
Unequal Access to Payments for Ecosystem Services: The Case of Costa Rica

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ABSTRACT

Using Costa Rica's experience with its payments for ecosystem services (PES) programme, this article examines how and why some groups come to be excluded from participating in the programme. It demonstrates that Costa Rica's PES programme 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. The author argues 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.

INTRODUCTION

Costa Rica's payments for ecosystem services (PES) programme 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 (Porras, 2010; Zbinden and Lee, 2005). Between 1997 and 2008, for example, 39 per cent of PES funds went to for-profit companies, while less than 1 per cent went to small farmers who occupy state agrarian reform lands (Porras, 2010: 12). Such results would seem to confirm the worst fears of PES critics:

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that creating a market-based system of conservation will favour the wealthy and well connected, and ultimately exacerbate land and wealth inequality (e.g., McAfee, 2012; Wittman and Caron, 2009). The specifics of the Costa Rican case call for a close inspection of how and why some groups are unable to access this policy. 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 programme that largely excludes such groups.

This situation is not limited to Costa Rica's experience with PES, but represents a pattern of access to forestry and natural resources more broadly, in which efforts to include the marginalized within an access regime are accompanied by practices of governance that work to exclude the very same groups (Larson and Ribot, 2007; Pulhin et al., 2010; Sandbrook et al., 2010). Such countervailing policies can be explained in light of the widely acknowledged idea that the state is not a coordinated entity, but an unwieldy, often contradictory, apparatus of institutions, people, laws, mandates and judgements (e.g. Glassman and Samatar, 1997).

This article uses the case of PES in Costa Rica to investigate how the disjointed 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. It does so by discussing how a number of barriers to accessing PES in Costa Rica emerged in spite of other well-intentioned efforts to include particular groups. Specifically, I will show that access barriers to PES emerged out of three interrelated factors: a) the epistemic demands of property regularization; b) a disjointed and contradictory state apparatus; and c) historically embedded patterns of agrarian settlement. I will demonstrate how reforms concerning property titling have made it difficult for many landowners to achieve the 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 being unable to access PES payments. In this article, 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.

1. While the status of what constitutes a smallholder can vary by country, I define smallholders in the Costa Rican context as landowners with 30 hectares (ha) 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 that a number of scholars have recently posed: to what extent can we attribute policy outcomes such as this to the neoliberal features of the policy (Castree, 2008; Fletcher and Breitling, 2012; Lansing, 2013)? I argue that while some features of neoliberalization (such as the push for land regularization) have contributed to this policy exclusion, such exclusions cannot be attributed primarily to neoliberal processes. Instead, I suggest that different governmental processes work against each other in ways that produce deeply entrenched policy exclusions that persist *despite* concerted efforts by the state to prevent them. I argue that the cause for this is 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. These diverse processes and sites of governance result 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 article, and its central contribution.

My arguments are based on research conducted in Costa Rica over a number of different fieldwork sessions, with research periods that ranged from a few weeks to over a year, and that occurred between 2007 and 2012. I interviewed thirty individuals 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 (IDA), forestry non-governmental organizations (NGOs) that enrol landowners in PES, as well as experts on the country's forestry industry, including 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 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 who had enrolled in PES ($n = 20$), and a smaller number of farmers that either had 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 do so because of eligibility reasons, often drop out early in the process and leave little in the way of records to trace 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 'grey' literature concerning PES in Costa Rica. 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.

The article proceeds as follows. In the next section, I define the neoliberal features of PES and review scholarship on PES, property and access in order to provide the context for my findings and the discussion. In the following three sections, I then discuss the kinds of property rights that PES is creating and the rise of land regularization in the country; the types of landowners who are benefitting from PES; and the primary reasons behind this. I conclude the article by situating these findings in a wider discussion about the roles 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 including deregulation, privatization of public goods, and the increased commodification of nature (Castree, 2008). The features of PES that may be described as neoliberal 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 negotiated on an open market. In practice, however, a number of PES programmes 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 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 could be thought of as 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 transformation of 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 to argue that the policy does indeed retain many ‘neoliberal’ features, with potentially pernicious results (Matulis, 2012; McAfee, 2012). Specifically, some scholars have argued that this intellectual grounding of PES demands forms of property enclosure that can result in decreased access to forest

resources for some groups (Matulis, 2012; McAfee and Shapiro, 2010; To et al., 2012). For instance, the process of transforming forested land into a commodified environmental service requires forms of property legibility that may conflict with already-existing modes of property and access that are often more flexible, and culturally specific. This process has been demonstrated in action where, in the context of REDD+ projects, locally specific modes of land ownership have become superseded in favour 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 this approach presents 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 relationships between different social groups and the state both constrain and enable access to natural resources (e.g., Berry, 1993; Hall et al., 2011; Lansing, 2014; Paudel, 2006). This idea was articulated in Ribot and Peluso's (2003) influential 'theory of access' approach toward forestry policy, in which they argued that the power to act on one's rights to resources depends on a number of diverse 'access mechanisms', which can include knowledge about markets, availability of labour, or social identity.

These access mechanisms can create resource and land security for some, but can exclude others. Writing about property specifically, Hall et al. (2011) have called this the 'double edge of exclusion', in which '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' (ibid.: 8). 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 programmes that can serve to exclude the informal property rights of some.

Property can also 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: 489) 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'. In this way, legibility, communication and social norms become essential for property and property rights to have force in the world.

It is within this context of legibility and communication that particular access regimes can arise that exclude certain groups. An individual or

community's degree of access to land or resources can often turn on the ability, or willingness, to navigate procedural norms that are 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).

Similar epistemic challenges of communicating claims to property can also be found in efforts to more clearly demarcate and record land (Hall et al., 2011; Kay, 2006; Mitchell, 2005). New regimes of land titling and regularization — often modelled 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 systems of informal or unrecognized property tenure (Mitchell, 2005). Such programmes have the explicit goal of rendering land more legible to banks and markets so as to catalyse a more economically efficient use of that land (Hall et al., 2011).

In this article, I consider how processes related to legibility become a key factor in creating access exclusions to PES. In so doing, I suggest that this problem is part 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 exclusions, the actual practice of PES in Costa Rica suggests that the explanation for such exclusions cannot be reduced to neoliberal processes. Rather, 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 the integration of PES within parts of the state, and the relations between landowners and various state bureaucracies, help to 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 programme largely functions as a state-run conservation payment programme, while 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 shape of tradable ecosystem service rights are created. This section examines the ambivalent nature of the programme's statist and market-based pretensions, and links it to another property policy reform that has been ongoing in Costa Rica: land regularization. Both of these policy reforms centre on recognizing property, and they have come to interact in ways that result in access barriers for particular groups.

PES began in Costa Rica in 1997 with the passage of Forestry Law 7575 (see Castro et al., 2000), which created a quasi-state institution — FONAFIFO — that compensates landowners for the ecosystem services of their forested land. FONAFIFO itself receives funds from a 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 governed by a board consisting of representatives from the country's private forestry industry, as well as members from government ministries (FONAFIFO, 2005) — hence the 'quasi-state' label. 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 with 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, conditions attached to the World Bank's structural adjustment loan to Costa Rica included fewer regulations on the forestry industry and the elimination of state forestry subsidies in favour of a programme that recognized the market value of ecosystem services (De Camino et al., 2000). Thus, from the beginning, the PES programme was conceived as a market-based mechanism for stopping deforestation. FONAFIFO's own assessment of its programme reads as follows: '[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 logic behind the creation of the programme. During our interview, we discussed the development of the programme; when I pointed out that the system of providing direct payments to farmers is very similar to the state's previous system of forestry subsidies, he responded:

They are not subsidies. Costa Rica . . . promised to eliminate all subsidies in the structural adjustment programme 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, FONAFIFO official, 2007)

The idea that these payments represent compensation for a commodified service is 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 programme. 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' (ibid.: 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* (notary) requires that all landowners receiving PES must comply with the country's system of land regularization (Porrás, 2010). The Costa Rican government has been working on land regularization for over a decade; it has been a key source of exclusion for landowners, and deserves some further discussion.

Land Regularization

Land regularization is a critical reform that has come to impact PES (in ways that I will detail below). It was introduced in 2001 and, at the time of writing, it is still ongoing. In 2001, the Costa Rican legislature passed Law No. 8154, approving an Inter-American Development Bank (IDB) loan of US \$65 million, 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 lack of 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. According to the IDB (2000), roughly 40 per cent of cadastral plans in the *Catastro Nacional* contain multiple title claims,

and the area of registered land titles exceeds Costa Rica's territory by 20 per cent. Such irregularities are often difficult and expensive to resolve. Thus, the IDB loan was to be used to bring both titles 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 (Hall et al., 2011; Kay, 2006). This was, 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 programmes 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 (Gould, 2006; Hall et al., 2011; Kay, 2006; Mitchell, 2005).

In Costa Rica, two types of ambiguous property claims are noteworthy. The 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, this way of obtaining property is rare because there is little unaccounted land left to be colonized, although some illegal encroachment on state forested lands still occurs (Navarro and Thiel, 2007). State lands now fall into a number of conservation categories — such as national parks, forest reserves and conservation areas — and comprise approximately 15 per cent of the national territory (ibid.: 3). Throughout the 1960s and 1970s, however, squatting was a viable strategy for landless peasants to gain property, especially along the country's northern and eastern forest frontiers (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.

The second form of ambiguous property is land from the Agrarian Development Institute. The state agrarian reform agency, originally called the Institute for Land Colonization and Occupation (Spanish acronym: ITCO) was created in the 1960s in response to increasing peasant mobilization against persistent land inequality (de Vries, 1992). Its name was later changed to the Agrarian Development Institute (IDA). 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 (roads, water, schools), and peasants receive a small tract of land (1–15 ha, depending on the area and the era in which the settlement was created). Peasants are then allowed to buy the land 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

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 ^a	4865	80 (137.4)	60 (110.5)
Agroforestry ^b	1028	7 (26.9)	1500 (2129)
Other ^c	248	29 (89.4)	24.1 (214.3)
Total	7118	57 (114.6)	37 (86.3)

Notes:

a) Included in this are the long-standing ‘forest protection’ modality and three less-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.

b) Trees not hectares for this category. FONAFIFO measures agroforestry contracts per tree, not land area.

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

Source: average farm size of recipients derived from original GIS shapefiles (FONAFIFO, 2011).

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 programme suggest that it is primarily larger landowners who are able to take advantage of the programme. A recent review of recipients by Porras (2010) found that 37 per cent of contracts, and 40–45 per cent of all payments, go to companies. These companies are varied and can range from family farms inherited by multiple children, who choose to keep it as a registered company, to forestry and ranching companies, reforestation groups, ecotourism companies, and investment societies (see Porras 2010: 13). In total, 69 per cent of all contracts go to farms of 30 ha or greater, and 34 per cent go to farms of 100 ha or more. Data analysis of contracts and farm size reveals that payments for forest protection — the most popular modality, constituting 68 per cent of all contracts from 2003 to 2010 — tend to favour mid-size and large landowners. In this period, the median farm size for those with forest protection contracts was 80 ha (mean = 137.4 ha), and the median project size was 60 ha. For reforestation contracts, the median farm size was 33 ha (mean = 100.3 ha), with a median project size of 10 ha (see Table 1).²

2. A small but significant part of the programme’s funds go to Indigenous communities. Contracts are made with Indigenous Development Associations, the legal representatives of state-recognized Indigenous territories. These groups can receive payments up to 600 ha (twice the regular limit); such payments have constituted 11 per cent of all PES funds (Porras, 2010: 15).

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 per tree (US \$1.30) 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. For agroforestry payments, the median farm size is 7 ha (see Table 1). In addition, from 1998 to 2002, FONAFIFO experimented with group contracts, allowing a group of landowners to 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 have resulted in increased inclusion of smaller landowners. Large farms (over 100 ha) accounted for 40–55 per cent of contracts during the programme's first six years, but this dropped to 15–25 per cent of contracts between 2003 and 2008 (Porrás, 2010: 21). Very small farms (less than 5 ha) had a participation of less than 5 per cent in the early years (1997–2000), but since 2004 have come to account for 10–15 per cent of contracts.

While there has thus been some success at including more marginalized landowners, there are limits to these efforts. Agroforestry payments constitute 11 per cent of all PES contracts since 2003 (the year they were introduced), and just 1 per cent of all PES funds in the same period. Similarly, the government's targeting of areas of low development indicators has had mixed results. As Porrás (2010) notes, after the introduction of this criterion, payments to these areas actually dropped slightly, and 40 per cent of new contracts from these areas were of 100 ha or more, while another 36 per cent went to medium-sized farms of 30–100 ha (*ibid.*: 12). In this way, PES in Costa Rica has evolved from a programme dominated by large landowners, to one with increasing participation by medium-sized landowners (30–100 ha), and relatively low but slowly increasing participation by smaller landowners. Despite state efforts to increase participation by smaller landowners and the rural poor, PES continues to primarily serve medium-to-large landowners, with significant barriers to accessing the programme by marginalized groups. I discuss these barriers below.

PES, SMALLHOLDERS AND REGIMES OF EXCLUSION

The contemporary academic view of the participation patterns discussed above argue that they are the result of the economics of land use and the daunting bureaucracy of PES (e.g. Pagiola, 2006; Porrás, 2010; Zbinden and Lee, 2005). Zbinden and Lee (2005: 269) 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. Others have attributed the general lack of smallholder participation in the PES programme 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 arguments 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. It is the overlay of state institutional forms on an already existing geography of agrarian settlement that creates barriers to accessing PES. To understand this claim, it is worth taking a moment to review the kinds of bureaucratic entanglements that accompany a PES application. It is a process that draws a landowner into a number of relationships with the state, finance institutions, and even neighbours, which must be made legible in specific ways. For example, if a landowner wishes to enrol in PES, s/he must pass a gamut of audits across a number of government agencies: the landowner must be up-to-date with social security payments; must have a registered land title and an official survey, with the geographic data points on each matching exactly; and must have a forest management plan that is drafted and approved by a licensed Forestry Regent. These plans account for every tree on the land and create appropriate harvesting schedules based on the ages of trees and the ecology of the land (Interview, rural development NGO worker, 2010; Interview, forestry NGO official, 2012). For forests in secondary succession, such plans can be quite complex and labour intensive, and many forests regents either cannot, or do not, complete them, preferring instead to focus on approving simple tree harvesting from pasture lands (Interview, forestry regent, 2012). Enrolling in PES also requires the auditing of a number of 'non-state' relationships: the landowner cannot have an outstanding mortgage, and if s/he does, s/he must receive approval from the mortgage holder; if the applicant purchased the land, s/he must have an approved *carta venta*, which is a legal certification of the sale; if the applicant is separated from his/her spouse, this means further certified letters showing that the applicant possesses the rights to the land.

Taken together, these requirements involve a diverse range of state agencies and private concerns. Moreover, 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 poor policy design but, in fact, these requirements do not stem solely from PES policy design itself. Instead, they arise from various directives and laws related to a number of different government agencies. Nor are they necessarily limited to PES; in the past, such requirements have prevented smallholder engagement with forestry policies more generally (Brockett and Gottfried, 2002;

see also Larson and Ribot, 2007). Thus, PES is not the only challenging bureaucracy that landowners confront, but applying for PES catalyses a series of interactions with different 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 the landowners' neighbours can contribute to whether a landowner may enrol in PES.

FONAFIFO itself has tried — unsuccessfully — to make the bureaucracy less daunting. For example, it has twice tried to eliminate formal title as a requirement for PES, but it was overruled by the government *notariado*, which maintained that formal title is necessary before a landowner can receive public funds (Interview, FONAFIFO official, 2008; see also Porras, 2010). Officials in 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, FONAFIFO official, 2012)

Thus, many of the requirements stem not from FONAFIFO or the design of PES, but from the fact that PES is part of a larger, often uncoordinated, state apparatus, and of 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 smallholders and marginalized landowners. I discuss two of the most salient access restrictions below.

IDA Farmers

One critical reason for the exclusion of smallholders is the ambiguous ownership status of many land users. One way this exclusion occurs is through PES's direct conflict with the mandates of IDA. Those who received their land from IDA have, at various times in PES's history, been specifically prevented from participating (IDA, 2000; Miranda, 2003). In 2001, for instance, IDA issued a letter excluding recipients of its land redistribution from enrolling in PES (IDA, 2000). IDA's logic is that these farmers received formerly forested lands with the explicit purpose of transforming them for agricultural use, while the receipt of PES payments encourages non-agricultural activity (Interview, FONAFIFO official, 2008; Interview, IDA field office manager, 2010; see also Miranda, 2003).

In 2003, this directive was rescinded, and IDA signed an agreement with FONAFIFO that allows IDA landowners to enrol in the PES programme. Within this agreement, however, was the stipulation that IDA landowners cannot participate in PES if they are not up-to-date with their payments

to IDA. This regulation 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 Costa Rica Hoy, 2010; Edelman, 1989). In the contemporary context of PES, this issue has become a serious barrier for IDA farmers who wish to participate in PES (Interview, forestry NGO manager, 2007; Interview, IDA field office manager, 2010). For example, when I interviewed one IDA farmer who had recently finished cutting and selling a 2 ha plot of Melina trees that he had planted years earlier, I pointed out 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 . . . You need a *plano catastro* . . . Social Security. All of this takes time. All of this costs money . . . It is a lot of trouble for very little' (Interview, IDA farmer, 2012). In further discussions it emerged that this farmer was indeed behind on his payments to IDA, 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 meeting all his payments and obtaining an official survey would outweigh benefits from the scheme.

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 eighty potential applicants for PES with IDA land, but only one of these was up-to-date with his/her accounts to IDA, and therefore eligible to enrol. 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 100000 trees one year. There were more than 100000 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, forestry NGO manager, 2007)

Contracts with IDA farmers constituted less than 1 per cent of total PES contracts between 1997 and 2008 (Porrás, 2010: 12).

Land Documentation

A second common reason for the exclusion of some smallholders from PES is that 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 (see above), it is not uncommon for a landowner to have slightly different data on each of these documents: for example, the title may list the property's size as 20 ha,

while the official land survey says it is 19.5 ha. Fixing such discrepancies is an often onerous and expensive process, and it is nearly impossible for a certain class of landowner who received 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 (Dutschke, 2000). Even with the help of experienced NGOs, some landowners do not have the required documentation because they have not gone through the costly and time-consuming process of acquiring 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 of the documents that would allow them to receive the benefits of PES payments (Interview, forestry NGO manager, 2007; Interview, NGO worker, 2012). One NGO worker told me that the status of a landowner's *plano catastro* and title is one of the first screening questions that staff will ask (Interview, NGO worker, 2012).

My interviews with actors involved in enrolling landowners in PES show that, taken together, these mechanisms are not minor bureaucratic irritations but represent some of the primary reasons why potential applicants are excluded. I spoke with one farmer who would like to put some of her forested land into conservation, but who does not want to go through the laborious process:

We would like to enrol the forested part of our farm, the part up there, but the procedures are somewhat tedious. For us it is because the neighbours 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 enrol. (Interview, farmer, 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 could possibly involve a judge and both neighbours physically visiting the disputed boundary and, once there, signing an agreement that adjudicates the boundaries (Interview, landowner, 2011; Interview, forestry NGO manager, 2012).

This 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 smallholders apply to the programme, they can do so through a forestry NGO, which covers the labour and expense of completing the application and preparing the timber harvesting plan, for a fee of 18 per cent of the payment. For farmers who are up-to-date with their documents and payments, the resulting payment can be advantageous. As one farmer with 5 ha 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,

farmer, 2011).³ Payments for reforestation projects are larger (US \$980 per hectare vs. US \$640 per hectare for conservation), but so are expenses for planting, annual tree thinning, and eventual tree felling for sale. There is widespread acknowledgement that the payment works out to be enough to cover the cost of tree saplings for the landowner (Interview, farmer, 2011; Interview, forestry NGO manager, 2012). In short, these payments are not large, even by the standards of small landowners, but are worth doing as long as the application process does not require extra expenses in the form of lawyers, surveyors or back taxes in order to become eligible. It is also worth noting that landowners with data discrepancies are not always small landowners; the problem can also affect large and even wealthy landowners. However, the latter would be likely to have more land in conservation and therefore receive a larger payment. They would also be more likely to have the resources to fix the problem (Interview, forestry NGO manager, 2007). This dynamic is illustrative of access restrictions referred to by Ribot and Peluso (2003: 170) as ‘economic selectivity’, 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 imply that smaller landowners are more likely than larger ones to suffer from these problems.

EMERGENT ACCESS REGIMES AND THE NATURE OF PES

These results are indicative of an emergent access regime within PES. I use the term ‘emergent’ because this is not the result of any one policy or set of decisions: rather, these barriers are formed out of interactions between different state policies and within the state itself. In the case of policies, two separate governmental efforts to catalyse markets in land and ecosystem services worked against each other in ways that led to exclusions. The first was the creation of a new state regime of property legitimacy in the form of land regularization, a policy designed to facilitate markets in land and encourage property development. The 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

3. This quote is illustrative of another dynamic concerning PES and landowners. In all 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 commonly, they saw this as a kind of government subsidy at a time in which such subsidies have become rare. Intermediary NGOs understood the concept behind the programme more fully, but even then, workers tended to see their job as helping landowners gain access to a government programme.

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, in which peasants 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 with the conflicting property regimes that coalesced around PES and land.

This regime of access also emerges through a second set of processes, 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 was established as a state agency in response to political mobilization by the rural landless 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 has been to facilitate agriculture among landless peasants (de Vries, 1992; Vunderink, 1990). This has put it in conflict with FONAFIFO, which has the opposite goal of seeing agricultural land revert to forest. These contradictory objectives have produced a history between the two agencies that has alternated between stuttering cooperation and institutional conflict, and resulted in the exclusion of many IDA farmers from PES participation. This reflects the observation of Sikor and Lund (2009: 12) that 'property can be equivocal in settings characterized by uncertain relations of authority and power'. The ambiguities of IDA property holders derive 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 suggests that this question has been resolved for now, the fourteen-year history of discord between these two 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 (To et al., 2012; Mahanty et al., 2013; McAfee and Shapiro 2010; see also Unruh, 2008) 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, suggest that PES has not necessarily shaped access to land, but rather that 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 set the conditions for accessing 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, 2006) have shown that 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 must also 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, so that they 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 to answer a second question. Do the neoliberal logics of commodification and privatization that underpin PES contribute to the access exclusions discussed in this article? A number of scholars have claimed that the process of commodifying forms of nature will result in cases of exclusion and land dispossession (e.g. Castree, 2008; McAfee, 2012), and I am sympathetic to such arguments (see Lansing, 2010, 2012 and forthcoming). Nevertheless, I suggest that, in the Costa Rican case, these barriers are not closely related to the neoliberal logics of the PES programme itself. Rather, the disjointed and contradictory stream of laws and institutions that comprise the state apparatus, and their critical role in rendering property legible, have created a context for these access restrictions to emerge.

Given the particular way Costa Rica’s PES 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 (e.g. Larson and Ribot, 2007; Peluso and Vandergeest, 2001). This case study adds to this research by showing how the same effects can be found in recent neoliberal policies, even those with avowedly pro-poor goals, as they become stymied by the same problems of legibility and state engagement that other scholars have documented. FONAFIFO clearly envisions the programme in terms of both environmental policy and 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 beyond 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. 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, as some PES theorists have suggested (Pagliola, 2006). I suggest that the Costa Rican experience does not indicate that efforts at social inclusion should be abandoned, as PES has not 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. The point of this article 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 control of PES itself.

It is because of that latter point that prospects for further social inclusion in this policy are more difficult to achieve. Multiple institutional directives, neoliberal property laws and conflicting mandates of state agencies have combined to prevent particular types of smallholders from participating in PES. The solution to this is not straightforward. An understanding of how access barriers to PES arise suggests that increased access is to be found not with the state agency that manages the policy itself, but rather in the broader constellation of laws, actors and institutions that a smallholder must necessarily engage with to gain access to PES. Future work on PES in other contexts should be attuned to the fact that 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 an environmentally and socially progressive policy.

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