The Development and Growth of Non-Governmental Conservation in Peru: Privately and Communally Protected Areas

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Abstract

While legislation for the creation of protected areas in Peru has existed since the 1960s, legislation relating to privately and/or communally protected areas (PCPAs) dates only to the early 2000s, from which point the number of PCPAs has grown rapidly. We examine the growth of PCPAs in Peru, the laws key to their creation, and the actors who have shaped them, highlighting where national-level data obscures local dynamics that have driven or sustained their growth. Combined with ethnographic research in the region of San Martín, we show that while PCPAs have spread through processes of conservation contagion, increasing legal and economic requirements, lack of support, and negative interactions with state agents are discouraging local conservationists. At the same time, the promotion of conservation as an economic opportunity is encouraging foreign interest in developing market-based projects, risking increasing exclusion of local populations and ongoing sustainability of PCPAs in Peru.

Keywords Conservation contagion · Privately protected areas · Private reserves · Protected areas · Community conservation · San Martín, Peru

Introduction

Peru's high levels of species diversity and endemism make it a mega-diverse country and conservation priority. Accordingly, the number and coverage of Protected Areas (PAs) in the country has increased considerably in

recent years (UNEP-WCMC 2014; Shanee *et al.* 2017). Rates of habitat loss across Peru are high and increasing, with most forest loss occurring outside of PAs and indigenous lands (Llactayo *et al.* 2013a, 2013b; IBC 2016; Schleicher *et al.* 2017). This habitat loss is fuelled by the expansion of agricultural and extractive frontiers to feed growing national and international markets, facilitated by inefficiencies in governmental control, corruption, and contradictory policies (Dávalos *et al.* 2016; Shanee and Shanee 2016; Pendrill *et al.* 2019).

While PAs, in their diverse interpretations, still form the backbone of most conservation strategies, Privately Protected Areas (PPAs) have emerged in recent years following a general trend towards non-governmental actors in conservation and forest management (Devine and Baca 2020). The IUCN defines PPAs as protected areas that are “under private governance (i.e., individuals and groups of individuals; non-governmental organisations (NGOs); corporations – both existing commercial companies and sometimes corporations set up by groups of private owners to manage groups of PPAs; for-profit owners; research entities (e.g., universities, field stations or religious entities)” (Stolton *et al.* 2014: 12). In Peru, the growth of PPAs has been largely facilitated through the creation of Private Conservation Areas (ACPs) (Law No. 26834), Conservation Concessions (CCs), and Ecotourism Concessions (CEs) (Law No. 29763) (Suppl. Table 1).

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Under Peruvian legislation all non-governmental actors are defined as “private” and it is the legal status of the land (titled or state owned) that determines how the area is further classified. Thus, PAs on lands owned by legal entities, including communities or individuals are categorised as ACPs. On state-owned lands, CCs and CEs can be awarded to legal entities or individuals to manage areas for conservation or tourism, respectively. Management of these concessions is granted through (renewable) land leases of up to 40 years. Here, we use the term Private and Communal Protected Areas (PCPAs) to refer to such areas as defined under Peruvian law. This definition includes the accepted IUCN definition but extends it to include the particulars of Peruvian legislation that can grant communities rights to manage PPAs. As with the IUCN definition this excludes the legal designation of Communal Reserves (*Reserva Comunal*), which in Peru are state-funded initiatives on public lands or indigenous territories co-managed by the indigenous communities (and thus not PCPAs).

We examine the geographic, economic, and political factors that have facilitated the rapid growth of PCPAs in Peru. Following a brief introduction to the PPA literature (following the IUCN definition), we analyse the geographic distribution and proximity of PCPAs to one another, and highlight evidence of a ‘contagion’ effect through the proliferation of PCPAs in relation to other PCPAs, NGOs, and local governments that promote their creation and management (Horwich *et al.* 2012; Bixler *et al.* 2016). We combine these data with ethnographic evidence from San Martín, a region in the north-east of Peru, building on our combined experience of working or conducting ethnographic fieldwork in PCPAs over the last 13 years and a recent survey of PCPA facilitators carried out for this study. Our analysis shows that while the growth of PCPAs in San Martín was initially aided by processes of contagion between communities, the barriers and incentives involved in creating and managing PCPAs increasingly favour a financialised approach to conservation that disadvantages communities in favour of outside actors. The growing hybridisation between conservation and economic objectives in Peru and the associated complex and expensive processes required to register PCPA initiatives risks increasing exclusion of impoverished local populations and, ultimately, the long-term sustainability of PCPAs.

Privately Protected Areas

Various forms of PPAs have existed for centuries (Alderman 1994; Langholz and Lassoie 2001), but their growth in application, scope, and scale in recent years has been significant, in particular in Latin America and Africa (Stolton *et al.* 2014). PPAs are generally geographically smaller in scale than their state counterparts, although in some cases they also cover

extensive areas and, globally, protect tens of millions of hectares, often of high biodiversity value. This has led to attempts to assess the scale of the trend at national (Bond *et al.* 2004; Holmes 2014; Tecklin and Sepulveda 2014; Shanee *et al.* 2017), regional (Carter *et al.* 2008; Monteferri and Coll 2009; Hora *et al.* 2018), and global levels (Stolton *et al.* 2014). This literature highlights the difficulty in comparing broad ranging interpretations and diverging data of PPAs across jurisdictions. In Peru, for example, analysis of PPAs has claimed both that they have no legal basis under Peruvian law and cover just 564,536 ha (Hora *et al.* 2018) or that in five regions alone PPAs cover almost one million hectares (Mitchell *et al.* 2018). This lack of clarity and agreed national definitions makes regional and global aggregation of data challenging at best. In-depth country studies provide some clarity in these areas, but have been limited in number, covering countries such as Chile (Holmes 2014; Tecklin and Sepulveda 2014), Brazil (Pellin and Lima Ranieri 2016; de Vasconcellos Pegas and Castley 2016), South Africa (Bond *et al.* 2004), Kenya and Tanzania (both Carter *et al.* 2008).

There is equal divergence when analysing the motivations for and outcomes of PPA initiatives. Countries that permit these types of initiatives often consider them as complementary to the state protected area system and practitioners have hailed them as a way to bridge the funding gap in national conservation strategies and an effective method of preventing biodiversity loss (Bond *et al.* 2004; Schleicher *et al.* 2017; Clements *et al.* 2019). Furthermore, in highly populated areas the creation of larger state PAs is often not feasible or desirable and PPAs or other community-based conservation initiatives can provide alternative conservation solutions (Horwich *et al.* 2010; Shanee 2013). This can be especially important for endemic species or those with restricted ranges (Venter *et al.* 2014; Shanee *et al.* 2017).

However, with the growing trend for PAs to move away from the paradigm of fortress conservation towards more economically focused approaches such as ecotourism, bioprospecting, Payments for Ecosystem Services (PES), and Reducing Emissions from Deforestation and Forest Degradation (REDD and REDD+), parallels have been drawn between the growth of PPAs and ‘neoliberal conservation’ (Brockington *et al.* 2008; Butt 2016; Mbaria and Ogada 2016). Indeed, Tecklin and Sepulveda (2014: 203) note that “the conservation of private lands using easements or protected areas is often represented as a prime example of this market-based tendency”. Here the creation of a PPA can be understood as an act of dispossession, with communities losing rather than gaining from new legislation. Li (2007: 286) emphasises this is allowing NGOs to “[buy] up large tracts of forest land or [acquire] long-term ‘conservation concessions’ in which they can do as they please and neither communities nor forest bureaucracies have any say.” Perhaps as a consequence of these synergies with the world of neoliberal

conservation, while the issue of PPAs receives increasing academic attention, much recent literature focuses on for-profit enterprises or PPAs run by outside NGOs, or other affluent institutions and individuals (see, for example, Tecklin and Sepulveda 2014; Busscher *et al.* 2018).

This tendency in the literature can, in part, be attributed to the lack of differentiation between actors involved and an assumption that ‘private’ means either local control or private capture. This is an important issue for Peru, where the lines between the two are blurred within PA categories, with little to distinguish an area managed by and for the community from a highly profitable project. Establishing this difference is important for both understanding the growth of PCPAs and assessing their long-term viability. Here, we use the concept of Community-Based Conservation (CBC) to delineate the differing needs of PCPAs in Peru. Pathak *et al.* (2004) define CBC as the self-initiated, voluntary conservation of ecosystems, species, or cultures by local people through communal management and institutions. As understood here, CBC focuses on connecting to communities through social values rather than economic incentives, thus leading to ecological stewardship (Horwich *et al.* 2011; Allendorf *et al.* 2013; Shanee *et al.* 2015) and potentially creating the basis for more ‘convivial’ approaches to conservation (Büscher and Fletcher 2020). CBC projects concentrate on the smallest geographical scale but have the potential to expand to the regional level through reproducing initiatives in neighbouring communities, a process referred to as ‘conservation contagion’ (Horwich *et al.* 2012; Bixler *et al.* 2016).

It is important in this regard to note that despite criticism that it can be implicated in neoliberal models for conservation (see Fletcher 2010), CBC differs from the more common forms of work with local communities, for example Integrated Conservation-Development Projects (ICDPs), PES and REDD+ projects that often focus on personal benefits through financial stimulus and other extrinsic motivations¹ and carry with them specific implications for equitability and justice (see Sikor and Càam 2016). Thus, while many large conservation groups may adopt the *language* of CBC, the small scale, geographic isolation, and limited potential profitability of many CBC initiatives leave them lacking support from mainstream conservation, which concentrates on top-down projects, scalability, and high economic investment (McShane and Wells 2004; Horwich and Lyon 2007; Büscher and Fletcher 2015; Dempsey and Suarez 2016).

This fundamental difference makes the need for clear definitions and associated support from different conservation actors more critical. Whilst for-profit, top-down and, particularly, community-based projects have contributed to the

growth in PCPAs in Peru, the tendency towards financialised approaches may disadvantage approaches that require minimal economic investment, have proven efficient in threatened species and habitat protection and, we argue, are more likely to gain acceptance from local communities and deliver longer-term success (Horwich and Lyon 2007; Shanee *et al.* 2015; Martin *et al.* 2018).

Materials and Methods

We took a collaborative approach to this research, combining expertise and evidence collected over 13 years of work and research in PCPAs in Peru, employing a methodological pluralism that is common in political ecology (Doolittle 2015). The first and second authors have participated in the establishment and ongoing management of 12 CCs and ACPs in Peru, working closely with local communities, regional and national governments, and NGOs and within the changing regulatory environments. The third author conducted ethnographic fieldwork in San Martín between 2017 and 2019 in an applied conservation research project that encompasses three PCPAs. This combined experience is leveraged to provide a diverse perspective on the development and current state of PCPAs in Peru, building on participant observation, semi-structured interviews, and anecdotal evidence. This was further supplemented by 27 key informant interviews conducted via email with NGO representatives, local conservation initiators, and environmental authorities, specific to this research, to establish the role of different private and governmental catalysing agents in the creation and maintenance of PCPAs.

We combined these qualitative data with an analysis of geographic PCPA growth over time and a review of pertinent laws. We collected data on state-protected areas and ACPs from the Peruvian *Servicio Nacional de Áreas Naturales Protegidas* (<http://www.sernanp.gob.pe>), and data on CCs and CEs were taken from the *Organismo de Supervision de los Recursos Forestales* (<http://sisfor.osinfor.gob.pe/visor/>) and the *Servicio Forestal* (<https://geo.serfor.gob.pe/visor/>). We analysed the data in ArcGIS (ESRI 2018) and corroborated to identify any gaps or errors in the various datasets.

Because PCPAs can only be established in terrestrial areas, PA layers were clipped within a terrestrial boundary layer of Peru, thus removing marine conservation areas. We then overlaid the PA layer on maps of regional divisions in Peru to examine patterns in relation to regional political divisions. We also mapped the regions in which proposed facilitating agents were present (Fig. 1, Suppl. Table 2). Facilitating agents were defined as non-government institutions that actively promoted and/or supported PCPA creation (Suppl. Table 2). We excluded government offices, for example the Ministry of the Environment and the Regional Environmental Authorities, from this list because, although they are the

¹ See Agrawal *et al.* (2015) for an extended discussion on the distinction between extrinsic and intrinsic motivations in the case of sustainable development projects.

Fig. 1 Map of Peru, showing regional boundaries, the location of state and private/communal protected areas, PCPA facilitators and buffers around PCPAs

entities responsible for awarding and overseeing PCPAs they generally do not promote them (but see results and discussion below).

To examine the effect of ‘conservation contagion’ and the effectiveness of facilitating agents in promoting PCPAs we calculated Euclidean distances of 25 km around all PCPAs. Based on our experience of working across the country, we used 25 km as a crude estimate for the probable distance, because this is about 1 day’s travel, within which information sharing has a strong effect. We then removed any PCPAs that did not have another PCPA within the cut-off distance and tested to see if geographic proximity was a factor in PCPA location. To measure the effect of facilitating agents we added the regions where non-governmental organisations that currently, or have in the past, actively promoted the creation and management of PCPAs to this map. Regions with high

numbers of PCPA initiatives were then compared to regions with facilitating agents.

To examine habitat type as a possible confounding variable for the geographic distribution of PCPAs, we overlaid the PCPA layer on an ecoregion layer of Peru (Olson *et al.* 2001). We then converted this to a cruder scale examining the distribution of PCPAs between tropical humid/moist forests, tropical dry forests, Andean habitats, mangroves, and coastal deserts.

All geographic layers and data on PAs were compiled in November 2019. We made the legal analysis between January and May 2017. This was followed by an iterative process of the triangulation of qualitative and quantitative data among the authors, with data being used to validate or challenge our varied experiences and evidence to ensure the accuracy of the findings (Doolittle 2015, see also Busscher *et al.* 2018).

Results

Protected area legislation in Peru began in the 1940s after the ratification of the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, which led to the establishment of the *Parque Nacional de Cutervo* as the first government PA in 1961 (SERNANP 2012). Current Peruvian legislation includes PAs run by the state, those run by regional and local government, and several kinds of non-governmental PAs (Suppl. Table 1). In total, the Peruvian PA system covers 242,145 Km² of terrestrial habitats (91.7% in state PAs and 8.3% in PCPAs), covering 18.8% of the country. State PAs cover 222,150 km² (of which ~216.7 km² are in *Reservas Comunes*), or just over 17% of the country's surface area. At the time of analysis, Peru's 330 PCPAs were distributed between 19 of its 24 regions (Fig. 1). PCPAs cover 19,995 Km², just under 1.6% of the country; equivalent to 9.0% of the area covered by state PAs. This area is made up of 3977 km² (19.9%) of ACPs, 14,888 km² (74.5%) of CCs and 1013 km² (5.7%) of CEs, at an average area size of 22.6 km² ($n = 176$), 151.9 km² ($n = 98$) and 20.2 km² ($n = 56$) respectively.

There was considerable clumping of PCPAs, with 301 (91.2%) of these initiatives found within 25 km of one or more similar initiatives (Fig. 1). Of these, 97 (29.4%) shared a common border with another PCPA. The average distance between PCPAs within 25 km of each other, but which did not share a common border, was 4.8 km (± 5.8). Of 330 PCPAs distributed between 19 departments (Fig. 2), 311 (94.2%) were found in regions with facilitating agents (Fig. 1). The average number of PCPAs per region in areas with facilitating agents was 26, this dropped to 6 in those without. The region with the highest number of PCPAs was Madre de Dios, with 122, followed by San Martín with 60 and Loreto with 55 (Fig. 2). PCPA area coverage varied across the country; the regions with the highest area coverage of PCPAs were San Martín with 6592 km² and Loreto with 5133 km² (Fig. 2). Thus, while the 55 PCPAs in

Loreto, which is by far the largest of Peru's regions, represent 1.3% of its area, area coverage of PCPAs in San Martín was far higher, at 12.9% of the regional area (Figs. 2 and 3). Types of PCPAs were also not evenly distributed among political regions. Madre de Dios was home to 30 CEs, by far the most of any region, with 63 ACPs and 29 CCs.

Of the 17 terrestrial ecosystems found in Peru (Olson *et al.* 2001), all are represented within either state PAs or PCPAs. One terrestrial ecosystem, Rio Marañon dry forest, is only protected in PCPAs, and no mangrove habitat is protected by PCPAs (Table 1). Tropical humid/moist forests represent 53.7% of ecoregions covered by PCPAs, followed by Andean habitats (39.0%), tropical dry forests (5.3%), and coastal deserts (2.0%). Comparing this to total national area covered by each ecoregion only the ratio of desert ecoregion area varied considerably from the total area coverage, all other ecoregion areas were more closely represented by PCPA coverage (Table 1).

The steady and sustained growth in both the number of PCPAs in Peru and the area covered by them slowed between 2001 and 2004 when no real growth occurred as the legal basis for their creation was still being set up (Fig. 4). When comparing ACPs with the two types of concession (CCs and CEs; Fig. 4) we see a steady increase in the growth of both number and coverage of ACPs with a large jump in number between 2015 and 2016. Growth of concessions, both in number and coverage, is less consistent, with jumps in area coverage in 2007–2008 and again in 2011–2014, but little increase in numbers or area coverage of new CCs or CEs created after this (Fig. 4).

According to the Natural Protected Areas law of 1997 (No. 26834) and its regulation (S.D 038–2001-AG), natural and legal persons (institutions, NGOs, communities, companies, etc.) that hold a land title can apply for recognition of an ACP from SERNANP. The application process for CCs and CEs is more complex than that required for the registration of ACPs. It includes several public

Fig. 2 Number of PCPAs (black) and area coverage of PCPAs (grey) per region

Fig. 3 Close up map of San Martín and surrounding regions, showing titled communities and PCPAs

consultations through publication in local and national newspapers, registration in the Public Records Office, and the development of a Management Plan that requires a detailed assessment of the area and a plan for ongoing funding. The *Organismo de Supervision de los Recursos Forestales* (OSINFOR) was created in 2008 and began

supervising CCs and CEs soon after. Whilst registration of ACPs has remained with central government, since 2010 many environmental responsibilities have been transferred to regional governments, including responsibility for granting CCs and CEs. However, a new forestry and wildlife law was introduced in 2015 (Law 29,763), with

Table 1 Comparative coverage of ecoregion types by PCPAs and ration of coverage to total area

Ecoregion type	% of PCPA area	% of Peru represented by ecoregion type	Raito % of PCPA to % area of Peru
Mangroves	0	0.026	–
Deserts	2.04	14.12	1:0.14
Tropical dry forests	5.26	3.86	1:1.36
Andean habitats	38.96	30.67	1:1.27
Tropical humid/moist forests	53.67	51.33	1:1.05

additional amendments made in 2016 and 2017, so that during the intervening time creation of new concessions

slowed due to the lack of legal guidelines (Fig. 4, Suppl Table 3).

Fig. 4 **a** Timeline of ACPs, **b** Timeline of CCs and CEs, **c** Combined timeline of PCPAs in Peru. Lines represent number of areas; bars show combined area coverage (Km²)

Discussion

The Development and Distribution of PCPAs in Peru

The number and coverage of PCPAs in Peru has grown steadily since legal mechanisms were put in place for their creation (Fig. 4). These initiatives now constitute a sizable portion of the country's PA system and Peru has been quick to create laws to sanction PCPAs, notably different to the experience of PPA laws in Chile (Tecklin and Sepulveda 2014). Even so, these PAs are not evenly distributed across the country and the distribution of the different types of PCPA is highly dependent on geographic, ecological, political, and economic differences between regions (Figs. 1, 2 and 3). We elaborate on their growth and distribution across the country, using the example of San Martín to provide an in-depth ethnographic exploration of the factors that led to it being the region with the greatest area coverage of PCPAs.

Peru's ecosystems are broadly divided between pacific coastal deserts, the valleys and peaks of the Andean cordillera, and Amazonian montane and lowland forests. Its complex topography encompasses elevations from sea level to 6768 m.a.s.l., producing a diversity of climates and temperatures ranging from well below freezing in the Andean highlands to ~40 °C in the northern coastal deserts and dry forests. When considering how habitat type may affect the location of PCPAs, we found that only deserts received less than expected coverage. All other habitat types were more closely represented in PCPAs (Table 1). This is surprising as Peru's coastal areas have the largest share of the country's population, although often concentrated in large cities. However, in Peru there is a general prioritisation for conservation actions to be focused on areas of forest or headwaters, rather than deserts (MINAM 2009b), which could lead to a lack of motivation on the part of potential local PCPA initiators.

We identified a clear tendency for PCPAs to be found in proximity to similar initiatives (91.2% within 25 km of another PCPA and others that share a common border). A number of specific socioeconomic and political factors explain this clumping of PCPAs, including land tenure rights, and the historical and social background of the local population. However, while it has been suggested that land-values influence the distribution of PPAs (Armstrong *et al.* 2006), in Peru this will only apply to ACPs that are not on community lands (33% of ACPs). In the case of CCs, CEs, and ACPs on community lands, land prices can only affect the creation of PCPAs in indirect ways, such as increased opposition from land prospectors attracted to the higher profits. The most important factors in the prevalence of multiple PCAP initiatives, however, are the presence of networks of facilitators and networks to exchange experiences, and proactive regional governments. This is consistent with Horwich *et al.*'s (2012) theory of

conservation contagion, with PCPAs clumped in areas where initiators share successful conservation experiences facilitated by catalysing agents and/or political will.

Due to the complex and expensive process of PCPA creation (see below), the presence of outside institutions, usually national or international NGOs, is invariably essential for their creation and consequently these institutions have also become central to the process of conservation contagion (Horwich *et al.* 2012). Our analysis found that facilitating/catalysing agents have a positive association with the presence of PCPAs in the different political regions of Peru: 94% were in regions with the presence of at least one such agent (Suppl. Table 2). Similarly, the average number of PCPAs present in regions with agents was also much higher.

This dynamic can be explained in more detail through the development of PCPAs in San Martín, which has the highest area coverage of PCPAs in Peru with 12.9% of the region's area in ACPs and CCs. In San Martín, this process has been driven by a small number of core NGOs that have taken advantage of the available legal structures and promoted PCPAs to local populations as an alternative to informal protection. Areas may be established following the example of other local initiatives, but agents may also prioritise areas for conservation because of their organisation's particular objectives (presence of a threatened/endemic species or a specific habitat) and proceed to recruit surrounding communities. In other cases, clumps of PCPAs appear to have attracted external conservation agents wishing to aid these initiatives or to increase their perceived success (and therefore funding) by supporting multiple projects that already exist.

The other key driver in the proliferation of PCPAs is the approach of the regional government, particularly given the ongoing processes of decentralisation in Peru (see Suppl. Table 3). The transference of environmental responsibilities to regional governments has had varying results between regions. The Regional Environmental Authorities (ARAs) that were established to run decentralised environmental policy are mainly autonomous and self-funded; therefore, environmental activities in each region depend largely on the political will of each regional government and less on national policy.

In San Martín, where the first ARA was created, most of the land belongs to the state. Between the years 2006 and 2014 the regional government of San Martín was held by a local party, the 'New Amazonia Regional Movement.' The party's leaders came from environmental backgrounds and prioritised environmental issues, the region's slogan was 'San Martín, Green Region' and the regional president set a target of more than half a million hectares of new areas to be protected by 2015 (GORESAM 2008; Shanee 2012). Because of enthusiastic conservation policies and the promotion of conservation opportunities in meetings and media, the San Martín ARA had a great influence on the number of CCs established. As noted by conservation practitioners from the region, this resulted in a

boom in the creation of new areas, with certain NGOs supporting multiple projects around the region. However, as these policies were sometimes in contrast to national priorities in mining or other extractive industries, they were not able to legally recognise all of the initiatives – and at present there are still many CCs in the midst of the registration process and it is unclear if and when they will be registered. In 2016, the New Amazonia Regional Movement lost control of San Martín's regional government, leading to a slowing of responses to the needs of PCPA managers, to the continued frustration of many communities that we interviewed. One community leader, for example, highlighted the continued lack of support five years after all documentation had been submitted for a CC, leading to disillusionment for those involved.

This rapid growth can be compared to the different dynamics in each of the regions with PCPAs, but most instructive in analysing this is the neighbouring region of Amazonas, which has far fewer PCPAs than San Martín, covering a much smaller area (Fig. 3). There are two explanations for this: firstly, Amazonas region has much more of its area titled in indigenous and *campesino* communities (Fig. 3) and so presents more opportunity for ACPs, which are limited in size by the area covered by each land title; but secondly, and critical for the argument here, whereas the previous San Martín regional government prioritised the growth of the regional conservation network, the Amazonas regional government cut funding from its environmental authorities during the same period (Shanee 2012). The resulting distribution of PCPAs between these two regions, despite numerous NGOs and organisations that work in both, is indicative of the importance of proactive policies for the growth of PCPAs. These factors suggest that both political support and external agents have been critical to the growth of PCPAs in San Martín, and that the networks they have established will continue to be influential in dictating discourse and practice around the country.

Formalising and Financialising Community Conservation

This growth in PCPAs has not simply created new PAs. In formalising conservation, it has increased financial burdens on communities and followed a broader trajectory towards neoliberal conservation approaches in Peru. Despite the growth of PCPAs, many areas were (and are) informally protected prior to the arrival of the agent. Thanks to the lack of legal clarity, common forms of CBC are both formal, through PCPAs or communal reserves, and informal, through communal bans on hunting and deforestation in local forests. Based on our experience, we estimate that there are thousands of these schemes being promoted by local communities. As noted earlier, to 'formalise' land protection into a PCPA requires a complex, expensive, and time-consuming process, including biological and socioeconomic surveys, in-depth management plans, and multi-year financial

planning, placing it beyond the capacity of most local stakeholders.

This reflects an ongoing trend for conservation to be conflated with (sustainable) development in Peru (MINAM 2009a). State and institutional justifications for connecting conservation with economic development include the capture of necessary funds from external institutions, attracting local people to conservation, and avoiding anti-conservation lobbying by ensuring that lands are still economically active. This excludes other motives for initiating conservation projects or PCPAs, such as the protection of watersheds, ecosystem services, and flagship species, protection from land traffickers and invaders, purely altruistic reasons, or as part of a perceived social struggle (Shanee 2013). For example, ACP managers are no longer able to declare intangible zones, which were legally defined as areas within ACPs where all extraction and modification was prohibited. Currently, limited use zones allow habitat alteration and direct use zones allow small scale agriculture, construction of infrastructure, and exploitation of non-timber forest resources (Presidential Resolution No. 144–2010-SERNANP and 199–2013-SERNANP). Similarly, the new Forestry and Wildlife Law (29763) of 2015 allows the exploitation of non-timber forest resources within CCs. These changes in the law reflect the Peruvian state's view of conservation as an economic opportunity rather than a means to protect nature, and its attempts to encourage interest in conservation for economic reasons. Although ACP owners can still establish limited use zones, the Ministry of the Environment legalised mining and oil exploration activities within ACPs (Law No. 28611). Owners can negotiate with companies, but their consent is not mandatory, only preferable, for extractive activity, again demonstrating the state's prioritisation of economic activities (Law No. 28611).

Thus, while PCPAs are not always market-based in Peru – as in the case of Chile (Tecklin and Sepulveda 2014) – the state promotes these areas as an opportunity for conservation and development (MINAM 2009a). As a result there is a wide diversity of PCPA initiators, with varying levels of economic investment and benefit, from for-profit enterprises attracted by Peru's promotion of conservation as economic opportunity and tourism, to NGOs, private landowners, and local communities that in many cases act through non-economic interests (see also Shanee 2013). However, Peruvian legislation mandates the same requirements, supervision, and control (including fines) for all types of PCPA managers.

The vast majority of official PCPA owners are local/national NGOs, local individuals, groups, or legally recognised communities (Table 2). While, as noted above, there is a tendency for research into PPAs to focus on larger international NGOs or wealthy individuals, these groups are largely absent from PCPA ownership, with international organisations and businesses representing just 1% of ownership. In contrast, local communities and local or national

Table 2 Breakdown of different private and communal reserve owners and managers in Peru

	ACP (%)	CC (%)	CE (%)	Total (%)
Campesino Community	56 (32)	0 (0)	0 (0)	56 (17)
Native Community	2 (1)	3 (3)	1 (2)	6 (2)
Local/National organisation*	7 (4)	62 (63)	2 (4)	71 (22)
International organisation*	0 (0)	3 (3)	0 (0)	3 (1)
Local/National business	32 (18)	12 (12)	13 (23)	57 (17)
International business	0 (0)	0 (0)	0 (0)	0 (0)
Private person/family	79 (45)	18 (18)	40 (71)	137 (42)

*Organisation here refers to non-profit association, NGO or University

organisations are listed as owners of 41% of PCPAs, including many of the larger CCs. Many of these groups have few economic resources beyond what may be provided by NGOs or other external funding. No financial support is provided by the state and external funding varies dramatically from ‘full’ support to occasional ‘gifts’ or capacity building. The most common form of help provided is with the bureaucratic processes and economic expenses related to formal registration of PCPAs and ongoing maintenance to meet legal requirements. Our experience in San Martín (and across Peru) shows that although capturing international funds for the creation of new areas is relatively easy, finding funds for the maintenance of reserves is much more difficult. This could in part be due to the desire of NGOs to make claims of how many hectares have been saved rather than the more difficult ongoing process of managing incursions and local politics, but it presents a number of challenges for groups looking to meet the ongoing needs of PCPAs.

This management burden is further increased by ongoing legal changes regarding PCPAs, which create delays in the creation of CCs and CEs (Fig. 4 and see above), and the introduction of Peru’s new forestry and wildlife law (Law 29,763). Thus the reduction in the establishment of CCs may not only be due to delays, but also to the dissatisfaction of many local conservationists charged with the management of CCs with the level of support they receive. For example, one CC was established by a small group of farmers who wanted to stop the poaching of “sacks and sacks” full of spider monkeys near their village. While the community wanted legal protection for the area and a small amount of funding to cover semi-regular patrols, time and money got absorbed by the bureaucratic processes of CC application and management, leading to increasing frustration, as highlighted by the leader of the local association: “there isn’t support from anyone [...] If you don’t manage it and you don’t advance things, all of the costs go to the farmer, us as farmers.” This frustration stands in stark contrast to a much larger concession in the area that receives vast profits from carbon credits, along with plaudits and support from the regional government.

Similarly, although the government is legally obliged to attend to official complaints made by reserve administrators in cases of environmental crime inside PCPAs, the consistent lack of such responses (or the inefficiency of the responses that do occur) drain local enthusiasm and can put local conservationists in danger. Since the creation of OSINFOR in 2008, some PCPA administrators have incurred economic penalties for errors in paperwork, inability to comply with management plans, or even for environmental crimes carried out within PCPAs by third parties, even though in many cases they have lodged official complaints. In some recent cases the PCPA managers, with the help of the San Martín regional government, have managed to get these fines overturned or reduced, although this is rare. Therefore, although there is considerable interest from local people and communities in conserving their forests, they are increasingly discouraged in their attempts to establish PCPAs without the guarantee of future financial stability, a concern reiterated to us by many PCPA administrators and communities across Peru.

These management costs are key in dissuading people from participating in conservation initiatives and, we argue, although not a certainty, reflect the State’s financial, utilitarian view of natural areas to be protected. As the management costs and technical requirements become ever higher, further income is needed for local communities to establish PCPAs, leading to a reliance on market-based strategies (most recently through the sale of carbon credits). This has implications for those communities who do not regard conservation merely as a profitable enterprise, and reflects a move in San Martín from a regional government that promoted it as a ‘green region’ to one focused on ‘productive conservation.’ One concession manager even highlighted the success of a specific project in generating carbon credits as driving a fundamental shift towards financialised projects across the region. This logic can be reinforcing, with economic motives ‘crowding out’ environmental ones over time (Agrawal *et al.* 2015; Chambers *et al.* 2019).

While PCPAs in Peru have not been a priori market-based acts of dispossession – established and spread as they were in many cases by conservation contagion between local organisations and communities – the external discourse surrounding neoliberal conservation is driving them to be ever more reliant on this logic, often contrary to the initial goals of conservation projects. Furthermore, the increasingly technical and financialised process of registering and maintaining PCPAs ensures that land has been ‘rendered legible’ (Scott 1998), making market-based funding both easier and more likely while conservation for intrinsic reasons more costly and legislatively difficult.

Conclusions

The world’s biodiversity is increasingly affected by anthropogenic activities and these same activities affect local human

populations, who lose access to traditional and culturally important natural resources and development opportunities (Chapin III *et al.* 2000; Gascon *et al.* 2015). In Peru, the rapid and sustained growth of PCPAs can be understood as both a reaction to these problems and a potential solution to them. PCPA and CBC initiatives have proven effective in reducing deforestation and for species protection, while engaging an increasingly broad number of communities (Shanee *et al.* 2015).

We explored the creation of PCPAs and their relation to financialised conservation in Peru. Our results indicate that endorsing or condemning PCPAs *in general* can be problematic, but that understanding their role in broader conservation policy requires a more in-depth understanding of local dynamics and the needs of different actors. While it would be incorrect to label PCPAs in Peru simply as either dispossession or entirely community-based, the blurred lines between ownership rights and incentives make generalisations unhelpful.

The example of Peru, and San Martín specifically, in the northeast provides evidence of how quickly PCPA initiatives can spread through ‘contagion.’ However, as mentioned above, complicated legal processes and a lack of support could serve to reverse this trend as would-be conservationists are discouraged by the negative experiences of neighbouring communities or inequitable distribution of project incentives or punishments. Therefore, it is extremely important that funding agencies and the Peruvian government offer sufficient opportunity and support for the creation and maintenance of other conservation initiatives, specifically nurturing and providing ongoing support for initiatives that do not rely on financial rewards.

Informal conservation initiatives and those motivated by considerations other than profitability have often proven highly effective in Peru (Shanee 2013). Therefore, large conservation entities, both governmental and NGOs, should consider these initiatives as essential to complement other conservation activities. We recommend that governments and conservation practitioners take note of the trends we have identified in Peru to encourage, ‘catalyse,’ and support these local initiatives, which even if on a small scale can effect dramatic change (Horwich and Lyon 2007). As noted by the IUCN (Mitchell *et al.* 2018: xii) “Not all private conservation initiatives can or should become PPAs,” but understanding the differing needs and motivations of these initiatives is essential for analysis and comparison across jurisdictions and to provide greater clarity for practitioners, activists, and academics. To achieve this, we need clearer definitions and transparency to allow for effective analysis and support of smaller, community-based schemes that may require lower barriers to entry and a less harsh system of fines for perceived failure. This separation could depend on level of investment, economic benefits projected, the scale of a project, and its specific goals. This will allow communities and other local conservationists to continue to successfully conserve their lands alongside the larger, more-financialised schemes.

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Informed Consent Informed consent was obtained for all respondents and research was conducted in line with the ethical standards established by the Association of Social Anthropologists.

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