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PES hydrosocial territories: de-territorialization and re-patterning of water control arenas in the Andean highlands

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\textbf{ABSTRACT}

This article explores how payment for environmental services (PES) approaches envision, design and actively constitute new hydrosocial territories by reconfiguring local water control arenas. PES aims to conserve watershed ecosystems by repatterning and commoditizing the link between ‘water service providers’ upstream and ‘water consuming’ populations downstream. Two case illustrations from the Ecuadorian highlands are used to clarify how PES implementation – though presented as if it were apolitical and neutral – weakens locally crafted hydrosocial territories in favour of dominant interests. If consolidated, this depoliticized PES implementation fosters the consolidation of new (market-environmentalist) territories, subjects and interactions, further marginalizing the less powerful upstream communities’ livelihood strategies.

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\section*{Introduction}

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

Water access and control rights have always been contested matters for peasant and indigenous communities in the Andes. Disputes over water control, with and among a growing universe of users and water-use sectors, do not relate only to the liquid water itself. They also involve negotiations and conflicts over designing and controlling its infrastructure, over defining water access and control institutions, and over the legitimacy of the authorities defining these institutions. Next, they relate to conflicts among water governance discourses, constituting fierce battlefields in which many groups vie
for particular water policies and governance frameworks (Boelens, Hoogesteger, & Baud, 2015; Gelles, 2000; Lynch, 2012).

The Andean highlands figure prominently in many of these struggles and debates. Highlands that in the recent past, in the eyes of powerful actors, were considered merely wilderness, barren or unproductive no man’s land, are now at the centre of many development initiatives and water-resource interventions. Such initiatives promise societal development, for instance by extracting minerals, producing hydro-electric energy, or conserving environmental services in local watershed territories in order to secure drinking-water provision and agribusinesses production (Duarte-Abadia, Boelens, & Roa-Avendaño, 2015; Rodríguez-de-Francisco, Budds, & Boelens, 2013). The latter watershed conservation programmes, which are increasingly popular, commonly adopt a payment for environmental services (PES) approach, wherein upstream land managers are to change or maintain certain land uses so that downstream water users have more reliable water supply and improved water quality. To this end, PES are said to be voluntary transactions where downstream water users pay upstream land managers to conserve ecosystems considered to yield more and better-quality water downstream.

This article argues that, under PES market logic, water rights and nature’s socio-ecological properties are redefined and grounded in economic incentive structures, deeply transforming the locally existing political and cultural definitions of water control and collective property (Rodríguez-de-Francisco & Boelens, 2014; see also Büscher, Sullivan, Neves, Igoe, & Brockington, 2012; Castree, 2008; Fairhead, Leach, & Scoones, 2012; Kosoy & Corbera, 2010; Mosse, 2008).

Therefore, this article aims to explain the tensions that arise between peasant/indigenous hydrosocial territories in the Andean highlands and the production of hydrosocial territory under PES rationality schemes. As the article shows, such depoliticized conservation programmes seek to secure water resources as a commodity for capital accumulation downstream, while imposing heavy-handed, ill-compensated land use limitations on marginalized highland communities. The article argues instead for interactive intervention approaches that recognize the political dimensions and impacts of conservation efforts, which explicitly need to address environmental change as the result of local-national-global interactions among interest groups, including everyday power struggles over natural resource control. Depoliticized PES conservation commonly tends to neglect the further marginalization of upstream communities and the ways in which upstream conservation may constitute a water control strategy for the better-off.

This article is structured as follows. After this introduction, a theoretical framework is outlined regarding the major hydrosocial territorial transformations that take place under a PES regime. Thereafter, as a brief illustration, background information is presented on the history of PES introduction in Ecuador’s Pimampiro territories. Afterwards, the concept of a hydrosocial territory is scrutinized from the perspective of highland peasant communities, comparing this to the PES-envisioned hydrosocial territory. The final section puts forward conclusions regarding the contradictions and tensions resulting when an externally empowered market-environmentalist territorial discourse and a monetized conservation rationality introduce a new conception of hydro-territoriality, which overrides the pre-existing notions of natural resource control.
and the management institutions and cultural practices embedded in a locally controlled territory.

**Control-localizing hydrosocial networks and the challenges of market-environmentalism in the Andean highlands**

More than a physical space, territory is a complex of socio-historic and geopolitical constructs that encompass the material and symbolic space where the economic, environmental and cultural activities of a society/collective evolve. Many have challenged the concept of ‘territory’ as a single, fixed, geographically or politically bounded unit, and notions of territorial construction as a process-based, subject-built assemblage of socio-material practices are common nowadays. Such territorial shaping is based on the diverse, divergent interests of a variety of human actors in interaction with nonhuman actants (Agnew, 1994; Baletti, 2012; Elden, 2010; Rincón-Gamba, 2013). Actors have different views of ‘territory’ and unequal power to materialize these conceptualizations; this makes territory, its contents, scalar configurations, values and meaning contingent upon political struggle and power asymmetries (Delaney & Leitner, 1997; Houdret, Dombrowsky, & Horlemann, 2014; Lebel, Garden, & Imamura, 2005).

The same goes for the contested properties and definitions of what constitutes ‘hydrosocial territoriality’. By nature, the definition of such a socio-natural or hydrosocial spatial network is contested, differing according to discourse and discipline (Boelens, Hoogesteger, Swyngedouw, Vos, & Wester, 2015). For example, as we have elaborated on elsewhere (Boelens, Hoogesteger, & Rodríguez-de-Francisco, 2014, p. 1), “Governments tend to define such a territory as a geopolitical space clearly delimited by their water bureaucracy’s unit boundaries. Positivist science disciplines tend to conflate the concept with the units comprised by watershed or catchment boundaries. Others (e.g., indigenous or anthropological currents) would emphasize the fact that it constitutes a socio-cultural construct, based on people’s historical, context-based appropriation of a space and place constituted by socio-hydrological relations.” As a result, rather than speaking of what a hydrosocial territory ‘is’ or ‘should be’, we argue for the need to understand and examine them as divergent material and discursive representations. In all their empirical and conceptual diversity, they give insight into the contested field of water control, water power structures and the socio-cultural and political legitimacy of particular angles of water knowledge. Territorialization, both materially and discursively, is a cultural and political-economic practice and phenomenon (see also Agnew, 1994; Baletti, 2012; Perramond, 2013; Saldías, Boelens, Wegerich, & Speelman, 2012).

For many common resource management collectives, the ideological and material construction of ‘territory’ has developed on the basis of the ecosystems and natural resources available within their territories, in dynamic interaction with supralocal forces and networks (Paasi, 2009; Sack, 1986). Fishermen, pastoralists and riparian societies, desert tribes and forest people are some illustrations. For water control collectives in the Andes, Boelens (2008) explains how they conceive of the intrinsic connection that binds local water control systems to particular localities and communities, in terms of agroecological properties, political and cultural embeddedness and historical processes of rights generation, transformation and defence. These intimately entwine water rights.

Water control in the highlands, because of water’s complex physical-ecological and adverse political-economic operating settings, forces users to cooperate intensively. It builds on mutual dependence. Key tasks in water organization, such as system operation and maintenance, resource mobilization, decision making, communication and conflict resolution, are enlaced with bonds of rights and obligations. They express and depend on both effective and affective relationships. As a result, within wider, multiscale political economy settings and local-national-global processes of identification, water user families commonly identify deeply with their water sources, user organization and hydrosocial territory.

These human–water–territory linkages, though essential bonds, are not essentialistic or predefined; neither can they be romanticized. They tend to be the result of processes of internal struggle, negotiation and consensus. As ‘territory-embedded’ networks of socio-natural relationships, including strategic links with human/nonhuman elements of the broader political economy, they are also basic to the collective defence of water vis-à-vis third parties (e.g., landlords, mining corporations, neighbouring communities, and state agencies).

Historically and nowadays, such constructs of (predominantly ‘control-localized’) hydrosocial territory have been fiercely challenged by national and supranational elites and power groups, seeking to control or annex them to their own purview, in order to access and control their water and other natural resources. Beyond obtaining dominion over natural, material, financial and human resources, territorial control enables ruling groups to reinforce and reproduce the dominant social order (Foucault, Sellenart, & Burchell, 2007; Meehan, 2013; Sack, 1986), for instance in terms of water governance and water-power hierarchies. This implies, among others, the discursive and material definition and commensuration of hydro-territorial boundaries, of institutions, rights and responsibilities, and of the appropriate norms for acting, behaving and thinking in relation to water.

Here, the redefinition and alternative interlinking of scales is one strategic political instrument, as it re-establishes the territorial boundaries and strategies of governance and intervention, including or excluding actors from decision-making processes with respect to water resources management and control (Lebel et al., 2005; Norman, Bakker, & Cook, 2012; Saldías et al., 2012). Swyngedouw (2004, p. 26), in this respect, stated that “the emergence of new territorial scales of governance and the redefinition of existing scales (such as the nation-state) change the regulation and organisation of social, political and economic power relations”.

Through scalar politics, hydrosocial configurations and forms of territorial water governance are deterritorialized and reterritorialized. Water governance and conflict mediation used to be concentrated at the level of the national state. “This has been and still is an important scale for the regulation and negotiation of social, economic and cultural life and for the articulation of the processes of de-territorialisation/re-territorialisation. Yet, historical geographic analyses have illustrated how capitalism has always made existing forms of territorial organisation porous, unstable and prone to transgressions and transformations. The production of space, by perpetually reworking the networks of capital circulation and accumulation flows, discards existing spatial configurations and scales of governance, while new ones are produced” (p. 32).
National governments in Ecuador, Latin America and elsewhere, jointly with international developmental organizations, have aggressively worked towards rescaling their water governance structures in the past decades, upwards to transnational governance scales and simultaneously downwards to local governments operating in public–private partnerships. Commonly the aim was to open local hydrosocial territories to extraction and production by ‘efficient, competitive entrepreneurs’ operating within the free market–based world economy, for which it was central to install private, commoditized and transferable water rights (e.g. Bauer, 2004; Boelens & Seemann, 2014; Duarte-Abadía & Boelens, 2016). As Foucault (1991) argued when examining “government mentality” or the “rationality and strategies of governors over the conduct of subjects”, rather than just law itself, rule makers increasingly developed a range of multiform government tactics which were based not just on legal force but particularly on the need to productively/economically manage and direct society. This “governmentality” transition, from a legal-bureaucratic regime dominated by structures of sovereignty to a water society governed by multiscale government techniques, did not replace nation-state rule making; rather, the State and its territorial spaces were “governmentalized”. In other words, rather than imprinting the State structure on local territories, it entailed a process of what Foucault would call “governmentalization of the State” (p. 103), involving the effort to install new, neoliberal governance practices to manage local territories.

However, in the Andean countries, these new neoliberal governance techniques, installed through blunt neoliberal water reforms and property rights privatization programmes since the 1980s, met with massive popular resistance (see e.g. Gelles, 2000; Mayer, 2002). For this reason, in the last decade, new – far more subtle – governance techniques were invented to continue and deepen the neoliberal governmentality project: these forms fostered the commoditization of water resources by installing different forms of market-environmentalism and so re-organizing local territories. Important examples of this neoliberal conservation governmentality can be found in many PES schemes, currently very popular among policy makers (e.g. Büsch er et al., 2012; Castree, 2008; Duarte-Abadía & Boelens, 2016; Fairhead et al., 2012; McAfee & Shapi ro, 2010). Mainstream PES governmentality projects seek to delegate the water-controlling tasks and techniques to private and microterritorial power structures, in alliance with international policy and development institutes. The depoliticized PES model fundamentally implicates (individual and collective) water users as individual agents and private holders of commoditized, transferable water rights – similar to commercial water entities (Boelens et al., 2014; Rodríguez-de-Francisco et al., 2013; cf. Bakker, 2005; Farley & Costanza, 2010).

Below, this depatterning of existing water territories is further scrutinized via “government through community” (Rose, 1999), whereby ‘community’ and its socio-natural institutions and properties are, simultaneously, profoundly transformed, through the workings of PES market-based alignment of water flows. PES as a water control tool – by means of regulating and controlling land and its uses – seeks to guarantee the water flows that sustain capital production downstream. This article will illustrate how PES extends the rationality and the domain of dominant hydrosocial territoriality, to gain control of land and water conservation in the Andes highlands, and how this control is at odds with upstream communal hydrosocial territories.
Methodological notes

This article is based on ethnographical research with the communities involved in the two PES schemes implemented in the municipality of Pimampiro, Ecuador. Research methods included archival and literature research, participatory action-research workshops, focus group discussions, and semi-structured interviews with PES intermediaries (e.g. the municipality of Pimampiro), the service buyers (e.g. Water Utility of Pimampiro) and the communities and private owners in Mariano Acosta participating and not participating in the PES deal (e.g. Nueva América Association). In this article, the two cases have an illustrative role. Further contextual and methodological information can be found in Rodríguez-de-Francisco et al. (2013) and Rodríguez-de-Francisco and Boelens (2014).

An illustration: the repatterning of hydro-territoriality in Pimampiro’s highlands

Payments for contested waters

The race for water between Pimampiro’s urban centre versus the community of Mariano Acosta (the highlands of Pimampiro) started in the mid-nineteenth century, when the haciendas around Pimampiro lost power and became commercial agriculture areas (Preston, 1990). The principal managers and winners of this water race were the powerful mestizos of Pimampiro, who were connected to the municipality and who started the Irrigation Water Board. Since 1981, this race was made far easier for Pimampiro, after successful scalar politics and subsequent municipal reconfiguration promoted by the wealthy white-mestizos. Pimampiro’s urban centre was officially recognized as a municipality and, despite heavy resistance by the people of Mariano Acosta, the latter’s territory was annexed to the new municipality. Notwithstanding its vernacular continuation as a peasant community, jurisdictionally Mariano Acosta fell under the political control of Pimampiro (CESA, 1998).

By that time, Pimampiro had already accumulated most of Mariano Acosta’s water sources to suit the irrigation and drinking water needs of people in the main urban centre, leaving Mariano Acosta with no irrigation rights at all. For many years Mariano Acosta peasants have been demanding water rights, among others, to access part of the water that originates in and flows from their own territory. But Pimampiro’s need for water has not decreased; it has grown because of greater drinking water needs for the growing urban centre, but most of all, because of the commercial agricultural intensification downstream.

For these reasons, as the PES discourse proliferated in Andean countries during the 2000s, Pimampiro was one of the first villages to opt in. Following environmental studies, according to the municipality of Pimampiro (GMP, 2010), the forests and páramos (highland moors) along the Ecuadorian Andes are to be considered natural reserves of water, which could be made available through environmental services provision, favouring society as a whole. However, there is the constant threat of deforestation caused by settlers seeking to make a living from farming, livestock and logging (GMP, 2010).
Starting in 2000–2001, the municipality of Pimampiro organized its first PES scheme to secure downstream water provision, with the support of an NGO and international donors. In 2008, another PES scheme was installed. These two PES schemes are located around the drinking and irrigation water intakes upstream of the the Chamachán and Pisque watersheds (Figure 1). Pimampiro charges water consumers a 20% surcharge and gets additional external funds to give payments to landowners who, in exchange,
must stop expanding the agricultural frontier into natural forest, páramos and land undergoing natural regeneration. According to the municipality of Pimampiro (GMP, 2010), low productivity and low agricultural prices are the main causes of deforestation pushing the agricultural frontier further into the highlands without attention to proper cultivation practices. By creating compensation for conservation, the municipality says it will engage and support poor upstream farmers to safeguard water provision and reduce the municipality’s water stress (water quality and dry-season quantity).

Payments in both schemes are given according to the following classification: USD 6 per hectare per year for not cultivating “disturbed forest or páramo”; USD 8 per hectare per year for “mature secondary forest”; and USD 12 per hectare per year for “primary forest or páramo” (Guerrero, 2010; Wunder & Albán, 2008; see Rodríguez-de-Francisco et al., 2013, for an explanation of how these payments were negotiated).

The users of these watershed services are, mainly, the water utility of Pimampiro and the Pimampiro Irrigation Board. While drinking-water users are paying to conserve the upstream Nueva América forest in the Pisque watershed, irrigation-water users are not paying any contribution so far. Therefore, the PES scheme in Chamachán is funded, among others, via the EU’s Proderena programme, and contributions from the Province of Imbabura and Birdlife Ecuador (Guerrero, 2010).

What is crucial to understand is that, unlike PES theory and discursive rationality, the PES schemes in Chamachán and Pisque (as often happens in the Andean countries) were not at all based on voluntary decisions and transactions among up- and down-streamers. In Rodríguez-de-Francisco et al. (2013) and Rodríguez-de-Francisco and Boelens (2014), we showed that both schemes were profoundly permeated by forceful power plays and manipulation, and the use of both coercive modes of power and Foucauldian disciplinary power (see also Rodríguez-de-Francisco & Boelens, 2015). This made many upstream PES participants feel that they were forced to accept the reconfiguration of their hydrosocial territories and to align with this new socio-nature.

Peasant-indigenous versus PES hydrosocial territoriality: divergent schemes of representation

In the recent past, as mentioned above, power groups in Pimampiro and elsewhere considered the highlands areas unproductive, inhospitable lands, where the only important resource was timber. This was due to harsh climatic and topographic conditions that limited agricultural activity. In this context, communal organizations have always played an important role in building institutions of reciprocal support to guarantee the subsistence of their mutually dependent members, in engaging in collective action, and in mediating the internal and external power asymmetries related to natural resource access and control. Mariano Acosta is a territory that resembles the tenacity of peasant indigenous groups in their struggle for livelihoods and autonomy. In the early nineteenth century they arrived here in search of land that would enable them to escape from their semi-serf status in the neighbouring haciendas. But this territory was not granted to them. They built a ‘territory of their own’ through a long physical and legal struggle, subsequently defending it from ever-increasing threats. In the most literal sense, their territory was founded upon processes of political-economic and cultural creation and imagination, generating material subsistence and meaning in the context
of unequal power structures (Roseberry, 1989, p. 14). Mariano Acosta’s community territory entwined site-specific means of livelihood and survival, through territory-rooted worldviews, strategies and properties. In this respect, De la Cadena (1989, pp. 77–78) stated: “Since the development of capitalism in Andean peasant economies has not managed to secularize all facets of reproduction, the community is an institution interweaving diverse aspects: technological rituals, magical and administrative authorities, and commercial ceremonies. Economics, politics and rituals ‘braid’ together in peasant reproduction and are manifested in their institutions…. Community borders are not only territorial but also social and political, the boundaries within which rights and obligations are exercised under the community organization’s sanction.”

As we have argued, such peasant-indigenous territorialization through reciprocal relations is far from romantic, while at the same time, noncommoditized production and reproduction serves as a fundamental livelihood strategy for collective subsistence, in particular for the poorest groups without sufficient financial means. Although Mariano Acosta has lost its collective access to irrigation water – a battle that is not over yet, although official powers have joined the wealthier Pimampiro irrigators – access to drinking water is organized collectively, a fiercely defended bastion. And while land in Mariano Acosta’s territory is largely owned individually these days, collective labour parties are fundamental, as are numerous mutual-support exchanges among indigenous and peasant community members. For example, in Mariano Acosta it is common to find mingas (noncommoditized collective work parties for the benefit of community livelihood), maquimañachi (‘hand-lending’, work-for-work exchanges among community members), ‘grass exchanges’ (pasture exchanges for cattle feeding), etc. These forms of collaboration interlink cultural and economic livelihood reproduction with the (re)creation of self-identity and territorial belonging.

Such collaborative strategies are also complemented by market interaction. An Andean household optimizes its intervention in the societal process of production by both generating income through the market and obtaining other nonmercantile support (Golte & de la Cadena, 1986). Nevertheless, while these two spheres are mutually interdependent and “subsidize each other”, they can also deplete each other (Mayer, 2002). As we have argued and shown for many localities in the Andean highlands, recent scale politics and intensified pursuit of commoditization have rapidly changed and sometimes disrupted existing boundaries or balances between community and market spheres. In Boelens et al. (2014, p. 9) we state that “in spite of capitalist market penetration and ongoing accumulation, dispossession, and theft, non-mercantile exchange and interactions in the Andean communities have resisted – and will resist in the future – displacement by predominantly commoditized relationships. This becomes particularly clear in the field of community water control.” Important reasons are that neither peasant families and communities nor their water control systems can sustain their livelihoods amidst exclusively mercantile relationships; and that many exchanges, activities, relations and ways of thinking in Andean livelihood strategies and irrigation systems simply cannot be reduced to exchange values and market-economy issues.

As we argued elsewhere: “Peasant economy is part of, subordinated to, and simultaneously a bastion against commoditized market exploitation. The awareness that ‘community’ and ‘socio-territory’ form a central axis for the defence and effective use
of a community’s productive resources, both collective and individual, is a powerful mainstay of peasant livelihoods. Households perceive that non-commodity relationships ensure long-term reproduction and offer a protective framework against the vicious circles of poverty, debt, and exploitation” (Boelens et al., 2014, p. 9).

PES narrative largely contrasts with this peasant-indigenous territoriality. It seeks to highlight the link between upstream landholders and downstream water users, promoting an apparently inclusive, neutral approach. As in the words of Pimampiro officials, it claims that, since everyone benefits, the challenge of securing water provision and quality is the responsibility of all: downstream water users by paying, and upstream land users by recognizing the value of nature and accepting compensated restrictions on their land use.

In this sense, PES is based on the idea that to save nature it is necessary to sell it (McAfee & Shapiro, 2010). As reflected in statements by the implementing agencies in Pimampiro, a key issue in the PES discourse is the idea of inclusive sustainable development: these areas have historically been neglected by state support, so paying them for conserving hydrosocial territory is a way to get them to stop using their natural resources inappropriately and a way to lift them out of poverty. They argue that the payment culture justifies the land use restrictions that highland farmers face as the result of conservation, and will guarantee that communities can finally become integrated, rightful participants in the capitalist market (Rodríguez-de-Francisco et al., 2013). PES territoriality makes it possible to transform the natural resource (water) into a form of commoditized natural capital. Its foundational logic, significantly, stems from new institutional economics, in which individual and collective organizational practices, working rules, and the alignment of hydrosocial, biophysical-political components and interactions follow from rational choices made by individual agents, each reasoning in line with their (mostly material) self-interest. Fundamentally, the form and quality of collective action in hydrosocial territories is seen as the outcome of multiple economic cost–benefit analyses and is triggered by positive or perverse incentives.

As the Pimampiro cases witness, PES-driven hydro-territorial construction and commodification of nature involve, as explained by Gómez-Baggethun and Ruiz-Pérez (2011), first, economically framing water/nature as a commodity; second, assigning an economic value to water/nature by economic valuation; third, appropriating water/nature by formalizing mostly private property rights to specific ‘ecosystem services’ and to the land ‘producing these services’; and fourth, commercializing these ecosystem services by creating a territorial-institutional setting that defines groups of buyers and sellers (in terms of interlinked rules, assets, authorities, hydrosocial relationships, identities, boundaries, etc.). This commodification process facilitates appropriation of land and water resources for hydro/environmental ends and to fortify the PES territory. Sullivan (2009) also described this as a modern form of “enclosing the commons”.

**Tensions between PES and Andean territories**

“Pimampiro has already stolen our water and now, with laws and miserly payments for conservation, they want to control the land and forest that we have always simply used.” This quote from a peasant from Mariano Acosta summarizes the opinion of many inhabitants of this area regarding the way PES has been designed and implemented in
the area. The miniscule payment they receive, the stricter land use limitations and stricter enforcement by community forest rangers, and the fact that they “have to just watch water flow down to Pimampiro” without being able to use it for agricultural purposes, explain the disappointment expressed by interviewees.

Communities in Mariano Acosta also criticize the fact that they are now being labelled as nature destroyers: “The people from Pimampiro do not seem to understand that it was our great-grandparents, parents and we ourselves who have conserved the forest that it is now standing.” Rather than seeing rural landscapes as humanly coproduced environments, PES implementing and managing organizations from Pimampiro see rural landscapes as humanly degraded lands needing intervention, and their inhabitants as people who need to be taught how to deal with the environment.

Moreover, as shown in Rodríguez-de-Francisco et al. (2013), PES implementation seems to disregard traditional conservation practices. The case of fallow land, located just adjacent to and in between the PES territory, is illustrative. Leaving land fallow has been a traditional strategy to ‘renew’ land productivity, while re-creating biodiversity habitats and other environmental services. However, land undergoing processes of natural regeneration is considered ‘conservation land’ (with severe restrictions or zoned for nonusage under the forestry law, which is more strictly enforced since PES introduction), so peasants are paradoxically inclined to work the land more intensively, to prevent this conservation classification.

Families living in PES target areas expressed resentment that the municipality is increasingly dictating and controlling land management, in the interests of conservation and with little regard for their livelihoods, traditional practices and territorial identities (Rodríguez-de-Francisco et al., 2013). Peasants find pride in being farmers and want to continue being so, despite the fact that the PES officials in local government tell them that they need to rearrange their ways of living and become conservation renters or tour guides: “We are peasants and we don’t want to live from the rents of conservation” (Nueva América peasant landholder, personal communication, 5 October 2010).

The poorest peasants with land only in PES target areas suddenly lose their livelihood opportunities (since nobody possessing only one hectare can live on just 6–12 USD per year as ‘compensation’ for nonusage); in fact they experience ‘community enclosure’. Meanwhile, PES may provide opportunities for the better-off upstream community members. The latter have other, nonagricultural income sources or have sufficient land outside PES intervention areas. As in other communities, this challenges peasant organizations, creating divisions, challenging their legitimacy or breaking down community institutions.

In addition, the PES designers (in accordance with private utility-maximization rationality) decided to give payment only to those who have individual land titles. This made some community members, as in the case of Chamachán, decide to opt out of communal land by privatizing portions of it (Rodríguez-de-Francisco & Boelens, 2014). What may be even more shocking is the municipal administration’s attempt, without even informing or consulting the people affected beforehand, to transform the territory of a peasant association into a municipal natural reserve, since it had “unclear land tenure”. A municipality official defended this radical alignment decision by stating, “we don’t want to reward illegality” (Rodriguez-de-Francisco & Boelens, 2014).
**Discussion: repatterning territories and reconstituting subjects**

Conservation policies and strategies imply control over nature–society relations and have transformative effects on socio-natural landscapes (Himley, 2009; Robbins, 2004). As in the case of PES, this deeply involves political choices; conservation authorizes access to and control over resources for some while denying it to others. In the PES schemes we have examined in Pimampiro (which, by the way, are presented as success stories in international scientific forums and journals – Rodríguez-de-Francisco et al., 2013), ill-compensated land use restrictions are imposed on upstream farmers, while the ‘water monopoly’ of downstream water users is further enhanced. Through PES, the marginalized groups who first transformed the ‘forgotten lands’ into living territories now come under the spotlight due to outsiders’ combined water-extractive and environmental interests, and become annexed to the dominant hydrosocial territories of powerful local/international alliances.

The annexation of Mariano Acosta to the municipality of Pimampiro illustrates the politics of scale and expresses how the apparently neutral character of municipality scale is strategically used by Pimampiro authorities to gain jurisdictional control over Mariano Acosta and its water sources. Likewise, the apparently neutral scale of ‘watershed’, defined as in need of protection and able to deliver commoditized ‘environmental services’, serves to support a watershed approach that seeks upstream conservation, disregarding the livelihood necessities of the upstream communities. It imposes land use restrictions that for many poor families in the headwater areas of Mariano Acosta are livelihood-threatening and which for most are poorly compensated, to say the least.

Furthermore, this reconfiguration of the hydrosocial territorial scales and relationships provides insight into how new actor groups are created that resemble a market-exchange setting (buyers and sellers), how nature is priced and depicted as a commodity, how the introduction of monetary payments becomes the driver of social and material interaction, and how land that was previously commonly managed (not a commodity) now becomes privatized. These changes affect the very fabric of Andean reciprocity and existing forms of hydro-territoriality.

PES hydro-territoriality is based on the assumption that political decisions are the product of individual agents’ interactions, each rationally pursuing individual material self-interest. Despite its integrated discourse and the fact that its governmentality project is to be analyzed as ‘government through community’, the intention is to deconstruct and re-align the notion of community and territory. Mayer (2002, p. 5) puts forward a rightful critique of its new institutional narrowness which (besides neglecting the actual existence of unequal power relationships as in Pimampiro) bypasses both the community and the household as crucial actors in Andean waterscapes “in order to focus directly on the individuals within it – individuals who make cost-benefit choices, within the context of the household’s means and needs, between rewards and punishments and between investments and payoffs. The household in this model is a miniature marketplace where rational actors trade in everything – food, affection, authority, leisure, pleasure – and compete with each other.” The community and the territory are seen as the aggregate outcomes of the choices and behaviours of individuals.

Directly related to this, in the political domain, PES hydro-territoriality pays little or no attention to social differentiation, while political processes are seen as the conflict...
and sum of individual rational decisions (Rodríguez-de-Francisco & Boelens, 2014). Next, cultural, religious, metaphysical and psychological factors influencing water control tend to be denied, or explained in economic terms. The day-to-day contestation among multiple interest groups with unequal power, in a context-specific process of negotiation, conflict and collaboration, is neglected. This makes it possible to come up with universal guidelines for establishing effective and efficient hydrosocial configurations, presented as neutral and natural, but in fact corresponding to profound political economic interests.

Given the fact that subjects are co-produced in the process of ‘making territory’, PES actively produces new subjects as new hydrosocial territories are being constituted (Baletti, 2012; Foucault, 1991). These new human subjects, as the cases exemplify, would have market-aligned roles and identities, constituting just rationally interacting individuals and homogeneous social groups with singular functional roles. Instead, communities, households and individuals – rooted in a shared past, present and future – are linked through, embedded in, and moved by webs of power, symbols and meaning, only parts of which are economic. For these reasons, many of them refuse to accept their reconstitution by PES and market-environmentalism.

**Conclusion**

As shown in this article, depoliticized PES implementation produces new hydrosocial territories and territorial conceptualization, in which both the nonhuman and the human – the natural, the technical and the social – are simultaneously and jointly transformed and aligned in a different way. Concretely, a new, socially disembedded view of water resources, a private appropriation and exchange value-driven property regime, a market-functionalist perspective of ‘natural but human-spoiled’ territory, and a narrow conception of human agency and rational choice-based decision making are pushed forward through strict market conservation.

Furthermore, we have discussed how labelling PES as ‘conservation for society’ obscures the fact that upstream landowners are further restrained in favour of water provision for capital accumulation downstream. PES aims to secure environmental service provision and enlarge water quality and quantity flows ‘for the benefit of all’ but forgets to examine how its socio-natural transformations and newly constituted hydrosocial territories may enlarge and deepen power asymmetries, poverty and inequality. As the PES schemes that are implemented in Pimampiro show, confining the notion of water control to the economic and biophysical domains results in developing hydrosocial territories as anti-politics schemes, that misrecognize and extend the skewed distribution of rights over these ‘environmental services’ and that disregard the intricate regionally and historically rooted cultural ecologies of water.

PES, as a depoliticized natural resource management intervention for water control, seeks to embed upstream territories under the rationale and institutions of the hydrosocial territory of those who have the economic and political power to pay for water. In Pimampiro’s highlands, as in many other places, this means that territories based on reciprocal subsistence strategies are pressured by rules, surveillance, fines and sometimes violence to become functional environmental infrastructure for the capitalist productive infrastructure downstream. This restructuring and repatterning of territory
in the name of conservation hides the socio-cultural disciplining and further impoverishment of many communities and especially the poorest households. Dominant PES hydro-territorial representation, with the highlands as extractive sources for the water commodities they produce, clearly conflicts with hydrosocial conceptions that see territory, ideologically and politically, as history-based homes of cultural belonging and socio-productive spaces for recreating livelihoods.

The article also makes manifest how expanding PES-based dominant hydrosocial territory to the highlands goes beyond transforming water control itself: it envisions and strategizes to bring order, that is, localized universalistic market(-like) order, to the highlands and to normalize peasant livelihoods by repatterning them as custodians of nature – the commoditized nature that ‘environmental service buyers’ want to see in these areas. In other words, PES hydrosocial territoriality forcefully aims to redefine, at once, water rights, water management, systems of locally established prestige and authority, and user–community–state relationships, as well as the rooted patterning of water subsistence rationality. The ‘government through community’ governmentality project of PES goes far beyond earlier notions of decentralization, privatization and subsidiarity, even beyond ‘government through community’, since it requires profound deconstruction, resignification and repatterning of the existing, practised and lived notion of ‘community’, including the deterritorialization/reterritorialization of local hydrosocial networks. This governmentalization of newly constructed space, thereby, also erases and reconstitutes the very conceptualization of ‘water’ (its values, meaning, substance, flows and relations) and of the subject ‘water user/water caretaker’. As growing resistance in the Andean highlands shows, however, the latter do not passively accept this radical reconfiguration of their waters, territories, cultures and beings but struggle to defend their territories and reshape transformation efforts.

Notes

1. Neoliberal water governance techniques that were based on the Friedman/Hayek ‘Chicago Boys’ ideology, implemented through Pinochet’s 1981 Chilean Water Code, and subsequently imposed on Latin American countries by the World Bank as ‘the model’ throughout the 1990s (see e.g. Bauer, 1998, 2004; Budds, 2010; de Vos, Boelens, & Bustamante, 2006).
2. Land control includes, among others, land use restrictions, changes in land tenure forms (privatization of commons, or vice versa), reinforcement of legal control, force and violence (or the threat of them), and eviction (Peluso & Lund, 2011).
3. See Echavarría, Vogel, Albán, and Meneses (2004), Rodríguez-de-Francisco et al. (2013) and Wunder and Albán (2008) for more information on the Nueva América PES scheme in Pimampiro.

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