural resource policies. In R. Boelens and G. Dávila (eds), *Searching for equity*, pp. 57–69. Van Gorcum: Assen.
- Boelens, R. (2003) *Local rights and legal recognition. The indigenous struggle for water rights and the politics of participation*. Paper presented at the Third World Water Forum, March 2003, Japan. WALIR-UNESCO: Kyoto.
- Boelens, R. and Dávila, G. (eds) (1998) *Searching for equity. Conceptions of justice and equity in peasant irrigation*. Van Gorcum: Assen.
- Boelens, R. and Doornbos, B. (2001) The battlefield of water rights. Rule making amidst conflicting normative frameworks in the Ecuadorian highlands. *Human Organization* 60(4): 343–355.
- Boelens, R. and Hoogendam, P. (eds) (2002) *Water rights and empowerment*. Van Gorcum: Assen.
- Boelens, R. and Zwartveen, M. (2002) Gender dimensions of water control in Andean irrigation. In Boelens and Hoogendam (eds), (2002): 75–109.
- Boelens, R. and Zwartveen, M. (2003) The politics of Andean water policy reforms. Local and indigenous rights in the context of privatization policies. *Austrian Journal of Development Studies* 19(4): 56–75.
- Bolin, I. (1990) Upsetting the power balance: cooperation, competition and conflict along an Andean irrigation system. *Human Organization* 49(2): 140–148.
- Bruns, B. R. and Meinzen-Dick, R. S. (eds) (2000) *Negotiating water rights*. Vistaar Publications: New Delhi and IT Publications: London.
- Cleaver, F. (2000) Moral ecological rationality, institutions and the management of common property resources. *Development and Change* 31(2): 361–383.
- Coward, W. E. (1986) State and locality in Asian irrigation development. The property factor. In K. Nobe and R. K. Sampath (eds), *Irrigation management in developing countries*. Studies in Water Policy and Management 9, pp. 491–508. Westview Press: Boulder, CO.

- De la Cruz, R. (1993) Aportes del Derecho Consuetudinario a la reforma jurídico del Estado. In J.C. Ribadeneira (ed) *Derecho, pueblos indígenas y reforma del Estado*, pp. 71–96. Abya-Yala: Quito.
- Diemer, G. and Slabbers, J. (1992) *Irrigators and engineers*. Thesis Publishers: Amsterdam.
- Escobar, A. (1995) *Encountering development. The making and unmaking of the third world*. Princeton University Press, Princeton, NJ.
- Fanon, F. (1963) *The wretched of the earth*. Grove Press: New York.
- Flores Galindo, A. (1988) *Buscando un Inca. Identidad y utopía en los Andes*. Editorial Horizonte: Lima.
- Foucault, M. (1980), ed C. Gordon *Power/knowledge: selected interviews and other writings 1972–1978*. Pantheon Books: New York.
- Foucault, M. [1977] (1995) *Discipline and punish. The birth of the prison*. Vintage Books: New York.
- Gelles, P. H. (1995) Equilibrium and extraction: dual organization in the Andes. *American Ethnologist* 22(4): 710–742.
- Gelles, P. H. (2000) *Water and power in highland Peru: the cultural politics of irrigation and development*. Rutgers University Press: New Brunswick, NJ.
- Gelles, P. H. and Martínez, W. (1993) *Transnational fiesta: 1992*. Center for Media and Independent Learning: Berkeley.
- Guevara, A. (1993) *Propiedad agraria y derecho colonial*. Pontificia Universidad Católica del Perú: Lima.
- Herzfeld, M. (1992) *The social production of indifference: exploring the symbolic roots of western bureaucracy*. University of Chicago Press: Chicago, IL.
- IUAES-CFLP (2000) *Derecho consuetudinario y pluralismo legal: desafíos del Tercer Milenio*. International Congress on Legal Pluralism, Marine 2000. International Union of Anthropological and Ethnological Sciences & Commission on Folk Law and Legal Pluralism: Arica, Chile.
- Long, N. and van der Ploeg, J. D. (1989) Demythologizing planned intervention: an actor perspective. *Sociologia Ruralis* 29(3/4): 226–249.
- Lynch, B. (1988) *The bureaucratic transition: Peruvian government intervention in sierra small scale irrigation*. PhD Dissertation. Cornell University.
- Lynch, B. (1993) The bureaucratic tradition and women's invisibility in irrigation. Proceedings of the 24th Chacmool Conference, pp. 333–342. University of Calgary Archeological Association: Alberta.
- Maybury-Lewis, D. (1982) Living in leviathan: ethnic groups and the state. In D. Maybury-Lewis (ed.), *The prospects for plural societies*, pp. 220–232. American Ethnological Society: Washington.
- Maybury-Lewis, D. (1989) The quest for harmony. In D. Maybury-Lewis and U. Almagor (eds), *The attraction of opposites: thought and society in the dualistic mode*. University of Michigan Press: Ann Arbor, MI.
- Mayer, E. (2002) *The articulated peasant. Household economies in the Andes*. Westview Press: Boulder.
- Mitchell, W. P. and Guillet, D. (eds) (1994) *Irrigation at high altitudes: the social organization of water control systems in the Andes*. Society for Latin American Anthropology, Publication Series, V.12. American Anthropological Association: Washington, DC.
- Pacari, N. (1998) Ecuadorian water legislation and policy analysed from the indigenous-peasant point of view. In R. Boelens and G. Dávila (eds), *Searching for equity*, pp. 279–287. Van Gorcum: Assen.
- Platt, T. (1982) *Estado Boliviano y ayllu andino. Tierra y tributo en el norte de Potosí*. IEP: Lima.
- van der Ploeg, J. D. (1998) Peasants and power. In R. Boelens and G. Dávila (eds), *Searching for equity*, pp. 39–45. Van Gorcum: Assen.

Cultural Politics of Andean Irrigation

- van der Ploeg, J. D. and Long, A. (eds) (1994) *Born from within: practice and perspectives of endogenous development*. Van Gorcum: Assen.
- Salman, T. and Zoomers, A. (eds) (2003) *Imaging the Andes: shifting margins of a marginal world*. CEDLA Latin America Studies 91. Aksant/CEDLA: Amsterdam.
- Schaffer, B. and Lamb, G. (1981) *Can equity be organized? Equity, development analysis and planning*. Institute of Development Studies, Sussex University: Brighton.
- Scott, J. (1990) *Domination and the arts of resistance hidden transcripts*. Yale University Press: New Haven.
- Sherbondy, J. (1982) El regadío, los lagos y los mitos de origen. *Allpanchis* 17(20): 3–32.
- Sherbondy, J. (1998) Andean irrigation in history. In R. Boelens and G. Dávila (eds) (1998), pp. 210–215. Van Gorcum: Assen.
- Stavenhagen, R. and Iturralde, D. (eds) (1990) *Entre la ley y la costumbre. El derecho consuetudinario indígena en América Latina*. Instituto Indigenista Interamericano & Instituto Interamericano de Derechos Humanos: Mexico City.
- Trawick, P. (2003) *The struggle for water in Peru: comedy and tragedy in the Andean commons*. Stanford University Press: Stanford.
- de Ulloa Mogollón, J. [1586] (1965) Relación de la Provincia de los Collaguas para la discreción de las Indias que su majestad manda hacer. In M. Jiménez de la Espada (ed.), *Relaciones geográficas de indias*, Vol. 1, pp. 326–333. Biblioteca de Autores Españoles: Madrid.
- Urton, G. (1990) *The history of a myth: Paqaritambo and the origin of the Inkas*. University of Texas Press: Austin.
- Vincent, L. (2001) Water and rural livelihoods. In R. Meinzen-Dick and M. Rosegrant (eds), *Overcoming water scarcity and quality constraints, 2020 focus*, Vol. 9. IFPRI: Washington.
- Zuidema, T. R. (1990) *Inca civilization in Cuzco* (Trans.: J. J. Decoster). University of Texas Press: Austin.
- Zwartheveen, M. (1997) Water: from basic need to commodity: a discussion on gender and water rights in the context of irrigation. *World Development* 28(8): 1335–1349.