DIVIDING 'ABOVE' AND 'BELOW':

CONSTRUCTING TERRITORY FOR ECOSYSTEM SERVICE CONSERVATION IN THE ECUADORIAN HIGHLANDS

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Abstract

Payments for Ecosystem Services (PES) arrangements aim to influence human activities in critical ecosystems that produce, among other services, water, biodiversity, and carbon sinks. In practice, PES arrangements ultimately seek to redefine and territorialize space for conservation. However, establishing control over activities within a targeted area is challenging, particularly when these areas are carved from landscapes where people are living and working. Drawing upon an empirical case study of a water fund PES from Ecuador called FONAG, this paper employs data from participant observation, key informant interviews and archival documents to examine labor of the Páramo Guards, the local residents directly paid as employees of FONAG for their work as intermediaries between the water fund and rural Andean communities. Their labor goes towards 1) patrolling the páramo ecosystem 'above' and 2) recruiting the collective labor of their neighbors to do conservation work from 'below'. The páramo guard's labor directly contributes to enforcing FONAG's territorial claim on the land, necessary to pursue the commodification of ecosystem services that are derived from it. While highlighting the tensions and contradictions that emerge from the guard position, this paper demonstrates how territorial claiming through market-based environmental governance entails labor and multiple governmentalities to circulate value.

Key words: páramo grasslands, ecosystem services, territory, Andes, governmentality

Introduction

Arrangements of Payments for Ecosystem Services (PES) aim to manage human activities in critical landscapes for the protection and enhancement of ecosystem service production. As such, PES programs necessarily involve the establishment of conservation territories in which new claims to authority and access over natural resources are constructed (Joslin and Jepson 2018). The territorialization of space for conservation aims to control "what people do and their access to natural resources" (Vandergeest and Peluso 1995, 388). Among the practices necessary to achieve territorialization are the construction and vigilance of conceptual and physical boundaries on-the-ground (Gabriel 2011). Aside from any physical structures that might exist, borders are created socially through repeated encounters and exchanges, and require continuous maintenance to be recognized and to avoid decay (Nail 2016; Haraway 2008). Without interventions aimed at attributing new meaning to the spaces of freshly defined territories, people living in and around those spaces will be unaware of, refuse to accept, or simply forget alternate meanings attributed to space through new territorial claims (Delaney 2005).

In traditional, state-led conservation arrangements such as parks, territorializing space can be thought of as spatial reorganization prompted through the insertion of state authority in landscapes otherwise managed by local institutions (Roth 2008). The process of boundary-making to establish new social meaning to a landscape on-the-ground is often done by guards, empowered by the state, through practices of bordering (Valdivia, Wolford, and Lu 2014). The creation of market-oriented conservation territories derived from non-state authority, however, also requires boundary-making and bordering at the sites of targeted ecosystems to imbue new meanings to those spaces. Furthermore, the payment of local guards is a possible criteria to

qualify a conservation arrangement as a PES because it involves a financial exchange for conservation labor in the targeted ecosystem (Wunder 2005). It is therefore unsurprising that guards frequently appear in discussions of PES. Goldman et al. (2008), for example, note the substantial presence of guards in their study involving 34 cases in the Americas of which nearly 20% included directly hiring guards to maintain ecosystems that produce services.

Despite their importance, the treatment of the role guards in PES literature is chiefly limited to counting them as a group of beneficiaries (e.g. Tallis et al. 2008; Corbera, Kosoy, and Martinez-Tuna 2007) or agents for monitoring and control (e.g. Farley, Anderson, and Bremer 2011). Recent work in conservation has discussed the labor of guards in bordering activities such as forming city parks (e.g. Gabriel 2011), or protected areas (e.g.Valdivia, Wolford, and Lu 2014). Others place the labor of local guards into a role clouding insider–outsider categories that generally muddle the visions of state planners or NGO representatives (Agrawal 2005; Robbins 2000). With a few exceptions (e.g. Valdivia, Wolford, and Lu 2014; Poppe 2012; Sodikoff 2009), the discussion of labor and production within the roles of local conservation guards, however, is lacking in the broader scholarly literature (Sodikoff 2009). This important intersection has yet to be explored in literature addressing neoliberal conservation and market-oriented conservation schemes that include PES.

To further develop theory concerning the role of guards within PES, I conduct a case study of FONAG (*Fondo para la proteccion del agua*), a water fund PES based in Quito, Ecuador that serves as an inspiration for programs established by the Latin American Water Fund Partnership (LAWFP) (Veiga et al. 2015; Kauffman 2017). FONAG began in 2000 as a partnership between the Municipal Water Company in Quito and The Nature Conservancy (TNC), and has since added four other constituents that pay into a non-declining trust fund

supporting conservation within watersheds surrounding the city. Practitioners —based out of an office in Quito and overseen by a Technical Secretary— implement the conservation initiatives, including financing development projects in rural communities in exchange for agreements to pursue conservation activities (Kauffman 2014). Included in its initiatives, FONAG hires local people called 'páramo guards' (PGs) to serve as key intermediaries linking the urban-based FONAG to the rural communities living in and around targeted ecosystems.

My work in this article focuses on the positions inhabited by the guards as brokers and how value is generated through their work of creating and maintaining new territories for a PES arrangement. Specifically, this article endeavors to illuminate the processes and practices enabling water funds to operate, and pays particular attention to the dynamics of power and context as central to territorialization. I collected the majority of the data informing this article between 2012 and 2014 as a part of a long-term case study of FONAG that began in 2010. The data sources include documents and materials from FONAG and its associated organizations, key actor interviews conducted with FONAG administrators and the PGs who work directly with rural communities, and participant observation of a training workshop of FONAG PGs over two days in October 2012.

The following section examines conservation guards as positioned in neoliberal environmental governance arrangements. I next discuss the historical origins of FONAG's intermediaries and the transition of guards as a technology of the state to a technology of a market-oriented public-private partnership. I then examine the spatiality of guard labor practices as they divide the landscape into zones of production and conservation. Finally, I discuss how labor and the position of the guard as both a conservation agent and a subject contribute to the production and circulation of value that ultimately legitimizes Ecuadorian water fund PES.

Guards as 'Brokers' of Neoliberal Conservation

PES and PES-inspired arrangements are a form of market-oriented environmental governance predicated upon neoliberal theory that envisions markets as the primary mediator of interactions within society and between people and their environment (Büscher 2012). It is based upon a logic that interprets environmental degradation as a response to improper valuation of ecosystems and natural resources, and thus views shifts in economic valuation and external incentives as the primary way to influence natural resource and land use decisions (Muradian 2013). Individuals are assumed to be self-interested rational actors that will display the proper behaviors if given appropriate incentives (Fletcher 2010).

Neoliberal conservation discourses emphasize ecosystems themselves as producing economically valuable services (Dempsey 2016). However, as so-called 'ficticious commodities,' ecosystem services are not products that can be held or transferred between human hands. Ecosystem service generation is inseparable from the lands that ultimately produce them. Rather, to transform ecosystem services into commodities, complex social and political exercises are necessary to create the mechanisms that ultimately require human labor and capital circulation (Brockington 2011; Büscher 2013). Ecosystems cannot be paid for the services they produce. Rather, as Büscher et al. (2012, 8) note, "[p]ayments go to those able to capture them, rather than directly to nature ..." Thus, neoliberal narratives of convert local people —typically identified as the most proximate threats to conservation— into caretakers of the environment if they accept market values and the proper incentives can be achieved (Leach, Fairhead, and Fraser 2012). PES arrangements thus discursively reframe local people as workers charged with protecting and maintaining ecosystems that generate valuable ecosystem services.

Situating PES schemes within this context, my engagement with the territorialization labor of PES guards requires discussion of power within neoliberal conservation. In whatever form of conservation arrangement, guards are an extension of power as they are entrusted by the governing body to organize local populations to ensure the envisioned on-the-ground compliance. Power can be exerted in multiple forms, and governmentality is an analytic that frequently appears in the work of political ecologists striving to unpack the exercise of power in environmental governance regimes (Valdivia 2015). Governmentality refers to the practices and tactics by which groups of people and individuals are rendered governable subjects through directing the 'conduct of conduct'(Foucault 1991), which over time developed into plural 'arts of government' or modes of governance (Foucault 2008).

Foucault (2008, 313) identifies four interwoven governmentalities that may "lean on each other, challenge each other, and struggle with each other." 'Truth' compels behavior by drawing upon accepted knowledge regimes. Described by Foucault (2008, 311) as undisputable knowledge and beliefs about "religious texts, revelation, and the order of the world," it is the only mode of governance that is "derived from the accordance with the fundamental nature of life and the universe" (Fletcher 2010, 176). This governmentality draws upon established believes about the world. The next three governmentalities, however, work on principles of rationality. 'Sovereign' governmentality entails the threat of punishment to enforce compliance of subjects, 'Disciplinary,' governmentality compels subjects' internalization of particular norms, values, and ethical standards to regulate themselves and others via fears of immorality, and (4) 'Neoliberal' governmentality relies upon market logics to motivate behavior. As such, neoliberal governmentality focuses on reframing interventions in terms external incentives, cost-

benefit characteristics, and emphasizing the benefits to economic growth over other forms of well-being (Fletcher 2010; 2017).

Each of these diverse forms of governmentality may be employed in a single conservation arrangement, although emphasis within a conservation arrangement may be given to one particular form over another (Fletcher 2017). While Foucault's work does not directly engage with environment and conservation projects, it does address the ordering of territory as central to controlling a population and guiding the trajectory societal development (Valladares and Boelens 2019). Governmentality research in geography thus increasingly emphasizes the interconnection between the control of populations and the control of land -- a central theme of conservation and natural resource management (Bluwstein 2017; Rutherford 2007; Rose-Redwood 2012; Eldon 2013; Valladares and Boelens 2019).

Numerous scholars over the last two decades have built upon governmentality to analyze environmental governance arrangements, employing terms such as environmentality (Agrawal 2005), green governmentality (Rutherford 2007), and eco-governmentality (Goldman 2005, 2001). Many of these approaches focus heavily on the process of internal subjugation through discipline. Yet, Foucault's multi-dimensional concept of governmentality has proven beneficial in illuminating the exercise of power and the practices (and counter-practices) of territorial reconfiguration (Valladares and Boelens 2019; Bluwstein 2017). Absent from the multi-dimensional analyses of governmentality are studies examining labor. Ruminating on the work of Marx, Foucault points out that neoliberal analysis renders the worker and their labor not as only "the object of supply and demand in the form of labor power," but instead "as an active economic subject" (Foucault 2008, 221) and thus should be an important facet of analysis.

Environmental conservation arrangements have increasingly diversified from protected areas that emphasize practices of sovereign governmentality to ever more 'neoliberal approaches' that have embraced the concepts of market-oriented conservation and aim to reframe and organize entire landscapes according to value produced for human consumers (Büscher et al. 2012). These approaches to conservation, while supported by the state, are often initiated and led by non-state actors and expand over diverse forms of property (Adams, Hodge, and Sandbrook 2014). Promoters widely endorse these approaches as voluntary, non-coercive forms of environmental conservation that combine economic benefits to promise a 'win-win' outcome for local people and their environment (Muradian et al. 2013).

Yet, ecosystem service commoditization is a complicated and messy process (Robertson 2007, 2006). On aspect of the complicated commoditization process is that ecosystems do not follow boundaries often used by people as units of governance. Even in watersheds --a popular unit for natural resource governance-- ecosystem services generation is not uniform as climate, soils, and environmental interactions are uneven between locations (Egoh et al. 2008). Thus, we see an influx of new tools, such as the Natural Capital Project's InVEST, designed to accurately target the most economically valuable sites of ecosystem service production so that interactions with land managers can be efficiently focused. As market-oriented conservation schemes that focus on mosaicked and inhabited landscapes become ever more popular, we also expect to see the development of alternative expressions of territoriality and strategies for the control of land and resources couched in the location's political, cultural and historical context.

Conservation guards have historically functioned as a technology of the state to enforce and perform borders that delimit meaning into space. Although traditionally viewed as agents of a governance arrangement, guards may take on a new position as they become beneficiaries of a

PES scheme and/or facilitators of transactions between local land managers (ecosystem service producers) and downstream consumers of ecosystem services. If acting as intermediaries to rural communities, their labor becomes entwined in the transaction costs of PES that include the expenses of negotiating contracts and generating data for scientific baseline studies in addition to monitoring and enforcing contracts (Jack, Kousky, and Sims 2008).

Guards, then, themselves are not only agents, but may be environmental subjects to be regulated and governed through wages (Valdivia, Wolford, and Lu 2014). In other words, guards are the extension of territorializing power into a target area, but often double as local community members included as a focus of neoliberal transformation themselves. They are the "blur between implementer and target" of conservation interventions (Sodikoff 2009, 444). Ideally fitting the role of mediators between the PES organization and the community, the position of the 'guard' is subject to demands stemming from both their local community and the PES organization. Thus, as intermediaries, PGs can be conceptualized as brokers of FONAG's contract agreements with rural communities that offer productive projects in return for conservation practices.

Value production in relationship to territorialization and the labor of conservation guards has only been lightly addressed within existing scholarship. An examination of an Integrated Conservation and Development Project in Madagascar, for example, suggests that value from guard labor directly derives from the act of protecting the forest while degrading it through continued subsistence agricultural work (Sodikoff 2009). Research in Burkina Faso furthermore expands upon discussions of guard labor to assert that guards occupy a multitude of 'ambiguous' positions that simultaneously place them at advantages and disadvantages, depending the context and with whom they are interacting (Poppe 2012). The broader literature lacks discussion,

however, of the guards as agents and subjects in neoliberal conservation and their labor towards territorialization as it produces and circulates value. The next section discusses the transition of guard labor from maintaining state-led conservation territories to becoming brokers for water fund PES.

From Park Guards to Paramo Guards: Shifting Environmental Governance Regimes in Ecuador

Early biodiversity conservation efforts in Ecuador were characterized by the rapid creation of protected areas (PAs) supported by international agencies and organizations (Lewis 2000; USAID 2011). Embroiled in neoliberal political reforms that engulfed much of Latin America by the 1990s, Ecuador moved towards policies of decentralization in nearly all facets of government including conservation and natural resource management (Harris and Roa-Garcia 2013; Joslin and Jepson 2018). Non-state actors and sub-national governments gained influence and promoted shifts towards participatory and market-oriented models as the state diversified its structure of conservation areas (Himley 2009). In this context, Ecuador has becomes a site for numerous PES-based conservation programs (Rodríguez-de-Francisco and Boelens 2014; Rodríguez-de-Francisco, Budds, and Boelens 2013). The United States Agency for International Development (USAID) and TNC are two particularly influential players in shaping the trajectory of conservation initiatives beyond PAs and into the surrounding inhabited landscapes (Birchard 2005).

The Condor Bioreserve is conservation priority area encompassing roughly 21,000km^2 west of Quito (Benitez 2003). As a manifestation of a landscape approach to conservation, it includes seven PAs and the mixed-use spaces that stretch between them (Gonzalez and Martin

2007). While the name has no legal recognition in Ecuador, practitioners began using the term for the territory in the midst of the Sustainable Use of Biological Resources (SUBIR) conservation initiatives spearheaded by TNC and USAID (Clark and Padwe 2004; Nyce 2004). The SUBIR initiatives aimed to "test and develop economically, ecologically, and socially sustainable management models" (Abramovitz 1994, 11). Ultimately, SUBIR catalyzed the idea for FONAG as a funding mechanism to conserve the Condor Bioreserve (Nyce 2004). This connection gave rise to a strategy for establishing territorial control through guards that FONAG inherited.

Earlier approaches to producing and maintaining conservation territories in Ecuador had emphasized a sovereign mode of governmentality. Regulations within PAs strictly limited acceptable practices to scientific research and tourism activities, largely excluding the land use practices previously integrating the lands into local livelihoods (Martinez 2011; USAID 2011). Guards punished violations of park regulation through confiscating equipment such firearms or fishing supplies, issuing fines, or --in extreme cases-- detaining offenders. Yet, very few guards existed to enforce boundaries, and thus USAID and other organizations classified most Ecuadorian PAs as 'paper parks' (USAID 2011). With few interactions with park guards and excluded from the process of determining park boundaries, some local communities were furthermore never informed of or failed to acknowledge state-designated territories (Ford 2004). The interactions that occurred between local communities and park guards were characterized as conflictual and uncooperative (Ulfelder 1998). Overall, the state's aloof interactions with the local communities it aimed to manage resulted in ineffectual territorialzation (Joslin and Jepson 2018).

A key part of SUBIR, then, was the development of a Community Park Guard program to address these shortcomings. SUBIR propelled the Community Park Guard Program into existence in 1993 through support from TNC, USAID, the Cooperative for American Relief Everywhere and MAE, known at that time as the Ecuadorian Institute for Wildlife and Natural Areas - INEFAN (Ufelder 1998). As TNC and its partners expanded their conservation focus to incorporate the spaces between PAs, they revised their strategy for territorial control. TNC pushed to amend the duties of PA guards to extend their presence outside of parks and into the adjacent communities, identified as producing the majority of conservation threats (Ford 2004).

Emphasis within the work of the guards then shifted away from practices of sovereign governmentality underscoring the state's authority and onto additional strategies for environmental subject-making. TNC, MAE and local conservation organizations redefined local people from adversaries to collaborators and recruited them into paid and volunteer Community Park Guard positions. As described by TNC's former Community Conservation Program manager for the Andean and Southern Cone Region, "Rather than viewing nearby communities solely as threats, the [Community Park Guard] program turns those threats into conservation opportunities…" (Ufelder 1998, 42). Community Park Guards still shared some characteristics with the traditional park guard program, such as discouraging undesirable activities within or adjacent to the protected areas and informing communities of legal regulations (Martinez 2011; Ford 2004). Yet, their new duties included imparting conservation values and skills to their communities via the implementation of environmental education programs. The discursive reframing also now emphasized practices of disciplinary governmentality.

Describing the shift in practice via interviews with Condor Bioreserve practitioners conducted in 2001, Ford (2004, 261) notes that "the conservation strategy of the past was to

protect land, [while] the new strategy tries to help people understand all the ways in which they can value the land," and "[the Condor Bioreserve] community park guards have a 'moral connection' to their communities, and are protectors not only in the sense of control, but also in the sense of promoting positive activities." Furthermore, the Community Park Guards incorporated negotiating and managing small-scale development projects (FONAG 2010; USAID 2011). NGOs and protected area managers believed that the projects had the potential to offset some of the needs of the communities which they believed drove the use of protected area resources (Ufelder 1998).

Fundación Antisana, a local NGO supported by TNC and USAID, designed the Community Park Guard position and the training program. According to the proceedings of a 1995 training session, the goal of the Community Park Guards was to "be the facilitators of a medium and long term process of community transformation, with support and coordination of the public and private sectors, toward self-sufficiency through collective initiative and work" (as cited in Ufelder 1998). The 'Community Park Guard' program emphasized disciplinary strategies of governmentality in which guards influence community member activities by teaching values and then appealing to morality to encourage self-regulation. NGOs also drew upon approaches of disciplinary governmentality to persuade the Community Park Guards themselves, as many Community Park Guards were asked to expend unpaid time, energy, and the use of their own equipment on conservation for the perceived greater good of their community. Many volunteers found it difficult to prioritize between their roles as community members or community park guards (Uffelder 1998).

The funding issue for territorialization became a pivot point leading to FONAG's creation and a new emphasis in governance. Unlike traditional park guards, the remuneration of

Community Park Guards varied. Some were employed by the state, but many were appointed in unpaid positions (Gonzalez and Martin 2007; Ufelder 1998). TNC and partners viewed the unsteady funding to provide for guard salaries as well as for the small-scale development projects within communities as a significant challenge to the viability of the Community Park Guard programs. While the practices of disciplinary governmentality would continue into the future, a neoliberal governmentality approach deepened as the as the conservation territory itself was revised to emphasize economic value to ecosystem service consumers, and relationships within communities came to emphasize transactions through contract agreements.

FONAG emerged as a part of a plan to generate funds for the Condor Bioreserve. TNC linked the landscape's hydrological services to Quito and then asked urban water users to pay for conserving them. TNC eventually discarded the idea of FONAG financially supporting conservation for the entire Condor Bioreserve after observing that potential partners were unsupportive of applying their funds to areas without urban hydrological importance (Brown and Stem 2005). As a result, FONAG itself became the focus of TNC and partners. It expanded from a simple mechanism for financing conservation into an environmental governance arrangement on its own with a distinct conservation territory that formally followed watershed boundaries (Joslin and Jepson 2018). Through the connections with the Condor Bioreserve initiative, early FONAG guards were a continuation of the SUBIR Community Park Guard program that supported MAE's ability to manage protected area boundaries (Martinez 2011). The first title of the FONAG's guard program reflects this relationship: the Surveillance and Monitoring of Protected Areas.

After two years of integration with MAE's Community Park Guard program, FONAG hired a separate coordinator in 2006 and began defining its own guard program (Escandón and

Rojas 2008). Changing the program name to the Control and Surveillance of Priority Areas, FONAG hired guards to operate in private, communal, and public lands. FONAG employed guards to focus their work not only in the protected areas, but also lands owned by Quito's water company and properties held in common by communities neighboring national parks.

Unlike the preceding guard programs, the ecosystem type dictates where FONAG guards focus efforts more than property type. The high-altitude humid páramo grassland ecosystem forms at elevations ranging between 3,000 and 4,800 meters (Luteyn 1992), contains hundreds of endemic species (Leon-Yanez 2011), and directly provides for approximately eighty-five percent of Quito's water (Buytaert et al. 2006). Framed in terms of its financial benefit to constituent water users willing to pay into the fund, páramo became the focus of governance and intervention efforts and the source of the title, Páramo Guard, that further differentiates the FONAG guard position from the state's MAE's guards.

The historical roots of FONAG's paramo guard (PG) reflects the broader shifts in emphasis between modalities of governing power in Ecuador. Indigenous people in the Americas have been represented as unproductive, incompetent land managers to be corrected by the exercise of sovereign power from the State since the days of European colonization (Boelens, Hoogesteger, and Rodriguez de Francisco 2014). Yet, Latin America's neoliberal turn in the 1980s and 1990s --emphasizing decentralization, privatization, and the formation of public-private partnerships to replace centralized state institutions-- represented a new shift in governance and how power is exercised (Boelens, Hoogesteger, and Baud 2015). Foucault notes that the imposition of oppressive and prohibitive power would not command obedience from populations forever (Foucault 1995). Yet, power can also be exercised through conduct from the bottom-up. Through disciplinary and neoliberal governmentalities, indirect government

techniques can be employed to direct society and support acceptance while legitimizing itself through promising to maximize benefits to the broader population.

In Ecuador, neoliberal governmentality permeated into natural resource management. As conservation territories themselves were broadly re-defined to follow market-rationalities, so too has the emphasis in the work of those mediating power --the guards-- changed. Yet, the guards themselves are subjects as well as agents of neoliberal governmentality, and the cultural context of the rural Andes adds further complexity to the imposition of market-rationalities on local populations. The next section investigates the labor of the guard to order space in communities and create value that can further entrench the landscapes market frames and definitions.

Producing an Ecosystem Services Landscape

FONAG's PGs now pertain to the Areas of Sustainable Water Conservation program, the name recently changed from the Control and Surveillance of Priority Areas Program. It is one of FONAG's five core programs and the only to exert direct influence on the land use activities of rural communities managing páramo. As such, it is also the material link between FONAG, rural communities, and the páramo ecosystem. Described by FONAG as its "visible face," PGs are the FONAG representatives that interact most with members of targeted communities (FONAG 2014a, n.p.).

The PG program is responsible for managing the land that FONAG deems important to its mission and within its territory. FONAG's priority areas consist of the páramo ecosystem within the Guayllabamba and other watersheds that contribute to the water supply of Quito (FONAG 2010). A 2014 report indicates FONAG's PGs responsible for 38,316.53 hectares of land (FONAG 2014c)[i]. The area consists of a mosaic of properties that can be divided into three

types: that of Ecuador's Ministry of Environment with 13,890.64 hectares, Quito's water company (EPMAPS) with 13,382.87 hectares, and collective property of rural communities with 11.042.83 (FONAG 2014c). While community lands account for slightly less than thirty percent of the properties directly targeted by FONAG, they remain a major focus of intervention. As the FONAG PG Coordinator explained, FONAG is concerned about local community interaction with ecosystem services because "[the people] live inside of the protected areas, buffer zones, and their actions cause immediate damage [to the páramo ecosystem]" (personal interview, June 2012).

Yet, PGs are members of the community themselves recruited by FONAG with support of their friends and neighbors through an appointment process that typically requires the agreement of the community general assembly. Where FONAG has hired PGs, the program coordinator approaches the community to hold a series of general assembly meetings that are open to all community members. After FONAG describes the position of the PG and the opportunity for productive projects, the community may choose to hold an election.

Contemporary knowledge of the spatial organization of Andean landscapes is heavily influenced by the concept of verticality, originally used to describe pre-Colombian production patterns based on ecological gradients found on mountain slopes (Murra 2002). While stressing the influence of ecological gradients on social organization, verticality has subsequently been employed to understand contemporary divisions in land use in relation to elevation zones in Andean communities. The term 'production zone' amends verticality to use agriculture for distinguishing zones, recognizes Andean land use patterns as a product of human agency, and underscores land use decisions made within a communal context (Mayer 2002).

In the region around Quito where FONAG operates, Agrarian Reform actively shaped the highlands from the 1960s until the 1990s. The state typically expropriated hacienda lands located in the less arable at higher elevations, which were then redistributed to cooperatives made up of the former indigenous tenant farmers (Chiriboga and Chehab 2007). The cooperatives often followed historic land use patterns and designated high-elevation terrain in the harsh paramo climates it as communal grazing lands (Hess 1990). Land in private parcels was designated for homes and a variety of crops at successively lower elevations (Ramón 2009). Despite a variation in property rights and access to resources across production zones, divisions between private and communal property blur as the irrigation that sustains individual agricultural plots is managed communally (Knapp 1991; Gelles 1999). Communal labor and institutions of mutual dependence are entrenched in the management of Andean highland waterscapes as systems vital to agro-pastoral livelihoods and contributors towards both the cultural identity and continued survival of rural populations (Boelens 2014).

Zimmerer (1999) demonstrates that spatial patterns in agricultural zones reflect patchworks developed in response to environmental, political and socioeconomic factors. Forms of crop production are more limited in the higher elevations as periodic freezing makes most above-ground agriculture difficult. Highland populations manage paramo, however, as an area of uncultivated production that provides irrigation water, land for grazing, forest products, and supplementary meat through hunting. Most studies of Andean production zones omit consideration of uncultivated landscapes, yet they are still produced landscapes imbued with meaning and enmeshed in community livelihood strategies (Maxwell 2011; Himley 2009).

FONAG's PGs frequently used the relative terms 'above' and 'below' to describe their work between the upper elevations of collectively-managed paramo and the lower elevations of

individual parcels with homes and agricultural plots within a community. The specific objectives of the Control and Surveillance of Priority Areas Program that determine PG labor follow these divisions. They are:

1) Maintain control and surveillance of hydrologic areas of interest to comply with current laws and norms
2) Monitor flora and fauna
3) Train local communities on environmental themes and implement productive projects to lessen human impacts on the ecosystem (FONAG 2014b).

Objective 1, "Maintain control and surveillance of hydrologic areas of interest to comply with current laws and norms," is work done in both realms as PGs are charged with observing, recording, and influencing their neighbor's natural resource use in both realms. Objective 2, "Monitor flora and fauna," addresses work 'above' as PGs record indicators of the health of the ecosystem (FONAG 2014b). Finally, Objective 3, "Train local communities on environmental themes and implement productive projects to lessen human impacts on the ecosystem," identifies with the work 'below,' or the work in the local communities of creating and supervising FONAG's productive projects (FONAG 2014b).

In both of the realms of above and below, PG work contributes to the process of territorialization, which requires performance to establish meaning. Their work of producing the landscape into one that generates tradable value for ecosystem services involves compartmentalization and the interaction of multiple governmentalities. The following two sub-sections examine this performance.

The Work 'Above': Within the Páramo

PGs patrol 'above' in the páramo ecosystem that FONAG targets for conservation. FONAG assigns PGs to routes within five surveillance zones[ii], and the labor performed in patrols

contributes to the production of páramo as conservation space. While the experience may vary slightly between locations, there are two main components to the work above in patrols as described by FONAG: surveillance and control. Ultimately, Surveillance work does not require direct contact with local people, but rather it is a practice of recording "all of the internal processes of the páramo" (FONAG Paramo Guard Coordinator, personal interview, October 2012).

Despite the hydrologic importance of paramo, much is still unknown about how the ecosystem functions to produce those services. The scarcity of hydrological and meteorological data on páramo ecosystems and a lack of studies on páramo soils contribute to the gaps within scientific knowledge of overall ecosystem processes and hydrology of páramo landscapes (Podwojewski and Poulenard 2011; De Bievre, Iniguez, and Buytaert 2011). Some researchers assert that páramo evolved directly through human habitation and intervention, leading to debates in the role of people in the ecosystem (Ellenberg 1979; Laegaard 1992). FONAG, a governance mechanism itself, dedicates much effort to develop knowledge through its own program of scientific research on paramo vegetation and hydrology and extensive data collection that includes a network of climate monitors as well as utilizing the paramo guards. Thus, a large part of paramo guard duties includes generating data.

With cameras, GPS units, and notebooks, the work requires recording and reporting everything that occurs in relationship to the páramo. This includes information about natural phenomenon, such as wildlife sightings, weather conditions, and changes in vegetation, as well as human activities like agriculture, hunting, grazing, burning, or tourism. As a FONAG employee told the guards during training, PGs "walk with the eyes of FONAG above in the páramos" (October 2012).

This work is crucial to the process of territorialization, as keeping records holds power to convert space into an object for governance, rendering an area as 'legible' (Scott 1998). This is reflective in a comment by another FONAG office employee, who asserted that the PG's "…job is to observe to help [FONAG] make decisions about what you all have seen. If you do not tell us [in Quito's office], how are we supposed to make decisions?" (FONAG employee, PG training, October 2012).

Data from the patrols serve as a base line to determine improvement –or deterioration– of the páramo ecosystem. FONAG's interpretation of data always works favorably to support their continued intervention. Improvement in the health of the ecosystem is positively attributed to the interventions FONAG, while declines serve of evidence for the need for FONAG's interventions. Consequently, the reports are necessary not only to create the páramo as an object for governance, but to legitimize and strengthen FONAG's claim to the ecosystem as there will always be a continued need for FONAG based on the assumption that human interaction with the paramo is always detrimental. Thus, the practice of surveillance and generation of knowledge aligns closely with Foucault's 'truth' form of governmentality.

The second part of the PG's work above in patrols is 'control.' For the PG, 'control' relates to intervention in the conduct of people in the páramo. As the former program coordinator of FONAG explained, "the guard has to convey the norms and rules of behavior regarding the environment" (personal interview, June 2012). This means deterring activities FONAG deems to be environmentally damaging to the páramo, such as burning or grazing the páramo, hunting, dumping trash, and cutting trees.

Charged with maintaining order, FONAG PGs are agents of the market-oriented conservation mechanism of the water fund and not the state, and therefore do not have legal

authority and they cannot impose punishments for any 'rule' infraction. As stated by a FONAG employee during a 2012 PG training,

> "Us with FONAG, we cannot give permission to absolutely anybody to enter or not to the properties in which we are [working]. Who gives permission? MAE for reserves, the water company for their private land, and the communities for their land."

Whether they are patrolling community land, a national PA, or property owned by Quito's public water utility company, they cannot give or deny permission to any individual to be on the property. FONAG PGs cannot do anything to directly intervene in an individual's actions during a patrol aside from talking with that individual and telling that individual that their actions negatively affect the ecosystem.

When PGs directly interact with an individual that is behaving contrary to FONAG's norms, the strategy for control is to influence the individual through explanation and appealing to either (or both) neoliberal or disciplinary rationalities. A FONAG employee described the process of control as "having problems and giving solutions" with the experience and confidence that the PG possesses (PG training, October 2012). The urban-based FONAG facilitators emphasized Quito's claim on water resources to justify intervention, and drew upon neoliberal rationalities to do so. As the FONAG facilitator explained during training:

> "Why do we want to have control? The main objective is to maintain the quality and quantity of the water for the city of Quito. This is the work that we have been hired to do. If we are not capable of improving the quality and quantity of water, we are not doing anything here" (October 2012).

Discussing surveillance zones, the FONAG facilitator asked PGs to begin with a description of where they work and to "explain how those places protect the interests of the Metropolitan District of Quito." Describing situations that required the engagement of others in

the paramo, the FONAG facilitator repeatedly suggested that the guards explain that activities harmed the ecosystem and therefore harmed water resources for the city of Quito. Yet the lack of authority concerned many guards who indicated reluctance to approach unknown people without visible logos. This issue appears as a continuation of one that existed during MAE's Community Park Guard program as Uffelder (1998, 41) notes that "[m]any hunters in the Reserve come from wealthy Ecuadorian families and think nothing of threatening a campesino farmer, particularly with no uniform."

The position of the guard as a local member of the community, however, gains importance in exchanges with local people. In discussions of how PG influence their neighbors, PGs distance themselves from the resource claims of Quito. Rather than telling individuals that they are harming the ecosystem which provides water services to Quito, the guards regularly invoked the local relationship of the lands to local communities to change behaviors of people in the páramo. One PG discussed how he approached people fishing or hunting by explaining to the offenders that respecting the environment:

> "I tell them that it is not for [FONAG or the Ministry of the Environment], is not for me, but instead is for the future of the grandchildren, of the children. The resources are [for us] to consume, but in an equitable form so that hopefully they will never run out" (PG training, October 2012)[iii].

This quote demonstrates how one PG directly distances himself from the known authority of the state in an exchange of 'control.' Furthermore, the PG does not mention the city of Quito or FONAG's claim to the resources. Rather, the PG focuses upon local relationships to dissuade behaviors, demonstrating this mixed identity between employee for FONAG and local community member in a process that aligns with disciplinary governmentality.

Along with this mixed position of identity, the quote also demonstrates the performance of subject-making by the PG. FONAG pays for the performance of PGs disseminate water conservation into the space of the páramo. Yet, PGs draw upon moral narratives emphasizing community values rather than ones that emphasize economic value or value to the city. Thus despite the economic and market rationalities that underscore the FONAG facilitator's descriptions and motivation's of the PG work, these narratives do not frame the PG descriptions of their interactions with local residents. I now turn to the work 'below.'

The Work 'Below': Within the Community

The work of the PG shifts when focused 'below,' or in the lower elevations that constitute the working landscape of the community. FONAG calls this part of the PG position the "community management component," framing PGs as environmental managers within their communities (FONAG 2010). In this position, PGs are responsible for developing and supervising productive projects funded through FONAG and its donors. Harkening back to its roots in the SUBIR Community Park Guard program, the main objective of the FONAG PG's work inside of the community is to transform the community's perception of the guards from "prohibitionists" to "managers" (Escandón and Rojas 2008, 18). These titles imply that rather than simply restraining certain land use activities, a PG as a manager actively directs land use activities and the labor behind them. This work is also done with a mixed frame of disciplinary and neoliberal governmentalities.

FONAG envisions PGs to take a leadership role in the community, to be respected, and to disseminate their environmental knowledge to other community members. Under the direction of FONAG, PG will occasionally facilitate environmental education workshops held in their

communities about the importance of the paramo ecosystem and the correct management of it. As environmental education aims to instill values of norms of behavior in a population, it is widely considered a technique of disciplinary governmentality (Fletcher 2010).

The central means to gain support for the PG within the community, however, are through productive projects. As PG remarked, "You can arrange talks, but after one [or] two talks, the third will have fewer [people] and nobody will show up for a fourth. We need to come with projects or people will lose interest" (PG training, October 2012). The productive projects are formalized agreements between FONAG and communities requiring the dedication of collectivized labor towards conservation activities as a condition to receive FONAG's material and financial support for a productive project. PGs may propose productive projects in their home community or within a nearby community in his surveillance region. After consulting with community members, the PG offers project ideas to FONAG's PG Coordinator. If she decides that the ideas align with FONAG's goals, she will present a proposal in a community assembly.

To receive financial support for a project a community as a whole must agree to put its labor towards 1) the productive project itself and 2) conservation activities and the community president is required to sign the document to promise that the contract will be upheld. Since 2004, productive projects have included the support for ecotourism, raising small animals such as guinea pigs, creating organic gardens, improving pastures at lower elevations, and developing a small-scale irrigation. Tangible conservation activities within the páramo are an important focus of the agreements. As stated by the former program coordinator,

> "The [conservation] agreements always have been focused on more than the themes of labor and community work, but on concrete environmental agreements, like reducing the livestock load, reducing hunting, reducing fires, and in some cases, planting trees and

> restoration including collecting garbage from the river. They are environmental agreements that you can see" (2012).

Activities that are visible can also be counted and used as metrics to determine or prove effectiveness and efficiency of investment. This in turn, is also a way to make the landscape legible.

According to FONAG's Technical Secretary, each productive project is designed to promote intensification at lower elevations to relieve land use pressure on the páramos at higher elevations. These contracts discursively separate land into zones of production and conservation. FONAG publications describe productive projects as having a purpose "…to reduce the exploitation or inadequate uses of natural and productive spaces" (Escandón 2010, 10). Contracts also include a map depicting zones of production and conservation and quantify the area that will be 'conserved' through the conservation agreement. This metric then, is used as evidence of success (Joslin 2019).

The PG becomes the broker of an in-kind exchange between the FONAG with its urban constituents and the rural communities whose labor processes go towards producing ecosystem services through the productive projects that require the collective labor of the community. In other words, the work of the PG allows access to space as well as the community labor in this PES arrangement. The PG and his simultaneous performances as FONAG employee and community member, however, create tensions that are not easily reconciled.

Between 'Above' and 'Below': Value through bordering and subjectivity

In the context of water fund PES, the PG serves as a broker between rural communities at the sites of ecosystem services production and urban-based FONAG. Guards enable FONAG access to community páramos and contribute towards the legibility of the ecosystem and its

surrounding landscape as an object of governance. Guards furthermore negotiate contracts in which FONAG finances productive projects if the community agrees to put their collective labor towards conservation practices directed at maintaining or restoring ecosystem services. This exchange between urban 'consumers' and rural 'producers' of ecosystem services enables FONAG to exist as a PES arrangement requiring capital circulation. In other words, PGs enable the water fund PES to function by building --and themselves becoming-- connections through which economic value can circulate. This circulation of capital, however, is not solely between FONAG, PGs and communities. The PG work towards defining the landscape as an object for governance also allows capital circulation between FONAG and its urban constituents and international donors.

The work of the guard serves to reorder and compartmentalize the landscape and reinforce ideological positions regarding human relationships with the environment. As Büscher et al. (2012, 23) remark, neoliberal conservation entails "a particular set of governmentalities that seeks to extend and police profitable commodification processes based on artificial and arbitrary separations of human society from biodiverse-rich (non-human) nature." The reordering of a landscape into productive and conservation zones with a specific set of acceptable practices creates new territories that require continued investment in their maintenance. Thus, this new formation of space facilitates the expansion of markets. This case study, however, underscores that the production of value in a water fund PES involves much more than simply transferring capital between 'consumers' and 'producers' of ecosystem services.

Embedded within these practices, subjectivity is inextricable from value production that translates to capital circulation. Sodikoff (2009, 444) describes locally hired guards in conservation arrangements are a "blur between implementer and target" of conservation

interventions. That is, they typically engage in subsistence agriculture and local natural resource use, while being hired to control those same activities. This creates somewhat of a paradox within production, in which a guard's job exists because of his activities in another role. Most of FONAG's PGs, for example, also engage in subsistence farming and own cattle grazing in higher elevations. The work of FONAG's PGs similarly fall into that position, and this labor requires a negotiation between competing demands of the community and FONAG.

Although FONAG officially defines the work of the PG, pays them, and holds them accountable as a neoliberal subject, the process of hiring a PG is typically dependent upon the local community. FONAG considers the PG to be a link that allows them access to the community, but the community elects a PG with the perspective that the person in that position leverages benefits for the community. The position therefore conveys accountability to the community upon the PG. This is evidenced in a publication of FONAG on their guard program, describing concerns of the guards whose "reputation was at stake, in case of not obtaining financing for the [productive] projects (Escandón and Rojas 2008, 18). Rather than having accountability to only FONAG and motivation of the salary, the PG also has accountability to the community. Thus, PG frequently emphasized the importance of productive projects to their missions.

Tensions between subjectivies also became evident when PGs struggled to reconcile their lived experience and rationalities as a PG with the expectations of the FONAG office. During training, the FONAG Coordinator admonished PGs for patrolling areas that were adjacent to, but not directly in FONAG's targeted watershed boundaries. As explained by a PG, the area was adjacent to the boundaries and had a variety of flora and fauna important to the paramo and served as an important source of irrigation water for local communities. "Does it serve to secure

water resources for the city of Quito? Then that's not what you are hired to do" commented the FONAG Coordinator. Furthermore, the misalignment of paramo guard subjectivities was evident in the forms of accounting and reporting of the paramo guards.

This goal and desire to serve the city of Quito appeared to be internally rejected by PGs or actively ignored. These incongruences with the desires of FONAG and the PGs frequently appeared in the training. Disagreements on the logic of record keeping or areas of most importance for monitoring, for example, frequently arose in the meetings, showing that the PGs regularly applied a logic and judgement to situations that differed from FONAG's. Reporting issues furthermore occurred on accounts of labor. As an employee, FONAG pays PG for a pre-determined number of hours per week. PGs are required to record their hours of work, but what may appear to FONAG office workers as a simple task is often daunting to the PGs. Marking proper hours is particularly difficult for them. One PG commented that the work never gives exactly eight hours in the field because there are always unexpected circumstances that call their attention, and that travel time to and from the páramo itself may take a few hours per day. Consequently, many of the guards write down hours that they were expected to work rather than the actual hours that they worked. None of the PGs at the training workshop indicated that it would be an easy matter to write down the true hours, as true hours exceeded the expected hours and were irregularly completed.

Additionally, PGs reported often using their own money to fuel their transportation during their patrols and to repair FONAG equipment. Occasionally they used their own motorbikes or horses for patrols as those from FONAG were not readily available. FONAG demonstrated desire to fairly compensate the guards for their time and to pay for the necessary costs of conducting the work, but the lived experience of the job required more hours than could

be compensated based on program budget allowances. Yet, the PGs continued their work. At this point, the guards' own environmental subjectivity could be considered a subsidy the mechanism of FONAG because their labor, much of it unpaid, ultimately generates value for FONAG to function.

While FONAG acknowledges and has expressed desire to compensate PGs for the problem of practical working conditions and their hours of labor, the expectations of the job do not line up with the physical requirements of the position. All of the PGs agreed that it was not possible to do what was asked of them in the time that was expected of them. The willingness of PGs to continue the practices of FONAG, despite the inability of FONAG to compensate them ultimately subsidizes FONAG as they derive an extra value from the PGs to complete their job. PGs may justify potential exploitation of labor as work in their 'other' role as concerned community member attempting to protect resources for their community.

Foucault (2008, 313) asserts that the four governmental rationalities of truth, sovereignty, discipline, and neoliberalism "overlap, lean on each other, challenge each other, and struggle with each other." These four governmental rationalities can simultaneously be employed in concert with varying levels of emphasis and may likewise be challenged by those they seek to manage. As Valladares and Boelens (2019, 69) state, "There is no unidirectional relationship of government-to-governed, but a two-way flow of interactions and influences." Thus, we see in the paramo guards how their work contributes to various governance techniques that compliment a neoliberal landscape, yet themselves struggle with various subjectivities. That struggle itself, however, also supports the creation of the neoliberal territory.

Conclusions

This article examines the work of the guards and their contributions to territorialization and the production of value within water fund conservation in the Ecuadorian Andes. Water funds, a form of market-oriented conservation inspired by PES, focus on conserving critical ecosystems across a variety of property regimes rather than on enclosing lands via traditional state-designated parks or land purchases. Neoliberal conservation landscapes often take the form of property mosaics supported by state institutions but operated by non-state actors in a public-private partnership (Büscher et al. 2012).

While neoliberal conservation territories may involve traditionally state-employed technologies for territorialization such as guards, I argue that the labor process itself is paramount for producing and circulating value that ultimately enables the environmental governance arrangement to function. Guards are incorporated into PES arrangement as 'producers' of ecosystem services through their work to maintain or improve the functioning of a targeted ecosystem. In FONAG, this work includes 1) patrolling the páramo ecosystem to record and report on the ecosystem and to dissuade any human activities that FONAG deems inappropriate, and 2) recruiting the collective labor of local communities to do conservation land use practices in exchange for small-scale productive projects. This labor cuts across property divisions to serve to compartmentalize the landscape into new spaces of conservation and production that results in quantifiable measurements of conservation territory, the mobilization rural labor, and the employment of multiple subjectivities. All of these aspects of PGs labor produce and circulate value that is incorporated into the PES arrangement.

This article has demonstrated how the PG's labor is necessary for FONAG to render the páramo ecosystem as legible for governance, but also as quantifiable and thus exchangeable in a neoliberal conservation arrangement. The new forms of territories and the subjectivities that are

produced in the process are strategic, performative, but also imbued with tension that may be exploited by the conservation arrangement. While this study has given further insight into the labor process and subjectivities involved in the production of a market-oriented conservation territory, the guards only represent one often overlooked node in a 'fictitious' commodity chain.

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[i] FONAG has since acquired private properties through funds from constituents.
[ii] Information from a 2013interview with the FONAG Paramo Guard Coordinator.