Unequal Access to Payments for Ecosystem Services: the case of Costa Rica

David Lansing
University of Maryland Baltimore County
Department of Geography and Environmental Systems
1000 Hilltop Circle
211 Sondheim Hall
Baltimore, MD 21250
dlansing@umbc.edu

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ABSTRACT

Using Costa Rica's experience with its payments for ecosystem services (PES) program, this article examines how and why some groups come to be excluded from participating in this program. I show how Costa Rica's PES program results in payments that generally go to larger landowners and tend to exclude certain kinds of smallholders, and that these patterns occur despite concerted state efforts to include the rural poor. I argue that access exclusions found in PES are the result of historical patterns of agrarian settlement interacting with the state's inability to recognize certain forms of property claims in the context of PES, with the latter condition emerging through ongoing efforts to transform the administration of the nation's property regime in ways that will render it more legible to markets. This case study shows the importance of understanding how access restrictions emerge from the complex relations between multiple state institutions and agrarian producers in the implementation of PES.

Key words: climate mitigation, carbon offsets, neoliberalism, ecosystem services, agrarian change, Costa Rica

INTRODUCTION

Costa Rica's payments for ecosystem services (PES) program has become so popular that the state agency in charge of disbursing payments, the National Forestry Financing Fund (Spanish acronym: FONAFIFO) can currently fund only about one out of every three applicants (Vargas, 2010). Those who do receive funds tend to be large, often absentee landlords (Zbinden and Lee, 2005; Porras, 2010). Between 1997 and 2008, for example, a plurality of PES funds (39%) went to for-profit companies, while less than one per cent of funds during this time went to small farmers who occupy state agrarian reform lands (figures from Porras 2010: 12). Such results would seem to confirm the worst fears of PES critics: that creating a market-based system of conservation will favour the wealthy and well connected, and ultimately exacerbate land and wealth inequality (e.g., Wittman and Caron, 2009; McAfee, 2012). The specifics of the Costa Rican case, however, call for a closer inspection of how and why some groups are unable to access this policy. This is because the Costa Rican state has gone to great lengths to explicitly target smaller, and more marginalized, landowners (efforts that I will detail below). Despite such efforts, however, PES remains a program that largely excludes such groups.

Such a situation is not limited to Costa Rica's experience with PES, but represents a pattern of access to forestry and natural resources more broadly, which is that efforts to include the marginalized within an access regime are simultaneously accompanied by practices of governance that work to exclude these very same groups (Larson and Ribot 2007; Pulhin et al. 2010; Sandbrook et al. 2010; Li et al. 2010). Such countervailing policies can be explained with attention to the well-understood idea that the state is not coordinated entity, but is an unwieldy, often contradictory, apparatus of institutions, people, laws, mandates, and judgements (eg. Glassman and Samatar 1997). This paper uses the case of PES in Costa Rica in order to investigate how the disunified state comes to exclude certain groups of people from a state policy that explicitly tries to be inclusive, resulting in forestry benefits for the rural poor becoming simultaneously enabled and constrained.

I do so by discussing how a number of barriers to accessing PES in Costa Rica emerged in spite of other well-intentioned efforts to include these groups. Specifically, I show that access barriers to PES emerged out of three interrelated processes: a) the epistemic demands of property regularization, b) a disunified and contradictory state apparatus, and c) historically sedimented patterns of agrarian settlement. I will show how reforms concerning property titling have created difficulties for many landowners to achieve recognition needed to access PES. Further, I will demonstrate that access barriers for some social groups emerged through the conflictual relations between different state agencies over the status of smallholder property.[1] Such disagreements centre on the types of properties that should be eligible to access PES, and whether farmers who have received lands from the state Agrarian Reform Institute (Spanish acronym: IDA) are eligible for these payments. Finally, I will examine how these intra-state disagreements and new forms of recording property intersect with a decades long process of agrarian settlement in which some farmers have acquired their land in ways that render their property illegible to the state, and result in them unable to access PES payments. In this paper, therefore, I will examine how these three processes interact to create an emergent regime of access to PES that has resulted in an uneven social application of this policy mechanism.

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[1] While the status of what constitutes a smallholder can vary by country, I define smallholders in in the Costa Rican context as landowners with thirty hectares or less.

In addition to understanding how emerging access regimes unfold, this case is also instructive for understanding how forms of exclusion develop out of the implementation of neoliberal environmental policy. It addresses a question of number of scholars have recently posed: to what extent can we attribute policy outcomes such as this to the neoliberal features of the policy (eg. Castree 2008; Fletcher and Breitling 2012; Lansing 2013)? I argue that while some features of the neoliberalization process (such as the push for land regularization) have contributed to this policy exclusion, such exclusions cannot be primarily reduced to neoliberal processes. Instead, I suggest that various governmental processes work against each other in ways that produce deeply entrenched policy exclusions that persist *despite* concerted efforts by the state to prevent such patterns from occurring. In this paper I argue that this situation arises due to the inability of particular groups to become legible in specific ways, and that these modes of legibility arise from diffuse sources related to the nature of property and the uncoordinated nature of the state. Overcoming access restrictions to PES would be quite difficult as they are emergent out of diverse processes and sites of governance, resulting in deeply entrenched barriers to designing a more "pro poor" PES policy. Understanding how and why such constraints to access occur is the primary goal of this paper, and its central contribution.

My arguments are based on research conducted in Costa Rica over a period between 2007 and 2012. I interviewed thirty subjects who deal with various aspects of PES implementation: managers and employees at FONAFIFO, employees at closely related government ministries, such as the Agrarian Reform Institute (Spanish acronym: IDA), forestry non-governmental organizations (NGOs) that enrol landowners in PES, as well as experts on the country's forestry industry, both academics and those who work for the industry's lobbying and policy arms. In addition, I interviewed members of environmental organizations that are generally antagonistic toward PES. Interviews were centred on daily policy details such as challenges to enrolling landowners in PES, and the relation of PES to the forestry sector as a whole. I also interviewed a number of farmers that had enrolled in PES (n = 20), and a smaller number of farmers that either tried to enrol but could not (n = 4), or were eligible to enrol but chose not to do so (n = 1). These latter two groups are extremely difficult to find in a systematic way, as those that wish to apply, but do not because of eligibility reasons, often drop out early in the process and leave little in the way of records to contact them. Nevertheless, their claims are corroborated by my interviews with forestry NGO workers, who have dealt with hundreds of such cases.

In addition to interviews, a literature review was conducted of an extensive "gray" literature concerning PES in Costa Rica to corroborate information from interviews. I also draw on data provided by FONAFIFO concerning their contracts. I use this information to provide a general snapshot of the types of payments that have been made, both in terms of their size and modality (reforestation vs. avoided deforestation). My empirical claims about the size of landowners come from data on PES contracts from 2003 to 2010 provided by FONAFIFO. In addition, I draw on a recent extensive review of PES contracts in Costa Rica by Porras (2010) in order to corroborate my claims about patterns of PES implementation.

This paper proceeds as follows. In the next section, I more closely define the neoliberal features of PES and review scholarship on PES, property, and access in order to situate the paper's results and discussion. In section 3, I discuss the kinds of property rights that PES is creating and the rise of land regularization in the country. In section 4, I discuss the types of landowners who are benefitting from PES, and in section 5, I discuss the primary reasons why this is so. I conclude the paper by situating these findings in a wider discussion about the role of neoliberalism, the state, and property relations in creating exclusions to PES.

PES, ACCESS, and PROPERTY

The term "neoliberalism" has come to encompass a number of processes ranging from deregulation, privatization of public goods, and the increased commodification of nature (e.g. Castree 2008). In the case of PES, its neoliberal features are that, in theory, the ephemeral qualities of ecosystems—biodiversity, carbon sequestration, water services—can be transformed into legible commodities that can be bought and sold for a price that is negotiated on an open market. In practice, however, a number of PES programs worldwide involve substantial, and sometimes complete, state involvement, with payment levels often decided more by fiat than by market actors negotiating a price (Fletcher and Breitling, 2012; McElwee, 2012; Milne and Adams, 2012; Shapiro-Garza, 2013). And while state involvement in the policy process has long been recognized by scholars as a common feature of neoliberal policy development, the primary role of the state, and the relative paucity of actual market-mediated sales of ecosystem services, have led some scholars to suggest that there is nothing particularly "neoliberal" about PES, and that it is could really be thought of a "subsidy in disguise" (Fletcher and Breitling 2012: 402; see also McAfee and Shapiro 2010).

Nevertheless, while PES often functions as a state subsidy, it remains grounded in a discourse of environmental service commodification and privatization. Commodification is the process to turning ephemeral environmental processes into alienable goods that can be bought and sold for a price, while the closely related process of privatization is one of granting property rights to specific ecosystem functions so they may indeed become a tradable commodity. In the case of PES, this requires creating property rights to the functions of an ecosystem (such as carbon sequestration), so that such rights can then be sold to another party as a commodity (such as in the form of a carbon offset). This discursive grounding of PES has led some scholars to argue that the policy does indeed retain many "neoliberal" features, with potentially pernicious results (Fletcher and Breitling 2012; McAfee 2012; Matulis 2012). Specifically, some scholars have argued that this intellectual grounding of PES will demand forms of property enclosures that can result in decreased access to forest resources for some groups (McAfee and Shapiro, 2010; To et al., 2012; Matulis 2012). One way this might happen is that the process of transforming forested land into a commodified environmental service will demand forms of property legibility that can come into conflict with already-existing modes of property and access that are often more flexible, and culturally specific. Some scholars have demonstrated this process in action, where, in the context of REDD+ projects, locally specific modes of land ownership have become superseded in favor of universally legible property rights in ways that produce land exclusion for some groups (Mahanty et al. 2013; see also Bottazzi et al. 2014).

While such arguments pose the neoliberal qualities of ecosystem service commodification as a source of exclusion, it is important to note that such modes of exclusion are not limited to neoliberal environmental policy alone. Indeed, a long line of scholarship has examined how the relationship between different social groups and the state both constrain and enable access to natural resources (e.g., Berry, 1993; Paudel 2006; Hall et al. 2011; Lansing 2014). This idea has been articulated in Ribot and Peluso's (2003) influential "theory of access" approach toward forestry policy, in which they argue that the power to act on one's rights to resources depend on a number of diverse "access mechanisms," that can include knowledge about markets, availability of labour, or one's social identity.

Such access mechanisms can create resource and land security for some, but also exclude others. Writing about property specifically, this is a process that Hall et al. (2011) have

called the "double edge of exclusion", where: "…exclusion creates both security and insecurity. From the moment land becomes scarce, the exclusive access to land that is productive for some comes into tension with the fact that others cannot access it" (pg. 8). Thus, access to property for some also means exclusion from property for others. Such exclusions can be driven by many processes, such as commodity booms, the "intimate exclusions" of land hungry family members, or even state run land titling programs that can serve to exclude the informal property rights of some.

While the exclusions of property have two sides—creating security for some, and insecurity for others—property itself can be thought of as having its own "double edge". Property involves not only exclusion, but also, cooperation. This is acknowledged by a number of property scholars who have argued that for something to become property—whether it is land or ecosystem services—two things must happen: a claim must be communicated by the claimant, and that communication must be recognized by others (Rose 1994; Singer 2000; see also Mansfield 2007). Thus, property involves more than non-interference—in which non-owners do not use property that is not theirs—but also involves various social obligations, forms of recognition, and relations of interdependence. As Mansfield (2007) puts it: "My freedom to use my property to have loud parties with smoky bonfires can impede your freedom to exclude loud noises and smoke, which can impede your freedom to use your property as you wish" (pg. 489). In this way, legibility, communication, and social norms become essential for property and property rights to have force in the world.

And it is on this issue of legibility and communication that particular access regimes arise that can exclude particular groups. This is because one's degree of access to land or resources can often turn on one's ability, or willingness, to navigate procedural norms that are often necessary for property to become legible. Recent assessments of the Clean Development Mechanism, for example, have shown this process in action as some groups are excluded from realizing the carbon benefits of their forested land because they lack the financial and cultural capital to engage with such an audit-intensive carbon governance regime (Corbera and Brown, 2010; see also Osbourne, 2011).

Such epistemic challenges of communicating claims to property can also be found in efforts to more clearly demarcate and record land (Hall et al. 2011; Mitchell 2005; Kay 2000). New regimes of land titling and regularization—often modeled on the influential ideas of Peruvian economist Hernando de Soto— have been pushed by development institutions as a solution to persistent "poverty traps" found among the rural and urban poor, who often live and work under system of informal, or unrecognized property tenure (Mitchell 2005). Such programmes exist with the explicit goal of rendering land more legible to banks and markets so as to catalyze a more economically efficient use of land (Hall et al. 2011).

In this paper, I wish to consider how processes related to legibility become a key factor in creating access exclusions to PES. Doing so, I suggest that this problem is a piece of a broader governmental problem in the creation of a more inclusive PES policy. While some critical scholars have suggested that the policy's goals of commodification and privatization can be a source of these exclusions, the actual practice of PES in Costa Rica suggest that such exclusions cannot be reduced to these neoliberal processes. Instead, I contend that exclusionary barriers to PES are related to a regime of access that emerges out of multiple governmental sources related to the recognition of property. To understand this, I unpack the role of the state as a site and agent of the process of exclusion by considering how PES' integration within parts of the state, and the relations between landowners and various state bureaucracies help produce an emergent

regime of access to PES. Investigating the polyvalent ways in which marginalized groups become excluded from this policy is a small step toward understanding the extent to which PES can or cannot become utilized by marginalized groups.

PES AND PROPERTY IN COSTA RICA

Costa Rica's PES program largely functions as a state run conservation payment programme, while at the same time, the policy's goals and origins are grounded in a number of neoliberal ideas about creating a market for ecosystem services, in which new forms of property in the form of tradable ecosystem service rights are created. This section's goal is to more closely excavate the ambivalent nature of this program's statist and market-based pretentions, and to link it to another property policy reform that has been ongoing in Costa Rica: land regularization. As we shall see, both of these policy reforms centre around recognizing property, and have come to interact in ways that result in access barriers for particular groups.

PES began in 1997 with the passage of Forestry law 7575 (Castro et al. 2000), it created a quasi-state institution—FONAFIFO—that compensates landowners for the ecosystem services of their forested land. FONAFIFO itself receives funds from a 3.5% gas tax, a water services tax, and, so far, World Bank loans. FONAFIFO is part of the Ministry of Mines, Environment and Technology, but is also governed by a board consisting of representatives from the country's private forestry industry (hence the quasi-state label), as well as members from governmental ministries (FONAFIFO 2005). The law creating FONAFIFO was the culmination of a decade of state efforts to address the country's long-standing deforestation problem. These efforts began in the 1980s as a centralized state regime to protect forests through government tax incentives and payments to forestry businesses, along with prohibitions on clear cutting, and stringent regulations on tree felling (Brockett and Gottfried 2002). In 1993, however, the World Bank demanded that its structural adjustment loan to Costa Rican include fewer regulations on the forestry industry and the elimination of state forestry subsidies in favour of a programme that recognizes the market value of ecosystem services (De Camino et al. 2000). Thus, from the beginning this programme has been conceived as a market-based mechanism for stopping deforestation. Here, for example, is FONAFIFO's own assessment of its programme:

> …its [FONAFIFO's] most important achievement may well be the change of mindset it has brought about in Costa Rican society, with the help of the Environmental Services Payment Program. Today, forestry services are highly valued, and there is an emerging market for the purchase and sale of environmental services. (FONAFIFO 2005, 36-37)

Similarly, an official from FONAFIFO described for me the logics of that were behind the creation of this program. During our interview, we discussed the development of the programme, and I pointed out to him that the program's system of providing direct payments to farmers is very similar to the state's previous system of forestry subsidies. He responded:

> There are not subsidies. Costa Rica…promised to eliminate all subsidies in the structural adjustment program that we are under. So…in order to arrive at a (payment) figure…we had to do this big justification in order to say 'look, a plantation produces more carbon (than existing forests), and that is worth so much, it produces a little biodiversity, a little hydrologic resource protection, and maybe a little scenic beauty.' And we had to do this exercise

> in order to justify coming up with 814 dollars (for a reforestation payment) (Interview, 2007).

In this way, the idea that these payments represent compensation for a commodified service is also more than rhetoric. According to article 65 of the law that created the PES system (forestry law 7575), when the state makes a payment to a farmer it is acquiring the rights to the services on its forested land, such rights can then be sold by the state to another party in the form of a carbon or biodiversity offset (see Navarro 2010: 5). This is how FONAFIFO recently described how the programme functions:

> Ownership of environmental services generated by forests or plantations is considered an "asset" or "good" belonging to the owner of the land where the benefit is achieved… The property right vested in the environmental services is the basis for the payment that the forest owner may eventually receive through mechanisms such as the PPSA…Therefore, carbon rights bought by FONAFIFO belong to the State, since they were acquired with public funds, and FONAFIFO, in turn, may commercialize such rights at its convenience according to the current legal framework. (Government of Costa Rica 2010, 64).

This conceptualization of commodified environmental services has created particular bureaucratic issues for the program. If forested land contains a bundle of environmental service "assets" that the state purchases through its ecosystem service payments, it is necessary to understand exactly who owns such assets when the payment is made. Unfortunately, this is not always clear, as the government of Costa Rica has acknowledged in its REDD Readiness report:

> In Costa Rica there is a problem of overlapping title deeds which may affect the adequate accounting of emission reductions of the REDD+. Even though the problem is being handled at the National Property Registry, effort will be required for clarifying the situation (Government of Costa Rica, 66).

While this issue is being discussed in relation to potential REDD+ credits, the same problem has come to affect Costa Rica's current PES programme, as the state notoriado requires that all landowners receiving PES must comply with the country's system of land regularization (Porras 2010). Land regularization has been an issue that the Costa Rican government has been working on for over a decade, and has been a key source of exclusion for landowners, and deserves some discussion at length.

Land Regularization

Land regularization is a critical reform that has come to impact PES (in ways that I will detail below) that was introduced in 2001 and is still ongoing. In 2001, the Costa Rican legislature passed Law No. 8154, approving an Interamerican Development Bank (IDB) loan of $65 million US dollars, and setting into motion a process of land title regularization (Acuña, 2007). This was meant to introduce efficiencies to a chaotic and inaccurate system of property records. Historically, real estate and cadastral records in Costa Rica have been recorded and

administered by separate agencies. This means that if one purchases property, its title is recorded with the Land Property Registry, while official cadastral surveys are administered and stored by the *Catastro Nacional*. The separation of these agencies resulted in little coordination of records. It was (and still is) quite common, for example, for a landowner to have a title but not an official survey. For those with both a title and a survey, it is not uncommon for the geographic coordinates on a property title to be slightly different from those of official cadastral surveys. These discrepancies have resulted in numerous overlapping property claims. For example, according to the IDB, roughly 40% of cadastral plans in the *Catastro Nacional* contain multiple title claims (IDB, 2000), and the area of registered land titles exceeds Costa Rica's territory by 20% (IDB, 2000). Such irregularities are often difficult and expensive to resolve. Thus, the IDB loan was to bring both title and cadastral surveys under one agency, and to digitize and map all private property claims across the country.

While bringing land title and land surveys under one administrative roof and mapping all property claims appears to be a common-sense solution to historical problems of land security, it is also part of a broader worldwide push toward rendering land more legible to markets (Kay, 2006; Hall et al. 2011). This is, in fact, one of the justifications for the IDB loan in the first place, in which the potential benefits of regularization are described as an "increase in private investment" and a "more dynamic land market" (IDB, 2000: 4). As many critics of these programs have noted, the process of creating transparent, consistent, and legible forms of property title confronts diverse types of property claims that have emerged through a historical geography of agrarian settlement (Kay, 2006; Gould, 2006; Mitchell 2005; Hall et al. 2011).

In Costa Rica, two types of ambiguous property claims are noteworthy. First, are cases of land squatting. Under Costa Rican law, if one occupies state lands for ten years, one may receive legal title for that land. Today, such forms of gaining property are rare because there is little of this unaccounted land left to be colonized, even if some illegal encroachment on state forested lands exists today (Navarro and Thiel 2007). Instead, state lands now fall into a number of conservation categories—such as national parks, forest reserves, and conservation areas—and comprise approximately 15% of the territory (Navarro and Thiel 2007: 3). Throughout the 1960s and 1970s, however, squatting was a viable strategy for gaining property by landless peasants, especially along the country's northern and eastern forest frontier (Seligson, 1980). Many of those who received property title in this manner have not gone through the expense of conducting an official cadastral survey. Their property claims are legitimate, but often lack official cartographic recognition.

A second form of ambiguous property is land from the Agrarian Development Institute. The state agrarian reform agency ITCO (Spanish acronym: Institute for Land Colonization and Occupation; name later changed to IDA, for Agrarian Development Institute) was created in the 1960s in response to increasing peasant mobilization against persistent land inequality (de Vries, 1992). IDA will typically disburse land by first purchasing a tract of land, usually from an absentee owner, and creating a "settlement." Such settlements are given a basic infrastructure (e.g., roads, water, schools), and peasants receive a smaller tract of land (from one to fifteen hectares, depending on the area and the era in which the settlement was created). Peasants are then allowed to buy the land back from IDA at low rates of interest. Once the land is paid off after a fifteen-year period, peasants have full land ownership and may do what they wish with it (including selling it). During this fifteen-year payment period, however, the landowners live on, and in, a settlement that is essentially owned and managed by IDA. Below, I will show how

these forms of ambiguous property have led to access restrictions to PES, but first, I will discuss evidence of smallholder exclusions from PES.

ACCESS TO COSTA RICA'S PES PROGRAMME

To date, assessments of the social impact of Costa Rica's PES program suggest that it is primarily larger landowners who are able to take advantage of the program. A recent review of the program's recipients by Porras (2010) found that 37% of contracts, and 40%–45% of all payments, go to companies. Such companies are varied and can range from family farms that multiple children have inherited, and choose to keep it as a registered company, to various forestry and ranching companies, reforestation groups, ecotourism companies, and investment societies (see Porras 2010: 13). In total, 69% of all contracts go to farms of 30 hectares or greater (and 34% go to farmers with 100 hectares or more). Data analysis of contract and farm size reveals that the most popular modality (constituting 68% of all contracts during this time), payments for forest protection, tends to favour mid-size and large landowners. From 2003-2010, the median farm size for those with forest protection contracts is 80 hectares (mean = 137.4 ha.), and the median project size is 60 hectares. For reforestation contracts, the median farm size is 33 hectares (mean = 100.3 ha), with a median project size of 10 hectares (see Table 1).[2]

In light of these patterns, it is important to note that FONAFIFO has undertaken a number of steps to increase smallholder participation. Most significant is the introduction of the payment for agroforestry modality in 2003. Landowners are paid by the tree ($1.30 USD) so as to allow for multiple uses in the same area, or to allow for smaller plots dedicated to forestry. This modality has had some success in attracting smaller farmers. Agroforestry payments (which are counted by the tree) are utilized by much smaller farms, with a median participating farm having a size of seven hectares (see Table 1). In addition, from 1998 to 2002 FONAFIFO experimented with group contracts, where a group of landowners can apply for PES. This is also intended to help smaller landowners by reducing the programme's transaction costs, which are disproportionately high for small landowners. Finally, in 2004 FONAFIFO instituted various guidelines to direct payments into areas of the country with higher levels of rural poverty. Together, these efforts resulted in some greater inclusion of smaller landowners. Large farms (over 100 hectares) accounted for 40% to 55% of contracts during the program's first six years, but have varied between 15% and 25% of contracts between 2003 and 2008 (Porras, 2010: 21). Very small farms (less than five hectares) had less than 5% participation in the early years (1997-2000), but since 2004 have come to account for 10% to 15% of contracts.

While there has been some success at including more marginalized landowners, there are limits to these efforts. Agroforestry payments constitute 11% of all PES contracts since 2003 (the year when they were introduced), and 1% of all PES funds since that time. Similarly, the government's targeting of areas of low SDI have had mixed success. As Porras (2010) notes, after the introduction of this criterion, payments to these areas actually dropped slightly, and 40% of new contracts from these areas were of 100 hectares or more, and another 36% to went to medium-sized farmers of 30 to 100 hectares (pg. 12). In this way, PES in Costa Rica has gone

[2] A small but nontrivial part of the programme's funds go to Indigenous communities. Contracts with Indigenous communities are made with various Indigneous Development Associations, the legal representative of state recognized Indigenous territories. These groups can receive payments up to 600 hectares (twice the regular limit), and such payments have constituted 11 per cent of all PES funds (Porras 2010: 15).

from a programme dominated by large landowners, to one with increasing participation by medium-sized (30 to 100 ha.) landowners, and relatively low, but slowly increasing participation by smaller landowners. Despite state efforts to increase participation by smaller landowners and the rural poor, Costa Rica's PES program remains one that largely serves medium-to-large landowners, with significant barriers to accessing the program by marginalized groups. I discuss these barriers below.

PES, SMALLHOLDERS, AND REGIMES OF EXCLUSION

The contemporary academic view of the participation patterns discussed above results from a mix of the economics of land use and the daunting bureaucracy of PES (e.g., Zbinden and Lee, 2005; Pagiola, 2006; Porras, 2010). Zbinden and Lee (2005) speculate that the complexity and expense of applying for payments means that only the more educated, wealthier, and larger landowners have the social, cultural, human, and financial resources to go through such a process (see pg. 269). Other researchers have attributed the general lack of smallholder participation in the PES program to the economics of land use, where only larger landowners have enough marginal land to dedicate to forestry for the sums that FONAFIFO pays (Pagiola, 2006).

While these reasons are not incorrect, I contend that they miss important ways in which the country's past history of agrarian settlement intersects with a complex and often contradictory state apparatus, and the economics of PES. And it is the overlay of state institutional forms on a sedimented geography of agrarian settlement that creates barriers to accessing PES. To understand this claim in action, it is worth taking a moment to review the kinds of bureaucratic entanglements that accompany an applicant who wants to receive PES. It is a process that draws a landowner into a number of relationships with the state, finance institutions, and even neighbours that must be made legible in specific ways. For example, if a landowner wishes to enrol in PES, she must pass a gamut of audits across a number of government agencies: the landowner must be current with her social security payments; she must have a registered land title and an official survey, with the geographic data points on each matching exactly; she also needs a forest management plan that is drafted and approved by a licensed Forestry Regent. Such plans account for every tree on the land and create appropriate harvesting schedules based on the ages of trees and the land's ecology (Interview 2010; Interview 2012). For forests in secondary succession, such plans can be quite complex and labour intensive, and many Forests Regents either cannot, or refuse to, complete them, preferring instead to focus on approving simple tree harvesting from pasture lands instead (Interview 2012). Enrolling in PES also requires an auditing of a number of "non-state" relationships too: the landowner cannot have an outstanding mortgage, and if he does, he must receive approval from the mortgage holder; if the applicant purchased her land, she must have an approved *carta venta*, which is a lawyer-certified sale of her land; if the applicant is separated from his spouse, this means further certified letters showing that applicant possesses the rights to the land.

Taken together, these requirements span a diverse range of state agencies and private concerns. And for the property rights of ecosystem services to be recognized, a number of social relations between landowners and state agencies, banks, and neighbours must be recorded in specific ways. One might conclude that such requirements are the result of a poor policy design, but in fact, these requirements do not stem solely from PES policy design itself. Instead, they arise from diverse directives and laws related to a number of different government agencies. These requirements are not necessarily limited to PES either, and in the past, have prevented smallholder engagement with forestry policies more generally (Brockett and Gottfried 2002; see

also Larson and Ribot 2007). In this way, PES is not the only bureaucracy that landowners confront for enrolment, but rather, applying for PES catalyzes a series of interactions with diverse institutions that must be regularized in specific ways. These modes of regularization mean that a host of social relationships between landowners, NGOs, the state, and their neighbours can contribute to whether a landowner may enrol in PES.

It is also notable that FONAFIFO itself has unsuccessfully tried to make the bureaucracy less daunting. For example, it has twice tried to eliminate formal title as a requirement for PES, but was overruled by the government *notariado*, which has maintained that formal title is necessary before a landowner can receive public funds (Interview, 2008; see also Porras, 2010). Officials with FONAFIFO are well aware of the problems these requirements pose for smaller landowners, but there is little they can do. As one high-level official at FONAFIFO put it to me:

> This (problem) is not because of FONAFIFO. As FONAFIFO, we have to do what the law says, which means we cannot be an institution of the state and do something against the law that the same state passed right? I know that many people complain if they're not current with their social security, or lack title, we cannot formalize the contract, that is a law that has nothing to do with FONAFIFO, but it is a law that we have to apply right? (Interview, 2012)

Thus, many of the above requirements emerge not from FONAFIFO or the design of PES, but from the fact that PES is part of a larger, often uncoordinated, state apparatus, and everyday state-society relations that revolve around the recognition of a landowner's property. The result is a regime of restrictive forms of access to PES for some smallholding and marginalized landowners. I discuss two of the most salient access restrictions below.

IDA Farmers

One critical reason for the exclusion of smallholders is because of the ambiguous ownership status of many land users. One way this exclusion occurs is through PES' direct conflict with the mandates of the state Agrarian Reform Institute (Spanish acronym: IDA). Those who received their land from IDA have, at various times in PES' history, been specifically prevented from participating (Miranda, 2003; IDA, 2000). In 2001, IDA issued a letter excluding recipients of its land redistribution from enrolling in PES (IDA, 2000). IDA's logic is that such farmers received formerly forested lands with the explicit purpose of transforming them into agricultural use, and that the receipt of PES payments encourages non-agricultural activity (Interview, 2008; Interview, 2010; Miranda, 2003).

In 2003, this directive was rescinded, and IDA signed an agreement with FONAFIFO that allows IDA landowners to enrol in the program. Within this agreement, however, was the stipulation that IDA landowners cannot participate in PES if they are not current with their payments to IDA. This has proven to be a regulation that has resulted in significant levels of exclusions. Throughout IDA's history, it has been commonplace for recipients to fall behind on their payments to the agency, or to illegally rent their land to others (see Edelman, 1989; Costa Rica Hoy, 2010). In the contemporary context of PES, this issue has resulted in a significant barrier for IDA farmers to participate in PES (Interview, 2007; Interview, 2010). For example, I interviewed one IDA farmer who had recently finished cutting and selling a two hectare plot of

Melina trees that he has planted years earlier. I pointed out to him that he could have received a payment from FONAFIFO for planting these trees, he responded:

> It is too much trouble, too much bureaucracy…You have to be current with IDA right? You need a *plano catastro* right? Social Security. All of this takes time. All of this costs money right?…It is a lot of trouble for very little. (Interview, 2012)

After discussing further, this farmer was indeed behind on his payments to IDA for his land, and he also lacked an official survey of his land. He could have received support from FONAFIFO for his tree planting, but he correctly recognized that the cost of becoming current with payments and obtaining an official survey would outweigh benefits from the payment.

While statistics on the number of IDA recipients who are behind on their payments to the agency, and thus ineligible to receive PES, are not publicly available, interviews with forestry NGOs who work with smallholders indicate that this is a significant problem. One NGO manager told me that the year the "IDA debt" rule was instituted, they had 80 potential applicants for PES with IDA land, but only one of these was current on his/her accounts to IDA, and therefore eligible to enrol (Interview 2008). As he put it:

> This is the main problem. The main trouble that we have today is a problem with property owners that are on IDA parcels, and they owe (IDA) money and they cannot pay. We had over 100,000 trees one year, yeah? There were more than 100,000 trees that we were going to plant that year as a carbon sequestration project, but we couldn't do it…because of this problem (with IDA). (Interview, 2007)

To date, contracts with IDA farmers constitute less than one percent of total PES contracts between 1997 and 2008 (Porras, 2010: 12).

Land Documentation

A second common reason that some smallholders are excluded from PES is because they lack proper documentation of their lands. PES applicants must meet the requirements of Costa Rica's land registration law, for which they must have official title and an official property survey (*plano catastro*) with the geographic data points on each matching up exactly. Because of the country's history of institutional separation of title and survey work, it is not uncommon for a landowner to have slightly different data on each of these documents (where, for example, the title lists the property's size as 20 hectares, and the official land survey says it is 19.5 hectares). Fixing such discrepancies is an often onerous and expensive process, and it is nearly impossible for a certain class of landowner who received his land through land squatting. Costa Rican law allows a farmer on state lands to gain possession after two years, and be eligible to apply for formal land title after ten years (Deutschke, 2000). Even with the help of experienced NGOs, some landowners simply lack such documentation because they have not gone through the costly and time-consuming process of receiving an official title and a *plano catastro* (see also Bosselmann and Lund 2013). While many such landowners technically have legal right to their property, they still lack one or more forms of documentation that would allow them to receive the benefits of PES payments (Interview 2007; Interview, 2012). One NGO worker I interviewed

said that the status of a landowner's *plano catastro* and title is one of the first screening questions the staff will ask (Interview, 2012).

My interviews with actors involved in enrolling landowners in PES show that, together, these mechanisms are not minor bureaucratic problems but are, in fact, some of the primary reasons potential applicants are excluded. I spoke with one farmer that would like to put some of her forested land in conservation, but does not want to go through the trouble. Here is how she put it:

> We would like to enroll the forested part of our farm, the part up there, but the procedures are somewhat tedious. For us it is because the neighbors have to make official declarations (about the boundaries), and they have to swear that this part is ours, and it is too tedious. So, therefore, we have not asked for a payment because it is too much. It is too much work to enroll (Interview, 2012).

My interlocutor was referring to a minor boundary discrepancy with her neighbour's property. Fixing this would require, at a minimum, an approved letter from the neighbour abrogating any claim to the property, and possibly, a judge and both neighbours to physically visit the disputed boundary, and once there, to sign an agreement that adjudicates the boundaries (interview 2011).

This process raises another issue concerning PES and smallholders, which is that the payment is often too small to justify any added expense the application process might incur. In general, when a smallholder applies to the program, they can do it through a forestry NGO, which covers the labour and expense of completing the application and completing the timber harvesting plan, for a fee of 18% of the payment. For farmers that are current with their documents and payments, this resulting payment can be advantageous. As one farmer with five hectares under forest conservation put it: "The payment is not a lot, but it is worth it. This land is already in forest, and I am not going to cut it, so why not? It makes a nice little subsidy for us" (Interview, 2011).[3] Payments for reforestation projects are larger ($980USD per hectare vs. $640USD/hectare for conservation), but so are expenses for planting, annual tree thinnings and eventual tree felling for sale. There is widespread acknowledgement that the payment itself works out to be enough to cover the cost of tree saplings for the landowner (Interview 2011; Interview 2012). In short, these payments are not large, even by the standards of small landowners, but are worth doing so long as the application process does not require extra expenses in the form of lawyers, surveyors or back taxes in order to become eligible to receive the payment. It is also worth noting landowners with data discrepancies are not always small landowners, but can also be large and even wealthy ones too. These kinds of landowners, however, would likely have more land in conservation and therefore receive a larger payment. They would also be more likely to have the resources to fix this problem (Interview 2007). This dynamic is illustrative of access restrictions along the lines of what Ribot and Peluso (2003) have

[3] This quote is illustrative of another dynamic with PES and landowners, which is that in all of my interviews with landowners, they rarely framed the programme as one of selling their ecosystem service rights, even if that is technically what they are doing. More common was that they saw this as a kind of government subsidy in time in which such subsidies have become rare. Intermediary NGOs understood the concept behind the programme more, but even then, workers tended to see their job as helping landowners gain access to a government programme.

referred to as "economic selectivity" (pg. 170), in which those without money are not able to afford the time and costs to communicate with state agents.

In the absence of more specific data concerning smallholder applicants, any conclusions here are more suggestive than definitive; however, these types of extra expenses affect two types of landowners the most: IDA recipients and former squatters. These property types come with their own inherent barriers for the landowner to access PES, and they suggest that it is more likely smaller landowners than larger ones who have these problems.

EMERGENT ACCESS REGIMES AND THE NATURE OF PES

These results are indicative of an emergent access regime to PES. I use the term "emergent" because it is not the result of any one policy or set of decisions. Instead, these barriers formed out of interactions between different state policies and within the state itself. In this case, there were two separate governmental efforts to catalyze markets in land and ecosystem services, and they worked against each other in ways that led to exclusions. First, was the creation of a new state regime of property legibility in the form of land regularization, a policy designed to facilitate markets in land and encourage property development. Second, was the rise of PES, a policy that created new forms of property in the guise of ecosystem services, an approach meant to facilitate markets for these services. Both of these changes created new ways of recognizing land and nature so that they might become more legible for markets, however, one regime of property (PES) became restricted by the other (land regularization), and consequently, de facto restrictions emerged on who might be able to access compensation for ecological services. This process then became conditioned by the country's history of agrarian development, where peasants in Costa Rica acquired property through state agrarian reform or through land squatting. Such modes of acquiring land created a terrain of land ownership among many smallholders that could not be reconciled by the conflicting property regimes that coalesced around PES and land.

This regime of access also emerges through a second process, which are the contradictory relations found within the state itself. In the case of PES, we can see a clear institutional conflict between IDA and FONAFIFO. IDA itself was established as a state agency in response to political mobilization by the rural landless (de Vries, 1992; Vunderink, 1990) in the 1960s (de Vries, 1992), and has historically been associated with a reformist political alliance that includes the peasantry (Vunderink, 1990). IDA's specific mandate, however, has been to facilitate agriculture among landless peasants (Vunderink, 1990; de Vries, 1992). This is a mandate that has put it in conflict with FONAFIFO, which has the opposite goal of seeing agricultural land revert to forest. These conflicting objects of governance produced a history between the two agencies that has alternated between institutional conflict and sputtering cooperation, and resulted in the exclusion of many IDA farmers from participating in PES. This example reflects Sikor and Lund's (2009) observation that "property can be equivocal in settings characterized by uncertain relations of authority and power" (pg. 12). The ambiguousness of IDA property holders derives from the unresolved status of who exactly owns this land, and who can therefore be compensated for the new property rights in the form of ecosystem services. While the current agreement between IDA and FONAFIFO shows that this question is resolved for now, the fourteen-year history of discord between these agencies over PES shows how the failure to settle exactly what is excluded and included within property relations can result in de facto access exclusions.

Taken together these conditions reflect how ambiguous understandings of property can create conditions of exclusion from accessing PES policy. A number of scholars (eg. McAfee and Shapiro 2010; Dressler et al. 2012; Mahanty 2013; see also Unruh 2010) have argued that PES schemes will demand formalized modes of land recognition in ways that will result in land dispossession of groups with customary property rights. The findings presented here, however, are different in that PES has not necessarily shaped access to land, but instead, pre-existing property regimes in the form of land regularization and IDA have shaped who is able to access the potential ecosystem service rights on their land. In short, PES has not shaped access to land, but rather, existing modalities of land legibility have restricted access to PES.

These results also differ slightly from research on the impact of land titling schemes. Hall et al. (2011) and others (see Gould 2006; Kay 2010) have shown how there is often conflict between the universalized principles of land legibility found in titling programmes and informal modes of customary tenure, a dynamic that can create instances of land exclusion, where new standards of legibility erase informal tenure rights. I argue here that exclusion emerges from the nature of property itself: for property to have power, it is not enough for it to exclude, but there also must be communication and recognition of property claims (Rose 1994). Here we see how policy exclusions emerge along these lines, where land regularization creates conditions of legibility that are too onerous for many smallholders to meet, and who then become excluded from participating in PES. Similarly, the discord between IDA and FONAFIFO over payments to IDA farmers was centred on a debate about how FONAFIFO might recognize IDA properties, and resulted in a long period of policy exclusions for IDA farmers.

Understanding the link between property legibility and access restrictions also helps answer a second question posed by this case. Do the neoliberal logics of commodification and privatization that underpin PES contribute to the access exclusions discussed in this paper? A number of scholars have claimed that the process of commodifying forms of nature will result in cases of exclusion and land dispossession (eg. Castree, 2008; McAfee, 2012), and I am sympathetic to such arguments (see Lansing 2010; Lansing 2012; Lansing forthcoming). Nevertheless, I suggest that, in the Costa Rican case, these barriers are not closely related to the neoliberal logics of the PES program itself. Instead, the disunified, and contradictory, stream of laws and institutions that comprise the state apparatus, and its critical role in rendering property legible, have created a context for these access restrictions to emerge.

Given the particular way Costa Rica's programme is structured, it can be understood as a state good, in which gas tax revenues are redistributed to qualified landowners. Once understood this way, then access restrictions to PES do not derive from the neoliberal nature of this policy, but from the kinds of access barriers that have been identified across studies of forestry policy worldwide. These are barriers that arise when marginalized populations confront complex and exclusionary bureaucratic entanglements that favour wealthier groups (Geisler and Daneker 2000; Ribot and Peluso 2003; Sikor and Lund 2009). Much of the research on access barriers and forestry policy points to how previous colonial-era logics of resource management work to exclude marginalized groups (eg. Larson and Ribot 2009; Peluso and Vandergeest 2001). This case adds to this work by showing how these same effects can be found in recent neoliberal policies, even those with avowedly pro-poor goals, as they become stymied by the very same problems of legibility and state engagement that other scholars have documented. In this case, FONAFIFO clearly envisions this program both an environmental policy and one of social development, and has often highlighted how PES has become "an important tool in the government's poverty-reducing program" (FONAFIFO 2005: 40). Such efforts, however, are

limited by a host of policies and directives that are out of FONAFIFO's control, and thus limit what kind of policy it might become.

CONCLUSION

The emergent nature of barriers to accessing PES means that they are more durable than if they stemmed from one particular law or set of laws. And this durability raises the question of whether PES can indeed become more pro-poor, and whether the policy should be administered in terms of environmental efficiency alone, and some PES theorists have suggested (eg. Pagliola 2006). I suggest that the Costa Rican experience does not indicate efforts at social inclusion should be abandoned, as it is not a policy that has necessarily failed to include the rural poor. Efforts to include different types of landowners have had some success. The introduction of the agroforestry modality, for example, clearly includes a different class of landowner than the previous modalities have. This paper's point is not that all efforts to include the rural poor in PES are futile. Instead, its goal is to show the limits of these efforts, and to uncover how policies designed to render PES more inclusive become circumscribed by forces and institutions beyond the direct management of PES itself.

And it is on this latter point that prospects for further social inclusion of this policy are more difficult to achieve. Multiple institutional directives, neoliberal property laws, and conflicting mandates of state agencies have combined in manifold ways to prevent particular types of smallholders from participating in PES. The solution to this is not straightforward, however, an understanding of how access barriers to PES arise points to an answer that shows how increased access is found not with the state agency that manages the policy itself, but rather, the broader constellation of laws, actors, and institutions that a smallholder must necessary cross to gain access to this policy. Future work on PES in other contexts should be attuned to the ways in which the policy can be taken up by state agencies, and implemented across a terrain of variegated modalities of land ownership, in ways that might stymie efforts to render PES into an environmentally and socially progressive policy.

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TABLES

Table 1: Farm Size of PES Contracts 2003-2010

Contract Type	N	Median Hectares, Farm Size (mean)	Median Hectares, Contract Size (mean)
Reforestation	975	33(100.3)	10(24.4)
Forest Protection†	4865	80(137.4)	60 (110.5)
Agroforestry	1028	7(26.9)	1500(2129)††
Other†††	248	29(89.4)	24.1(214.3)
Total	7118	57(114.6)	37(86.3)

† Included in this are the long-standing "forest protection" modality and three lesser utilized protection modalities: "forest protection in conservation gaps", "protection in wildlife corridors", and "water resource protection". The contracts are the same for all of these, just with differing emphasis on where payments are targeted.

††Trees not hectares for this category. FONAFIFO measures agroforestry contracts by the tree, not land area.

†††Over the course of its history FONAFIFO has used a number of different PES contract types, and in 2010 had 13 different modalities. The "other category encompasses these less-utilized, and sometimes experimental, modalities such as "pasture regeneration", "forest management", "natural regeneration", and "secondary crops" (FONAFIFO 2014).