Land Trafficking, Migration, and Conservation in the "No-Man's Land" of Northeastern Peru

Authors: Shanee, Noga, and Shanee, Sam

Source: Tropical Conservation Science, 9(4)

Published By: SAGE Publishing

URL: https://doi.org/10.1177/1940082916682957

Research Article

Tropical Conservation Science
October-December 2016: 1–16

DOI: 10.1177/1940082916682957
journals.sagepub.com/home/trc
SAGE

Land Trafficking, Migration, and Conservation in the "No-Man's Land" of Northeastern Peru

Noga Shanee[1,2] and Sam Shanee[1,2]

Abstract

Peru and especially its northeastern regions are considered a global conservation priority because of high biodiversity and the acute threats they face. Despite the Peruvian state's declared intention to end forest loss, deforestation is on the rise. This is in part due to rural–rural and urban–rural migration to forest frontier zones. This migration is often organized and led by land traffickers. In this article, we use ethnographic methods and case studies to identify major land trafficking types, the interactions between traffickers and local communities, and conservation initiatives as well as authorities' capacity to respond to this illicit practice. Land trafficking exists at different scales and can be highly lucrative. Loopholes in Peruvian laws, conflicting policies, and institutional inefficiencies impede effective confrontation of land trafficking and in some cases even encourage it. Corruption plays an essential role in facilitating this trade. Although local people are often aware of the problems related to land trafficking, their ability to control it is greatly impeded by social factors and by the dangers of confronting organized criminals. Land trafficking is seldom studied but has great environmental and social implications and must be addressed both on academic and practical levels in order to confront biodiversity loss related to migration to forest frontiers.

Keywords

community conservation, corruption, deforestation, migration, organized environmental crime

Introduction

The regions of Amazonas and San Martin in northeastern Peru lie at the heart of the "Tropical Andes Biodiversity Hotspot," considered the most biodiverse region on earth (Myers, Mittermeier, Mittermeier, da Fonseca, & Kent, 2000). The tropical Andes are incredibly biodiverse and are home to an estimated 30,000 vascular plant species, half of which are endemic, 584 species of birds, including 69 endemic, and 75 species of mammal, including 5 endemic monotypic taxa (Myers, 2003; Myers et al., 2000). Notwithstanding this diversity and their priority status, both regions suffer from among the highest deforestation rates in Peru (Ministerio del Ambiente, 2014a; Vargas Gonzales et al., 2014). This deforestation is in large part fuelled by immigration and lack of government intervention (Holland, Coomes, & Robinson, 2016; INEI, 2007, 2009; Reategui & Martinez, 2007; Vargas Gonzales et al., 2014). Levels of poverty, illiteracy, and intrinsic population increase are similarly high compared with national averages (Table 1). Most migrants to these regions come from highland areas of Cajamarca, La Libertad, Lambayeque, and Piura regions (Table 1 and Figure 1). These source regions have very high human population densities and much of the land is under concession to mining operations (Cooperacción, 2014), which has led to a scarcity of fertile lands, subsequent increases in land prices, and a lack of basic resources (Bebbington & Bury, 2009; Bury, 2005, 2007; Szablowski, 2002). The connection between

[1]Neotropical Primate Conservation UK, Stretford, Manchester, UK
[2]Asociación Neotropical Primate Conservation Perú, Carretera Fernando Belaunde Terry, La Esperanza, Yambrasbamba, Perú

Received 21 September 2016; Revised 5 November 2016; Accepted 15 November 2016

Corresponding Author:
Noga Shanee, Asociación Neotropical Primate Conservation Perú, 1187 Carretera Fernando Belaunde Terry, La Esperanza, Yambrasbamba, Peru.
Email: nogashanee@gmail.com

Table 1. General Information About San Martin and Amazonas Compares to National Levels.

	Area (Km^2)	Population	Poverty (%)	First generation in district (%)	Live in district less than 5 years (%)	First generation origin of mother[a]	Average number of children or family	Illiteracy
Amazonas	39,249	375,993	55	29.03	9.48	C 68.2% L 8.7% P 7% O 16.1%	2.9	18.8
San Martin	51,253	728,808	44.5	42.98	16.85	A 14.9% C 42.3% P 11.3% O 31.5%	2.7	14
National	1,285,220	28,220,764	39.3	36.29	12.27	–	2.4	12.27

[a]A: Amazonas, C: Cajamarca, L: La Libertad, P: Piura, O: Other.
Source: Adapted from official national statistics (INEI 2007) and FONCODES 2006.

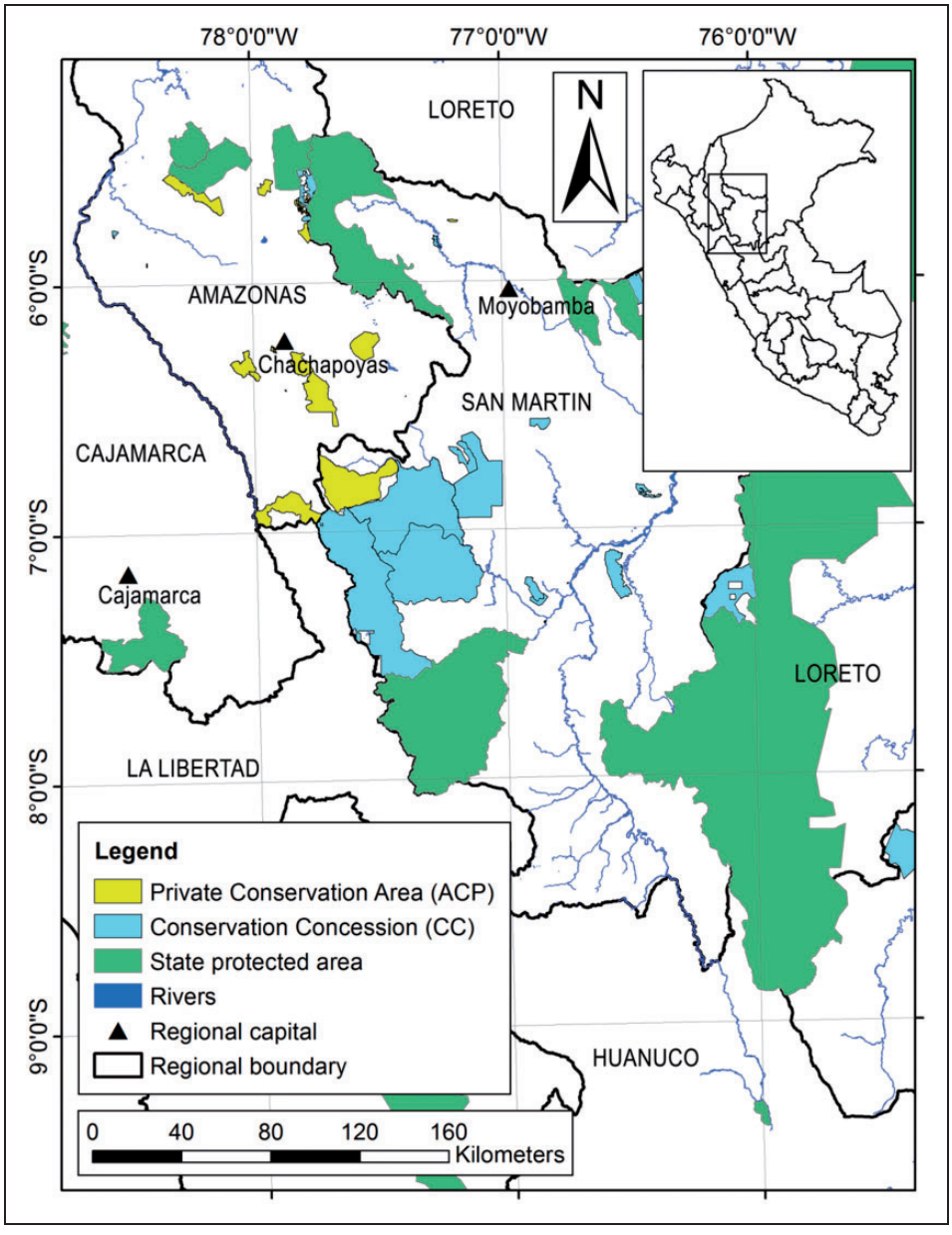

Figure 1. Map of Amazonas and San Martin showing private and state run protected areas.

migration to frontier areas, insecure property rights, and deforestation is a widely studied phenomenon (Amacher, Koskela, & Ollikainen, 2009; Carr, 2004, 2008; Messina, Walsh, Mena, & Delamater, 2006). In 2009, Peru announced a zero deforestation target to be met by 2021, subsequently launching the National Program to Conserve Forests for Climate Change Mitigation (MINAM, 2011; The REDD Desk, 2016), among many other nationwide initiatives aimed at mitigating or halting climate change and deforestation. Even so, deforestation rates are high and continue to rise (Ministerio del Ambiente, 2014a, 2014b). According to official reports, out of Peru's 78,000,000 ha of humid forest (>60% of the national territory), 5,989,851 ha (4.6%) had been deforested by the Year 2000 with an additional 1,172,652 ha (1.5%) lost between 2000 and 2011. San Martin had the highest average rate of forest loss in Peru both prior to 2000 and 2000–2011. Amazonas region had the third highest rate of forest loss prior to 2000 and forth in the Years 2000–2011 (Vargas Gonzales et al., 2014).

During the 1950s and 1960s, political and economic instability in Peru and an increasing population in the highlands (Deere & De Janvry, 1979; Portocarrero, 2001) resulted in mass migration of rural populations to urban centers (Dreyfus, 1999). To reduce pressure of over population in the Andes and coastal cities, the Peruvian government initiated a colonization program of the largely unsettled eastern slopes of the Andes, allocating land to families willing to migrate (Morales, 1986; Schjellerup, 2000a; Schjellerup et al., 2009). With promises of higher standards of living, infrastructure, and development, President Fernando Belaúnde (1963–1968) began construction of the *Carretera Marginal* (Marginal Highway) connecting the northern coast and the Amazon. Until the construction of this highway, Amazonas and San Marin were practically isolated from the rest of the country, obliging them to be economically self-sufficient. This government campaign resulted in mass migration in the 1960s followed by a second wave during the coca boom of the late 1970s (Dreyfus, 1999) and continuing migration with subsequent improvements to the highway. In a recent study, Dávalos et al. (2016) identified governmental development programs as the root cause of both the expansion of coca cultivation and deforestation in the Andes. Most deforestation in these regions is the result of agricultural expansion (Schjellerup et al., 2009). Agriculture in this part of Peru consists of subsistence crops (mainly tubers, corn, and beans) and commercial production (cattle, rice, coffee, and cacao; N. Shanee, Shanee, & Horwich, 2014). Cattle ranching is unintensive with low densities of cattle (approximately 1–2 head per ha). Small-scale cattle farmers (both meat and dairy) are exploited by buyers and intermediaries paying low prices for production, forcing *campesinos* (peasant farmers) to increase production by using increasingly unsustainable methods (N. Shanee, 2012a). The state still provides incentives to migration from the Andes to the Amazon through tax breaks, financial benefits, and the formalization of informal land occupation (Che Piu & Menton, 2014).

There are several studies describing historical settlement in frontier forests in Peru which can shed light on present patterns. Settlers generally arrived with few economic resources, frequently following timber trails to enter forested areas, using tree fell clearings to plant crops (Brack Egg, 1981). Schjellerup et al. (2009) describe groups of farmers in San Martin from the 1960 onwards, looking for fertile lands in forested areas, collaborating to open access routes, and delimiting their land parcels. When settled, the groups initiated communal assemblies choosing names for settlements and composing articles of creation, signed by all participants; these articles were used to officially request state recognition (Schjellerup et al., 2009). In the new ecological zones, migrants needed to adapt to new crops and agricultural methods, with little or no support from the government. When failing to adapt to the new conditions, they often returned to the highlands or remigrated further into frontier zones (Bebbington, 1990). Furthermore, many settlers were observed to consider these new settlements as stepping stones, where wood extraction and cash crops could bring relatively fast accumulation of cash allowing them to move to more desirable areas, such as coastal cities or the highland regions (Wesche, 1971).

In Amazonas and San Martin, there are many locally run conservation initiatives that include formal land protection (N. Shanee, 2013; N. Shanee et al., 2014) under one of the two kinds of nongovernment protected areas (Table 2, Figure 1). Local conservationists include private individuals and associations, as well as *campesino* and native communities (N. Shanee, 2013; N. Shanee et al., 2014). Local people undertake these conservation initiatives from an appreciation of nature's intrinsic, religious, or spiritual value, aspirations for sustainability, out of concern for future generations, and as an arena for social justice and recognition, taking pride and satisfaction from the return of, and increases in, populations of wildlife (N. Shanee, 2013). These initiatives are hindered by complicated and expensive requirements from the government and by social complexities within local communities (N. Shanee et al., 2014), leading to the proliferation of informal conservation initiatives such as voluntary agreements to limit deforestation and hunting. These types of initiative, although sparsely documented and difficult to quantify, have significant impact on conservation (N. Shanee et al., 2014; S. Shanee & N. Shanee, 2015).

Land trafficking can be defined as the usurpation, illegal appropriation, and commerce of lands. It is closely linked with rural–rural and urban–rural migration and can be seen as an activity that organizes and facilitates

Table 2. Laws and Regulations Related to Conservation, Land Rights, and Land Trafficking.

Topic	Law	Description
Private conservation initiatives	Law No. 26834 And S.D. N° 038-2001-AG	Private Conservation Areas (ACP)—established on privately owned, titled, lands, for a fixed period, or in perpetuity, through application to the Ministry of the Environment.
	Law No. 29763	Conservation Concession (CC)—made on untitled state land. Application is made to the respective Regional Government for legal administration of a given area. CC's are renewable and can be awarded for a maximum of 40 years.
Campesino communities	Law No. 24656 Art. 136 of the Civil Code Law No. 26505	Campesino Communities are communally titled and no private land titling is allowed. No accumulation or transfer of lands is allowed and new immigrants are only allowed official possession of community lands after 5 years living in the community and working the land. Communities can re-possess abandoned and uncultivated plots. Communal lands are inalienable, nontransferable and indefeasible, unless otherwise established by the Political Constitution of Peru. All changes in land property rights and private investment within communities need the agreement of the General Assembly.
	Communal statutes	Internal regulation of the communities including internal division of lands between community members.
Native communities	Law No. 22175	Regulates the creation and rights of native communities.
Rural land rights and titling	S.D. 032-2008-VIVIENDA Law No. 26505 L.D. 667	The law sets the requirements for land titling as: Economic exploitation and direct, continuous, pacific possession of the land for no less than 1 year on state land and no less than 5 years on titled land. Untitled land can legally be sold after 5 years of proven economic use.
	S.D. No. 087-2004-PCM	The National Regulation of Ecological and Economic Zoning (ZEE) is defined as a process of finding sustainable land use alternatives according to physical, biological, social, economic and cultural factors. It is a technical proposal which when approved by a regional government, becomes an instrument for decision makers for the sustainable use of a territory and its natural resources, including where lands can be titled for agricultural use. Both Amazonas and San Martin have approved ZEEs
Land use change	Law No. 29763	Forest resources are protected, clear cutting and land use change without authorization are considered "very serious offences" with minimum fines of S/.39,500 ($11,650) and penal process that can result in 3 to 5 years suspended or effective jail time. The application for land use change requires solicitude to SERFOR including land title or document certifying right over the property and the technical study of micro-zoning of the property indicating what products would be sold in national markets. Owner commits to reserve at least 30% of original forest and riparian vegetation.
Forest resource use	Law No. 29763	Promotes sustainable management of forest resources regulated by the regional and national authorities. The extraction, use and commerce of forest resources without authorization are considered "very serious offences" with minimum fines of S/.39,500 ($11,650) and penal process that can result in 3 to 5 years suspended or effective jail time.

migration. Although migration to forest frontiers is widely described in the academic literature (Carr, 2008; Holland et al., 2016; Merry, Amacher, & Lima, 2008; Pichón, 1997; T. Rudel, 1995; Ryder & Brown, 2000), land trafficking has rarely been examined in any detail and a search in academic databases failed to find publications specifically related to this activity.

In this study, we use ethnographic methods to describe land trafficking and analyze the phenomenon from a social perspective and the use of legal loopholes and systems that are open to corruption. Also, we consider its close connection to rural migration and its effects on habitat loss and conservation initiatives in northern Peru.

Methods

Field work took place between 2007 and 2015 in urban and rural areas of Amazonas and San Martin in northern Peru. We employed a broad range of ethnographic and political ecology methods to collect data from a variety of sources (LeCompte & Schensul, 1999). We made formal interviews with 38 key informants including representatives of NGOs as well as local authorities and conservationists. We also made hundreds of informal interviews with rural land owners, community leaders, and land traffickers to explore the views and behaviors of new and established migrants, local conservation initiators, outside conservation agents, and authorities. Unplanned, informal interviews, arising from participant observation opportunities, are an important method where the subject is complicated or sensitive as well as in rural areas where local people can feel alienated by formal interview techniques (Fielding & Thomas, 2001). At the end of interviews, interviewees were asked if the information discussed could be used as part of the study. Participant observations took place in a wide range of settings including forest field trips, internal and public meetings organized by institutions or communities, park guard patrols, and many other planned or spontaneous observations or conversations. These enhanced the quantity and diversity of the data collected, in its turn, allowing thorough validation. The ethical guidelines of the Association of Social Anthropologists of the UK and Commonwealth (ASA, 1999) were applied throughout the study. Special attention was given to the protection of informants through their contributions to this work and names of places and people have been concealed, unless the information provided was already publicly known in Peru. The extended fieldwork period and participatory methods allowed prolonged exposure to social and institutional processes in addition to increasing mutual understanding and trust between researchers and participants.

Following Stake (1995), we use a series of case studies as unique or atypical situations chosen for their illustrative power making theoretical connections apparent. The detailed description allowed through case studies can inspire novel theories by exposing contradictions between practice and available theory (Eisenhardt, 1989); they are also testable, with high empirical validity. Hence, this methodology is well suited to new research areas (Eisenhardt, 1989). Information gained from interviews, participant observation, and field notes were coded and classified in NVivo program to facilitate systematization of qualitative data to compare and contrast themes and concepts with each other within a chronological framework (Fielding & Thomas, 2001).

Land commerce inside indigenous communities was not included in this study, as in Peru indigenous populations living in *comunidades nativas* have special legal status in relation to land tenure and resource use (see Table 2). Therefore, different methodologies would have had to be applied, taking into account the different languages, culture, and legal realities of these communities in Peru.

Results

By examining the results from our participant observations and interviews, we identify two main kinds of land trafficking. In the first, groups of landless *campesinos* arrive in an area and begin preparing the land for settlement and sale. Work is physically demanding and takes hundreds of shared work days. The group subsequently applies for basic services from local authorities (roads, water, schools, health posts, etc.). Members select a portion of land, which can range from tens to thousands of hectares. This is then subdivided into sections, some to keep and some for sale. Buyers are sometimes actively invited from other regions through word of mouth or through advertisements. The work invested and the claim to basic services are considered a group investment and subsequent purchasers pay a gratuity on top of the land cost. The amount is calculated according to work days and services available or promised. The decision to sell and attract buyers can be taken on a group or individual basis. Often, the group decides to publicly advertise to incorporate more members, this usually takes place near the beginning of the settlement. Decisions to sell portions of settled land are generally taken on an individual basis and can occur at any time depending on the individuals economic needs. Based on multiple case studies and interviews, we suggest that this is the most common dynamic in northeastern Peru. We suggest that this type of land speculation only be referred to as land trafficking when lands colonized are not legally considered appropriate for agriculture or when land transfers are made illegally (see Table 2, and Laws and Authorities section).

The second kind is organized by professional traffickers with no intention of settling or working the land. These legitimize themselves by working with networks of, often

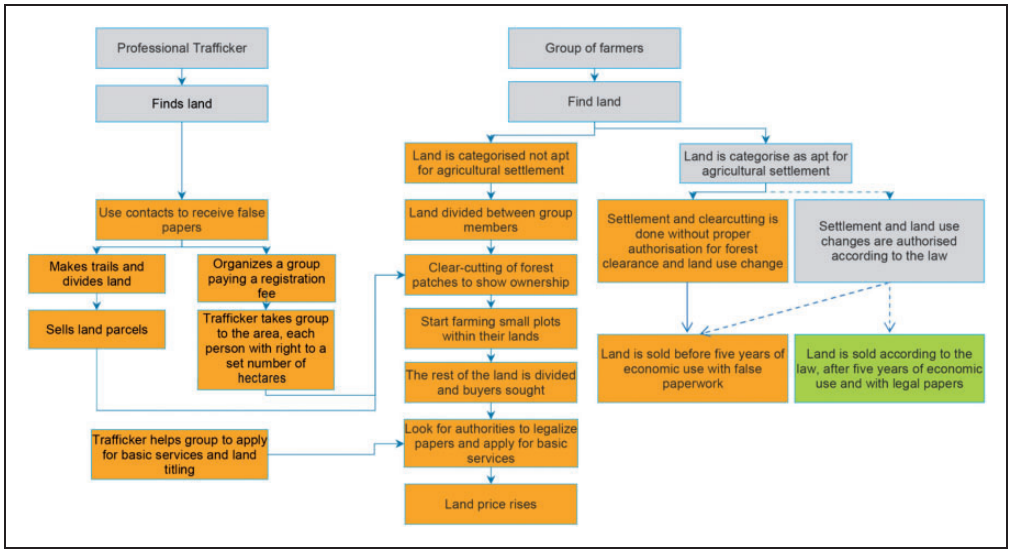

Figure 2. Flow chart simplifying the two major types of land trafficking.

corrupt, officials. Traffickers sell lands to groups which later work the land, some for quick sale and some to settle. Figure 2 provides a simplified graphic illustration of the two types of land trafficking discussed in this article and the relationship between each and the stages within. Professional traffickers look for rural lands, using personal contacts with officials to receive, often false, papers and sell the lands to groups or individuals. Groups of farmers on the other hand find lands for their own use and invite people to join by paying a gratuity.

Forest clearing is an important part of establishing land ownership. Settlers, both with or without professional land traffickers, sell parts of their bought or seized lands to newcomers and apply for legal recognition of their settlement and basic services. Land values rise with each stage of this process. Groups of farmers can formalize their settlement if the area has been categorized by the authorities as apt for agriculture and the land use changes that occurred since settlement were carried out according to the law, although this process is practically impossible due to legal loophole (see later). Following are several case studies and examples of land trafficking in northeastern Peru, illustrating the process mentioned in Figure 2.

Yannay Campesino Community

In Peru, *Comunidades Campesinos* are legally registered entities that hold a single land title with lands internally distributed between members (Table 2). According to the statutes of the Yannay Community, each community member is entitled to 50 ha of agricultural lands. The communal delegate of each village is responsible for its respective lands. Nevertheless, lands inside the community regularly change hands, both between community members and new immigrants, under the quasi-legal scheme of improvements' transfer (*Transferencia de mejoras*), that is, the buyer is not paying for the land itself, but for the time and effort invested in "improving" the area by clearing the forest for agriculture. In 2010, the community president told us that these transfers are often made without his knowledge, although officially they need to be approved by a majority of community members and the community should receive 10% of the value of the transaction.

Many newcomers are poorly educated, with only 1 to 2 years of schooling, and others are known fugitives moving to remote areas to escape capture. They first work as *Peons* (low-paid day laborers) or illegal loggers using the money earned to buy lands for agriculture or to rent as pasture, with the objective of raising capital to buy cattle. Others arrive with money to buy lands from the sale of lands somewhere else or receiving compensations from extractive companies in the highlands.

No land tenure maps exist for the Yannay Community, so the president and community in general do not know which parts of the community are free and the extent of land each member owns. This lack of information allows influential members and outsiders to own up to several hundred hectares. Within Yannay, and *Comunidades Campesinos* in general, land trafficking is typically made by negotiators, often not community members, in many cases living in nearby cities and even on the coast, buying relatively cheap forested land, "improving" it by clear cutting and then selling at a higher price, without living or working in the community. In most cases, they employ community members as *peons* to clear the land, and sometimes rent the land to community members after it has been cleared. Although Yannay Community does not usually repossess lands (see Table 2)

for fear of reprisals, land holders within the community, or from outside, clear-cut a few hectares of forest, even if they do not use them, thus confirming their right to the land against expropriation by other community members (Figure 2).

Members of Yannay community regularly complain about the social and environmental problems of land trafficking such as inflated land prices making it difficult for local youth to acquire land. A local priest explained that the bigger villages are emptying out as lands near the villages are increasingly unproductive. The main destination for migration of this kind, for people of the Yannay community, is further into mature forests, usually in San Martin or Loreto regions (Figure 1) where the cycle of settlement and clearance is repeated.

In 2015, a group of community members invaded lands that are 2 days walk from the furthest village and outside of the community. Local discourses explained the main reason for the invasion as lack of available lands within the community, but closer examination revealed that only 5 of the 18 people in the group did not have land within the community. It was suggested by an informant that the invasion was actually to look for cedar trees (*Cedrela* spp.), a valuable timber source locally extinct within much of the community, and to sell the lands in the future. In an informal interview, the leader of the group asked for assistance in creating a conservation reserve in an adjacent area which he described as unsuitable for agriculture. Another group of community members, including some of the community authorities, are using a boundary dispute with a neighboring state protected area to justify blocking park guards from passing through the community lands to the area. At the same time, community informants told the park administration that the group leading the ban is also organizing an invasion of the protected area, using the absence of guards as an opportunity to enter the reserve. Part of the community's discourse related to this situation argues for the ''return'' of communal lands that they see as taken from them by the government when gazetting the protected area; they attempt to bolster their claim by proposing the creation of a communal reserve in the same area. However, in a closed communal meeting, the community president proposed establishing a village in the same area, explaining that there are many landless community members. Blocking entrance to the park guards is illegal and could have serious consequences if the protected area managers pursued the case. In cases such as this, they can ask for the intervention of other authorities, including the army. Actions such as these taken by the community show the risks community leaders are willing to take in order to gain economically and politically from land negotiation; on the other hand, it also demonstrates the lack of an adequate response by the government in the face of illegality, even when directed toward government projects and agencies.

The Santa Maria Group

In 2008, the Santa Maria association formed as a group looking for lands in Amazonas. Santa Maria has 17 members and is led by professionals living in a nearby city. They declared themselves a landless community, although there is no evidence that this group had a history of community living. The group came to light in a meeting led by the Amazonas regional government, where they proposed the creation of a conservation area of 20 to 50,000 ha in the border area between Amazonas and San Martin. Their stated intention was to clear a small area of land for each member and conserve the rest. During the application process in 2010, the group officially changed their status from an association to become a *Comunidad Campesino* following advice that this would help them acquire land. As a landless community, the Santa Maria group applied for 22,000 ha in an area recognized regionally, nationally, and internationally as a conservation priority. They requested lands that overlapped with three states and privately run reserves. This left only 500 ha of ''free'' state lands, which were finally promised to the group. The state official responsible for approving land titles made the application for them as a consultant and then approved it himself. These papers were subsequently declared lost and the official was transferred to another province.

During the same period, the central government created a Reserved Zone partially overlapping the area sought by the Santa Maria group. A year later, when the administration of the Reserved Zone went to inspect the area, they found just one abandoned hut, with no one farming the area. The administration of the reserve was opposed to the establishment of the community, but regional authorities in charge of land titling were in favor. Therefore, although the application was cancelled on several occasions, it was later approved. During this time, the head of the Reserved Zone was physically and mentally abused by members of the Santa Maria group and received several death threats from them. Although they are responsible for managing the reserve, no support was received from the national parks authority in Lima, again showing the lack of an appropriate response to protect its property and personnel.

In 2014, during an inspection of the Reserved Zone, park guards found three houses and 3 to 4 ha of coffee plantation. Further inspections in 2015 found eight families and more forest cleared for coffee plantations, a subsequent visit in 2015 showed rapid population growth and expansion of agricultural activities, with 30 families living in the area, all within the 500 ha. Signs prohibiting hunting had been placed around the

settlement by the group, probably as justification for their original conservation-oriented discourse.

El Gran Simacache

The "farmers for the Conservation of the Natural Forests of Simacache" association applied for a 41,000 ha Conservation Concession in San Martin in 2008, with the concession being granted in 2012. Inside the area, there are many land traffickers, settlers, illegal loggers, and hunters aided by roads constructed by a nearby logging company. Since 2012, the association has filed three complaints with the environmental public prosecutor against a group of settlers. All three complaints were archived with no action taken and without explanation. In December 2013, during a field trip to mark the limits of the concession, six association members were taken hostage by a group of settlers. While captive, they were threatened at gunpoint to cancel the concession or they would be killed, they were eventually released unharmed. A camera they were carrying to document illegal hunting was stolen by the kidnappers and the photos it contained were used to file a legal complaint against the association for poaching; this complaint was only archived after a lawyer proved that the complaint had no factual basis.

There are currently 60 to 80 settlers in the group that entered the Simacache area. They enter in small groups to clear forest and plant crops on a rotating basis. Many are known locally and are not landless *campesinos*; sometimes owning hundreds of hectares in nearby settlements. In these cases, family members take care of existing lands while the men prepare the new lands to be sold, given as inheritance or to later sell their old lands and settle the new area. Local narratives suggest that illicit crops, such as coca and opium poppies are being cultivated, but this information could not be confirmed because of safety concerns.

The settlers asked the conservation group for compensation for the work they invested in clear cutting the forest, claiming that if they receive compensation they will leave the area. Information from neighboring villages shows that the settlers are actively clearing forest following advice they received suggesting they would receive more compensation if they had invested substantial work in the land. They also repeatedly visited the regional government requesting legalization of their claim justifying this request with a promise to protect surrounding forest. In 2014, after a complaint from the association, one of the archived complaints was reopened and some of the people found on the land during an official inspection are now under investigation for illegal deforestation. More recently, when the settlers heard about the associations' plan to request the army's intervention in the case of illicit crops, they increased the frequency of death threats toward association members, at the same time calling for dialog.

Further Examples

These shorter case studies provide additional details of the prices paid for trafficked lands and show the high level of organization involved in some trafficking operations. Additionally, they further illustrate how land trafficking threatens protected areas in Peru and the lack of central government intervention in such cases.

The Conservationist Association of Brisas sells land in Yurimaguas, Loreto and Cumbasa, San Martin. Interested parties specify how many hectares they require, with land costing S/.1,000/ha ($330), but for larger purchases, >100 ha, this is reduced to S/.200/ha ($65). According to an official in the San Martin Regional Government, one of the purchasers approached the regional government to verify his documents and discovered that the papers were false; he admitted that he had paid S/.80,000/ha ($26,500) to the association.

In 2007, the Agro Industrial Colonizing Association (AINCO Peru) invaded part of the Cordillera de Colan National Sanctuary with help from local villagers. AINCO invited people to join the association through radio and television advertisements, falsely claiming the possibility of acquiring land titles. AINCO quickly opened trails and fields within the Sanctuary with members paying between S/.200 and S/.500 ($60–150) to be part of the group and an additional 20 sol ($6) monthly fee to reserve their land parcels. Once a month new members were taken to the area (>3,000 m above sea level), but eventually, the settlers left as the land was unfit for agriculture. The head of AINCO was later prosecuted for fraud and received 4 years' probation and a S/.30,000 ($10,000) fine.

The 182,000 ha Alto Mayo Protected Forest in San Martin is one of the most deforested and threatened protected areas in Peru with thousands of families living inside (INRENA, 2008). In 2011, villagers from one of the settlements physically assaulted the park manager when she tried to stop the illegal construction of a road. According to the park manager, the villagers were defending a small group of coffee growers working in the village, who were self-financing the road, without government permission or support.

Laws and Authorities

During interviews with national and regional authorities, we were repeatedly passed between different offices as no one could answer our inquiries and there was uncertainty as to which office or institution they should be directed. We were alternately referred to the Environmental Prosecutors' Office, Penal Prosecutors' Office, Crime Prevention Prosecutors' Office, Regional Environmental Authority, Department of Agrarian Land Titling, Local Municipalities, Ombudsman, and Police, among others (see Table 3).

Table 3. Main Authorities Related to Land Trafficking in Amazonas and San Martin.

Authority	Function	Scope
National Forestry and Wildlife Service (SERFOR)	The technical-regulatory authority, responsible for setting policies, promulgating laws, and establishing procedures related to the management of forestry.	National
Environmental Public Prosecutor (FEMA)	Oversees and carries out criminal prosecution of environmental crime; investigates and represents the public interest and enforcement of court orders. Can intervene in cases of deforestation and other resource depletion.	National
Penal Prosecutor and Crime Prevention Prosecutor	Oversee and carry out criminal prosecution and prevention in general. Can intervene in cases of fraud and organized crime, among others.	National
Regional Government	Provides most of the basic services to rural areas including roads.	Regional
Regional Environmental Authorities	Created through the process of decentralization to put natural resource management in the hands of each regional government. Sets regional policies such as zoning of habitable areas, responsible of regulating resource use, approving conservation concessions.	Regional
Department of Agrarian Land Titling	Part of Regional Government, responsible for the titling of rural lands based on legal criteria and regional policies.	Regional
Community delegate, Mayor or Municipal agent, Lieutenant governor and Justice of the peace	The lieutenant governor, who is paid by the state, nominates the Justice of the Peace, who is then in charge of legalizing land sale documents. In the case of Campesino Communities these documents also need approval from the community delegate.	Local, Communal

Land trafficking is not defined as a crime under Peruvian law. The law only refers to usurpation, land occupation, and deforestation. Therefore, when prosecuting cases of land trafficking, current legislation only allows prosecution of those found occupying or working the land and not the trafficker. The only legal way that land traffickers can be prosecuted is for fraud, but in this case, it has to be those who received the fraudulent service who press charges. To do this, they must prove that they bought the land in good faith, believing the land to be legally sold and with legitimate documentation. According to officials in the San Martin Regional Government, the names and addresses of three major land traffickers in the region are known, but they have no way to prosecute them. People who buy lands from traffickers generally defend them and their right to stay on the lands, or when they admit that they were defrauded, they are too afraid to make a complaint. Even in cases where complaints have been made against traffickers in San Martin, the cases were archived without result.

Rural villages in Peru have several authorities (see Table 3); land traffickers depend on these rural authorities to falsify papers proving previous ownership of the land and giving them the right to sell them (see Table 2). The regional government of San Martin has filed complaints against several local authorities for falsifying papers, but the results of these complaints are still unclear. According to an interview with an official in the Department of Agrarian Land Titling of the Amazonas Regional Government, the department does not intervene in cases of illegal land invasion, their function is to evaluate solicitudes for land titles (see Table 2). He stated that Ecological and Economic Zoning (see Table 2) is rarely applied; instead, the department uses soil samples and climate characteristics, ignoring the presence of standing trees to determine the Best Land Use Capacity (EIA, 2015) to evaluate an areas' suitability for agriculture. However, this ignores laws recognizing forests as national patrimony that cannot be used for activities that effect vegetation cover, sustainable use, or conservation of forests (EIA, 2015).

During the same interview, the informant explained that ~70% of lands in Amazonas they check can be titled, the rest are not appropriate for agriculture or settlement. When lands are not titled, information about settlement is not passed onto other institutions even though they are legally obliged to. The same official claimed not to know of any land traffickers and believed that migrants arrive to these settlements by themselves. According to him, migrants arrive to local cities and ask where free lands can be found. When they establish themselves, they invite family and friends to join them. From this it is clear that the Amazonas Regional Government does not act to identify the organizers.

In an interview with a representative of the Autoridad Regional Ambiental (ARA) Amazonas about land use change, he explained that to legally clear-cut lands for work an authorization for a land use change from the Servicio Nacional Forestal y de Fauna Silvestre (SERFOR) needs to be granted through ARA. One requirement for this authorization is a land title; however, a land title can only be given after economic use of the land has taken place for at least 1 year (see Table 2). During the interview, he admitted that there is a contradiction and that he is not sure what legal way there is to get authorization. He also mentioned that as yet no one has asked for this authorization in Amazonas. People clear-cut the forest without it and only ask for ways to legalize their claims when first approached by the authorities.

State authorities not only allow land trafficking and migration to frontier zones, but they also encourage it. Basic infrastructure such as roads, electricity, and potable water, as well as education and health care, are generally built by local and regional government. Such projects are infrequent and can take years to complete. Promises of infrastructure are used by political candidates to secure votes and are often left unfinished or poorly executed. Villages apply for services justifying the need with the number of beneficiaries. Villagers know that political calculations favor projects that benefit a greater number of people in hopes of securing more votes. Similarly, rural schools are entitled to one teacher for every 30 pupils. With many rural schools sharing teachers between classes and age groups, an extra teacher makes a real difference to the quality of education. In general, *campesino* populations perceive education as especially important (N. Shanee, 2012a) and make an effort to bring more families with children to their villages. A communal delegate of a village that is 7 h walk from the closest road explained in an interview that as his village wanted a road built, a high school established, and a resident medic, they brought people to their village, which grew from 300 to more than 500 between 2007 and 2010.

Agriculture loans, credits, and assistance given by public and private institutions are also an important factor in the dynamics of land trafficking. Agricultural Bank, Fondo Mi Vivienda, and the National Commission for Development and Life without Drugs are a few of the institutions that give credits and incentives to help *campesinos* in San Martin and Amazonas. Each of these institutions runs projects in different areas with different conditions from beneficiaries. Some do not require land titles or even a minimum time of occupancy before one can access credits. According to many sources, this is the primary reason that people own multiple lands in rural areas, sometimes many kilometers apart.

Discussion

The threat posed by migration to frontier zones for Amazonas' and San Martin's unique wildlife is severe. As villages are often located more than 2 days walk from roads or markets, settlers' diets often include bush meat. Until crops are ready, meat and wild pets from hunting are also sold in markets and villages, joining the high levels of wildlife trafficking in Peru (N. Shanee, 2012b; N. Shanee, Mendoza, & Shanee, 2016).

In a recent article, Holland et al. (2016) calculate higher participation rates in land markets in San Martin region than any other study from Latin America and relate it to the high levels of migration into the area. They briefly mention land trafficking, defining it as "a particularly aggressive form of land speculation whereby well-connected individuals and groups claim large tracts of land that are generally beyond the administrative reach of local and regional governments" (p. 459).

Congressman Gustavo Bernardo Rondón wrote in a draft proposal for a new law:

> In our country this practice (land invasion) is becoming land trafficking as these illegal associations' leaders, usufruct and sell state lands, private lands and archaeological lands and are not accountable to anyone . . . these associations forcefully require the state to legalize the status of their lands and provide them with basic services. Also it has been found that the leaders, once they have benefited from the sale of land they took possession of; seek other areas to continue these unlawful acts.

Although this congressman defined the problem and explained its urgency, the proposed law was rejected.

Land trafficking is a highly lucrative illegal activity. Traffickers sell extensive areas with prices ranging from hundreds to thousands of soles/ha. Prices increase dramatically with roads, basic services, and even just forest clearance (Holland et al., 2016). Areas close to roads can be sold for as much as S/.10,000/ha of forest and higher if the land is already clear-cut or titled. The size of parcels traded typically decrease, and price/ha increases, with time and as the agricultural frontier advances; encouraging people to acquire and clear more land than they need

for purely agriculture purposes (Naidoo & Adamowicz, 2006). This type of land speculation generates great profits for professional traffickers depending on the magnitude of their operations. N. Shanee et al. (2014) reported minimum and maximum incomes for rural people in a village in Amazonas, the maximum (S/.5,000 per month) was only earned by two local families with about 90% of villagers earning around S/.450 per month. Therefore, even small-scale land trafficking, or being employed by traffickers, can greatly improve the economic situation of local farmers. Land trafficking is especially attractive because of the low legal risks involved.

Land trafficking is an inherently complex and illusive activity. Since 1991, laws allowing titling of state lands in Peru require proof of 1 to 5 years residence or work on the land before titling. Therefore, a minimum time of legal insecurity is unavoidable. However, inefficiencies and perhaps reluctance to title in areas of land conflict on the part of the authorities has resulted in some villages existing for 30 to 40 years with stable populations but were with no land titles (N. Shanee, 2012a). Furthermore, criteria used by different authorities when considering land tenure rights vary considerably, as seen earlier. Therefore, it is hard to separate legitimate settlements without land title from illegal land invasions. The intentions of land traffickers are often concealed beneath well informed conservation discourses, which are used to convince environmental and agrarian offices of their legitimacy. Traffickers also use social discourses, using landless *campesinos* as justification for their activities; therefore, presenting the authorities who intervene as antisocial and oppressive.

Previously laws required that Private Conservation Area (see Table 2) management plans divide the areas between ''Intangible,'' ''limited use,'' and ''direct use'' zones. Intangible zones were referred to as biodiversity refuges where the extraction of natural resources and any modification of the natural environment was not allowed, limited use allowed indirect use of the area for scientific, educational, and touristic purposes with minimal habitat alteration, and direct use allowed extraction of natural resources, except timber, and economic activities including small-scale agriculture and construction of infrastructure. Presidential Resolution No. 144-2010-SERNANP no longer permits the designation of intangible zones, leaving only ''limited use'' and ''multiple use'' zones. Similarly, the new Forestry and Wildlife Law (27963), which came into force in September 2015, opens Conservation Concessions (see Table 2) to exploitation of fauna and nontimber forest resources. These recent changes in legalization highlight the government's view of private conservation initiatives as increasingly aimed toward production and economic development and less toward traditional species and habitat conservation, a view that is often contrary to local conservationists' views and aspirations (N. Shanee, 2013). Moreover, these changes blur the lines between conservation and economic enterprises aiding the use of conservation discourses by land traffickers to cover their true intent.

Interactions between state authorities, land traffickers, and invader groups usually take place in remote areas, and in some cases, authorities are outnumbered by groups which can become aggressive and are often armed. The negative experiences of authorities, illusive nature of land trafficking, confusing discourses of traffickers, legal ambiguity, and frustrations with legal inefficiencies when prosecuting traffickers combine to reduce willingness to intervene by authorities. This, in turn, allows traffickers to convince people of their legitimacy and attract growing markets.

Lack of coordination between government offices is one of the principle obstacles in tackling land trafficking. The case studies presented here underline the lack of clear policy and confusion about which office is responsible. Projects that provide incentives for people to own more than one property also demonstrate a lack of clear policies. The Forestry and Wildlife Law (No. 29763) provides further incentives for people to migrate into forested areas by promoting forest and wildlife exploitation as well as further limiting conservation initiatives. Institutional inefficiencies of the authorities responsible for securing property rights promote colonization and land speculation and therefore deforestation (Culas, 2007; Geist & Lambin, 2002; Holland et al., 2016). This is exemplified in our interview with the representative of ARA Amazonas explaining the legal contradiction that prohibits clear cutting of forest but only allows titling of lands that have been ''worked.'' Similarly, the legal complexities around land use changes make it impossible for migrants to legally settle new lands, again encouraging illegality.

Mining is a highly influential factor encouraging migration from highland regions. The main sources of migration to Amazonas and San Martin are Cajamarca, Piura, and La Libertad. Regions in which 40%, 30.6%, and 60.8% of the respective land surface are currently under mining concessions (Cooperacción, 2014). Conflicts between mining companies and local communities in Peru have been widely documented and analyzed (Bebbington, 2007; Bebbington & Bury, 2009; Bury & Kolff, 2002; Cooperacción, 2006; Coxshall, 2010; Defensoría del Pueblo, 2007; Muradian, Martinez-Alier, & Correa, 2003; Revesz & Diez, 2006). Macroeconomic growth in Peru, centered on the mining boom, has not significantly reduced unemployment, poverty levels, or social inequalities (Dietsche, Stevens, Elliott, & Jiwanji, 2007). Furthermore, the regions with the greatest mining activity tend to suffer from the greatest poverty, institutional inefficiencies, and corruption (Arellano-Yanguas, 2011; de Echave Cáceres & Cueva, 2005; Loayza &

Rigolini, 2015), encouraging large sectors of the population to emigrate from these regions (Bury, 2007).

Illegal, small-scale logging is another important factor which attracts land and timber traffickers, in some cases the same people, to new areas. In the case of timber traffickers, settlers extract the valuable timber and subsequently sell the lands. There is also interaction between legal logging companies and traffickers. With the prospects of road construction, traffickers often claim lands within logging concessions as soon as they are granted. The companies' reduced responses to these invasions is possibly connected to their need for cheap labor, the possibility of compensation from regional governments, and the lack of support from authorities. In any case, most active logging concessions in San Martin have growing numbers of illegal settlers inside them. Although in different social and legal settings, De Oliveira (2008) described the interaction and cooperation between landless people, landowners, the logging industry, and loggers as a vital factor in land invasions and deforestation.

Due to a growing agricultural sector, the Peruvian government has incentivized production for national and international markets. One incentive offered is the titling of lands converted to agriculture. This exploits a legal loophole to avoid prohibition of forest clearance through a regulation allowing titling where people add economic value to the land (Che Piu & Menton, 2014; EIA, 2015). Government and NGO discourses often refer to small-scale coffee and cacao farming as ''subsistence,'' when they are export focused cash crops. This discourse may be discriminatory against *campesinos*, disregarding government promotion of maximization of economy-based agriculture. These discourses largely ignore inefficiencies in land titling, concentrating on illegality. Consequently, they justify the preference for industrial agriculture and extractive industry, in turn pushing farmers to migrate. Money received by these farmers through land sales or compensation is used to purchase lands in frontier zones.

Large-scale palm oil plantations in the Peruvian Amazon, including San Martin, deliberately attract land settlers to pristine forest areas. Under different schemes such as seed loans, technical assistance, and coercion, companies encourage or force settlers and other land owners to clear-cut forests and sell them to the company as deforested land which can then be legally converted to palm oil (EIA, 2015, pers. obs.; Panorama, 2014, 2015).

Land trafficking and colonization are often perceived by resident *campesinos* as threats because of unsustainable use of resources. However, local populations in Amazonas and San Martin do little against this threat, and in some cases encourage migration. Neo-Malthusian theory predicts that growing poverty boosted by migration necessitates greater production with less technological methods, resulting in the depletion of croplands, economic loss, and negative environmental impacts, in turn creating social conflict (Homer-Dixon, 1991; Salehyan, 2005). There is evident tension between resident *campesinos* and migrants. This tension is encouraged by NGOs and state authorities who cite migration as the major cause of deforestation (N. Shanee, 2012a). This seems paradoxical, as local populations understand the environmental cost of rapid population growth. In this, migration can be seen as an instance of the Tragedy of the Commons (Muller, 1995); one family gains revenue from the land while sharing the cost with the community. This is partially explained by the fact that earlier migrants remember conditions in their place of origin, identifying with newcomers, and through policies that incentivize population growth by providing services to larger villages.

Churches are also important factors in migration patterns in the area. The many denominations (including, Catholic, Evangelical, Baptist, Seventh-day Adventist, Presbyterian, and Pentecostal) active in the regions are represented in the majority of villages (N. Shanee, 2012a). Churches often form the starting point for new settlements as some migrants look for remote areas in search of the ''Promised Land'' or ''Paradise,'' with some people establishing new villages in sparsely populated areas to evangelize local populations and receiving support from these churches for the construction of schools and other basic services (Schjellerup, 2000b; Schjellerup, Sorensen, Espinoza, Quipuscoa, & Pena, 2003).

Implications for Conservation

Land trafficking is often both cause and consequence of land shortages, which in turn is exploited by land traffickers. Deforestation and illegal activities related to migrating populations and land trafficking are often given as evidence by decision makers to discriminate against small-scale farming and justify large-scale extractive and agricultural operations. This manifests itself both in written laws and their implementation. As highlighted earlier, legal land use change for small-scale agriculture is practically impossible. Although both small- and large-scale operations are subject to the same controls and inefficiencies therein, application of these laws is much more common in small agricultural operations than in large industrial operations. This discrimination helps create a negative feedback loop of further migration and land trafficking.

The relationships between land traffickers and conservation initiatives are complex; much of the remaining ''free'' lands in Amazonas and San martin are inside private and state run protected areas, and therefore many cases of illegal settlement and land trafficking directly affect these conservation initiatives. On the other hand, in their discourses and actions, settlers often cite

conservation issues as justification. They proclaim their rights only to lands they perceive as adequate for cultivation (usually lower altitude, flatter areas with richer soils), while they are happy to take the role of ''guardians of the forests'' in less fertile areas neighboring their settlements, often fulfilling this role very efficiently through informal bans on deforestation and hunting or official creation of locally run conservation areas (N. Shanee et al., 2014). This complexity can be explained by the fact that although local people in Northern Peru agree with and initiate conservation actions, they often do not agree with the way outsiders, government, and NGOs administer conservation (N. Shanee, 2013).

Legal loopholes hindering the prosecution of land traffickers can be bypassed in several ways, but as judges are seldom environmentally orientated and general policies favor poverty reduction and incentivize agricultural development, the legal system does not offer an appropriate answer to this issue in Peru. As with other environmental issues such as wildlife trafficking (N. Shanee et al., 2016), illegal logging (EIA, 2012), palm oil (EIA, 2015), and mining (Dietsche et al., 2007), the state is inefficient in controlling illegality and even enables it by retaining legal loopholes, inefficiencies, and discourses that shift public attention from the main issues.

Local conservationists give their own time, money, and effort to conserve local forests, both formally and informally, with significant conservation results (S. Shanee & N. Shanee, 2015). Not only does the state not financially support these efforts, the economic and technical requirements for private and communal reserves are prohibitive, putting conservation beyond the reach of rural populations (N. Shanee et al., 2014). The complete absence of authorities from large areas of northeastern Peru, and their reluctance to intervene against land trafficking, put local conservationists and their projects at risk. Peru was recently recognized as the fourth most dangerous country for conservationists, mainly due to neglect of environmental conflict (Global Witness, 2014).

The aim of this article was to describe common types of illegal land trafficking in northeastern Peru and provide short case studies to illustrate one of the least recognized illegal trades, an activity which is key to migration into frontier areas and a leading cause of deforestation. There are many studies showing the connections between migration, land markets, and deforestation patterns (de Souza Soler, Escada, & Verburg, 2009; Lorena & Lambin, 2009; Pichón, 1997; Rudel, 2002), but few solutions are offered. Deforestation in northeastern Peru, and likewise in many other parts of the tropics, is still on the rise. The novelty of this article is the new perspective on land trafficking as an organized crime and social phenomenon. It aims to compliment published studies on migration and land markets and advocates more direct policies.

There is an urgent need for laws that enable efficient prosecution of land traffickers with severe punishments to public servants that participate in or promote these actions. It is also important to calibrate legal frameworks and policies and develop better coordination between institutions, with clearly defined criteria where and when migration to rural area is considered legal and which incentives and technical and financial support do not promote land trafficking. Decision makers and international funders should put emphasis on properly equipping authorities with the tools necessary to monitor migration in order to detect and control land trafficking (e.g., the use of satellite images and drones), provide practical training in law enforcement, and establish strict control measures against corruption. Moreover, the Peruvian government must deal with problems at source; use proper planning to control the expansion of extractive industry and large-scale agriculture, encourage family planning, facilitate better education; and develop industry in cities rather than provide incentives that increase migration to forested areas by legalizing the extraction of an increasing diversity of natural resources. We strongly believe that in newly settled areas, actions should be focused on controlling land trafficking and trade rather than applying incentive-based forest conservation tactics. Similar conclusions were presented by Holland et al. (2016).

The absence of state responses exposes concerned local conservationists to intense social pressures, violence, and death threats which they are often unable to confront. Although local people tend not to agree with the way conservation is administered (N. Shanee, 2013), and as seen in the aforementioned case studies, often act against protected areas, we believe that true community conservation, if supported by conservation agents and authorities, can be a powerful tool to effectuate change over large areas with a strong impact on local resource use (Horwich, Lyon, & Bose, 2011; Horwich et al., 2010; Horwich & Lyon, 2007; Horwich, Lyon, Bose, & Jones, 2012; Robert H. Horwich et al., 2015; N. Shanee, 2012b; N. Shanee et al., 2014; S. Shanee & N. Shanee, 2015). Fostering local community cooperation throughout Peru could produce a significant reduction in land trafficking, optimizing investment, and increasing the willingness of authorities to act. Moreover, governments must actively support local conservationists in their actions against land traffickers and take measures to protect their lives.

Land trafficking has severe environmental and social consequences. The cases described in this article highlight gaps in conservation agents' capacity to confront or even understand this illicit practice. There is an urgent need to further investigate this issue on academic and practical levels, both locally and internationally, in order to be able to offer realistic and efficient solutions to these deficiencies.

Acknowledgments

We thank the authorities of Amazonas and San Martin for sharing valuable information and knowledge with us. We also thank the NGOs, community, associations, grassroots organizations and the many other conservation initiators in Amazonas and San Martin.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was funded by Neotropical Primate Conservation.

References

Amacher, G. S., Koskela, E., & Ollikainen, M. (2009). Deforestation and land use under insecure property rights. *Environment and Development Economics*, *14*(3): 281–303.

Arellano-Yanguas, J. (2011). Aggravating the resource curse: Decentralisation, mining and conflict in Peru. *The Journal of Development Studies*, *47*(4): 617–638.

ASA. (1999). *Ethical guidelines for good research practice*. Retrieved from http://www.theasa.org/ethics/guidelines.shtml

Bebbington, A. (1990). Farmer knowledge, institutional resources and sustainable agricultural strategies: A case study from the eastern slopes of the Peruvian Andes. *Bulletin of Latin American Research*, *9*(2): 203–228.

Bebbington, A. J. (2007). *Mining and development in Peru*. London, England: Peru Support Group.

Bebbington, A. J., & Bury, J. T. (2009). Institutional challenges for mining and sustainability in Peru. *Proceedings of the National Academy of Sciences*, *106*(41): 17296.

Brack Egg, A. (1981). *'Ecological evaluation of the Palcazu River valley', in JRBA ssociates Inc., central selva resources management project* ['Ecological evaluation of the Palcazu River valley' in JRBA Associates Inc., Central Selva resources management project]. Lima, Peru: USAID.

Bury, J. (2005). Mining mountains: Neoliberalism, land tenure, livelihoods, and the new Peruvian mining industry in Cajamarca. *Environment and Planning A*, *37*(2): 221–239.

Bury, J. (2007). Mining migrants: Transnational mining and migration patterns in the Peruvian Andes*. *The Professional Geographer*, *59*(3): 378–389.

Bury, J., & Kolff, A. (2002). Livelihoods, mining and peasant protests in the Peruvian Andes. *Journal of Latin American Geography*, *1*(1): 3–16.

Carr, D. (2004). Proximate population factors and deforestation in tropical agricultural frontiers. *Population and Environment*, *25*(6): 585–612.

Carr, D. (2008). Population and deforestation: Why rural migration matters. *Progress in Human Geography*, *3*(33): 355–378.

Che Piu, H., & Menton, M. (2014). *The context of REDD+ in Peru; Drivers, agents and institutions* (Vol. Occasional Paper 106). Bogor, Indonesia: CIFOR.

Cooperacción. (2006). *Informe de conflictos mineros: Los casos de majaz, las bambas, tintaya y la oroya* [Report of mining conflicts: The cases of Majaz, Las Bambas, Tintaya and Oroya]. Lima, Peru: Author.

Cooperacción. (2014). *Sexto informe cartográfico sobre concesiones mineras en el Perú* [Sixth cartographic report on mining concessions in Peru]. Lima, Peru: Author.

Coxshall, W. (2010). When they came to take our resources: Mining conflicts in Peru and their complexity. *Social Analysis*, *54*(1): 35–51.

Culas, R. J. (2007). Deforestation and the environmental Kuznets curve: An institutional perspective. *Ecological Economics*, *61*(2–3): 429–437.

Dávalos, L. M., Sanchez, K. M., & Armenteras, D. (2016). Deforestation and coca cultivation rooted in twentieth-century development projects. *BioScience*, *66*(11): 974–982.

de Echave Cáceres, J., & Cueva, V. T. (2005). *Hacia una estimación de los efectos de la actividad minera en los índices de pobreza en el Perú* [Towards an estimation of the effects of mining activity on poverty rates in Peru.]. Lima, Peru: CooperAcción.

Deere, C. D., & De Janvry, A. (1979). A conceptual framework for the empirical analysis of peasants. *American Journal of Agricultural Economics*, *61*, 601–611.

Defensoría del Pueblo. (2007). *Los conflictos socioambientales por actividades extractivas en el Perú* [Socio-environmental conflicts due to extractive activities in Peru] (pp. 99). Lima, Peru: Author.

De Oliveira, J. A. P. (2008). Property rights, land conflicts and deforestation in the Eastern Amazon. *Forest Policy and Economics*, *10*(5): 303–315.

de Souza Soler, L., Escada, M. I. S., & Verburg, P. H. (2009). Quantifying deforestation and secondary forest determinants for different spatial extents in an Amazonian colonization frontier (Rondonia). *Applied Geography*, *29*(2): 182–193.

Dietsche, E., Stevens, P., Elliott, D., & Jiwanji, M. (2007). *The challenge of mineral wealth: Using resource endowments to foster sustainable development*. Lima, Peru: Country case study, International Council on Mining and Metals (ICMM).

Dreyfus, P. G. (1999). When all the evils come together. *Journal of Contemporary Criminal Justice*, *15*(4): 370–396. doi:10.1177/1043986299015004004.

EIA (2012) *Lhe laundering machine—How fraud and corruption in Peru's concession system are destroying the future of its forests.* London, England: Environmental investigation Agency.

EIA. (2015). *Deforestation by definition* (pp. 97). Washington, DC: Environmental Investigation Agency.

Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of management review*, *14*, 532–550.

Fielding, N., & Thomas, H. (2001). Qualitative interviewing. In: G. N. Gilbert (ed.) *Researching social life* (pp. 123–144). London, England: Sage Publications Ltd.

Geist, H. J., & Lambin, E. F. (2002). Proximate causes and underlying driving forces of tropical deforestation. *Bioscience*, *52*(2): 143–150.

Global Witness. (2014). *Peru's deadly environment—The rise in killings of environmental and land defenders* (pp. 14). London, England: Global Witness Limited.

Holland, T. G., Coomes, O. T., & Robinson, B. E. (2016). Evolving frontier land markets and the opportunity cost of sparing forests in western Amazonia. *Land Use Policy*, *58*, 456–471.

Homer-Dixon, T. F. (1991). On the threshold: Environmental changes as causes of acute conflict. *International Security*, *16*(2): 76–116.

Horwich, R. H., Islari, R., Bose, A., Dey, B., Moshahary, M., Dey, N. K., . . . Lyon, J. (2010). Community protection of the Manas Biosphere Reserve in Assam, India, and the endangered golden Langur (Trachypithecus geei). *Oryx*, *44*(2): 252–260.

Horwich, R. H., & Lyon, J. (2007). Community conservation: Practitioners' answer to critics. *Oryx*, *41*(3): 376–385.

Horwich, R., Lyon, J., & Bose, A. (2011). What Belize can teach us about grassroots conservation. *Solutions*, *2*(3): 51–58.

Horwich, R. H., Lyon, J., Bose, A., & Jones, C. B. (2012). Preserving biodiversity and ecosystems: Catalyzing conservation contagion. In: P. Moutinho (ed.) *Deforestation around the world* pp. 283–318InTech Rijeky, Croatia: INTECHOPEN.COM.

Horwich, R. H., Shanee, S., Shanee, N., Bose, A., Fenn, M., & Chakraborty, J. (2015). In: M. Zlatic (ed.) *Creating modern community conservation organizations and institutions to effect successful forest conservation changePrecious forests—Precious Earth* (pp. 131–162). Rijeka, Croatia: INTECH.

INEI. (2007). *Resultados definitivos. Censos nacionales 2007* [Definitive results. National Censuses 2007]. Lima, Peru: Author.

INEI. (2009). *Perfil sociodemográfico del departamento de San Martin* [Sociodemographic profile of the department of San Martin]. Lima, Peru: Author.

INRENA. (2008). *Plan maestro del bosque de protección alto mayo 2008–2013* [Master plan of the Alto Mayo protected forest 2008–2013] (pp. 272). Lima, Peru: Author.

LeCompte, M. D., & Schensul, J. J. (1999). *Designing and conducting ethnographic research* (Vol. 1). London, England: AltaMira Press.

Loayza, N., & Rigolini, J. (2015). *The local impact of mining on poverty and inequality: Evidence from the commodity boom in Peru* (Vol. 33). Lima, Peru: Peruvian Economic Association.

Lorena, R. B., & Lambin, E. F. (2009). The spatial dynamics of deforestation and agent use in the Amazon. *Applied Geography*, *29*(2): 171–181.

Merry, F., Amacher, G., & Lima, E. (2008). Land values in frontier settlements of the Brazilian Amazon. *World Development*, *36*(11): 2390–2401.

Messina, J. P., Walsh, S. J., Mena, C. F., & Delamater, P. L. (2006). Land tenure and deforestation patterns in the Ecuadorian Amazon: Conflicts in land conservation in frontier settings. *Applied Geography*, *26*(2): 113–128.

MINAM (2011) *Readiness preparation proposal of Perú. Submitted to the forest Carbon partnership facility*. Lima, Peru: Ministerio del Ambiente.

Ministerio del Ambiente. (2014a). *Cuantificación de la cobertura de bosque y cambio de bosque a no bosque de la Amazonía Peruana Periodo 2009–2010–2011* [Quantification of forest cover and change from forest to non-forest of the Peruvian Amazon, Period 2009–2010–2011] (pp. 52). Lima, Peru: Dirección General de Ordenamiento Territorial: Ministerio del Ambiente, 2014.

Ministerio del Ambiente. (2014b). *Memoria técnica: Cuantificación de la cobertura de bosque y cambio de bosque a no bosque de la Amazonía Peruana. Periodo 2000–2005–2009* [Technical report: Quantification of forest cover and forest change to non-forest of the Peruvian Amazon. Period 2000–2005–2009] (p. 36). Lima, Peru: Dirección General de Ordenamiento Territorial: Ministerio del Ambiente.

Morales, E. (1986). Coca and cocaine economy and social change in the Andes of Peru. *Economic Development and Cultural Change*, *35*(1): 143–161.

Muller, K. H. (1995). Ranging in masked titi monkeys (Callicabus personatus) in Brazil. *Folia Primatologica*, *65*(4): 224–228.

Muradian, R., Martinez-Alier, J., & Correa, H. (2003). International capital versus local population: The environmental conflict of the Tambogrande mining project, Peru. *Society and Natural Resources*, *16*, 775–792.

Myers, N. (2003). Biodiversity hotspots revisited. *Bioscience*, *53*(10): 916–917. doi:10.1641/0006-3568(2003)053[0916:bhr]2.0.co;2.

Myers, N., Mittermeier, R. A., Mittermeier, C. G., da Fonseca, G. A. B., & Kent, J. (2000). Biodiversity hotspots for conservation priorities. *Nature*, *403*(6772): 853–858.

Naidoo, R., & Adamowicz, W. L. (2006). Modeling opportunity costs of conservation in transitional landscapes. *Conservation Biology*, *20*(2): 490–500.

Panorama (Writer). (2014). Deforestación sin límites: Devastación en los bosques de Iquitos. Peru. Retrieved from https://www.youtube.com/watch?v=0hf8xc7MN6k

Panorama (Writer). (2015). Ucayali: Crimen ecológico en la selva peruana. Peru. Retrieved from https://www.youtube.com/watch?v=pg3luPV57fw

Pichón, F. J. (1997). Colonist land-allocation decisions, land use, and deforestation in the Ecuadorian Amazon frontier. *Economic Development and Cultural Change*, *45*(4): 707–744.

Portocarrero, J. V. (2001). Familia Campesina y Mercados en Contextos de Crisis Económica y Violencia Política en el Perú: El Caso de Cajamarca y Ayacucho [Campesino family and markets in context of economic crisis and political violence in Peru: The case of Cajamarca and Ayacucho] (pp. 33): Programa Regional de Becas CLACSO.

Reategui, F., & Martinez, P. (2007). *Feorestal. Zonificacion ecologica economica del departamento de Amazonas* [Forestry. Ecological economic zoning of the department of Amazonas] (p. 33). Lima, Peru: Instituto de Investigaciones de la Amazonia Peruana (IIAP).

Revesz, B., & Diez, A. (2006). El Triángulo sin Cúpula (o los Actores Desregulados en los Conflictos Mineros) [The triangle without a roof (or the deregulated actors in the mining conflicts)]. In E. Toche (Ed.), *Perú hoy, nuevos rostros en la escena nacional* [Peru today, new faces on the national scene]. Lima, Peru: Desco.

Rudel, T. (1995). When do property rights matter? Open access, informal social controls, and deforestation in the Ecuadorian Amazon. *Human Organization*, *54*(2): 187–194.

Rudel, T. K. (2002). Paths of destruction and regeneration: Globalization and forests in the tropics. *Rural Sociology*, *67*(4): 622–636.

Ryder, R., & Brown, L. A. (2000). Urban-systemevolution on the frontier of the Ecuadorian Amazon. *Geographical Review*, *90*(4): 511–535.

Salehyan, I. (2005). *Refugees, climate change, and instability*. Norway: Paper presented at the Human Security and Climate Change Asker.

Schjellerup, I. (2000a). La Morada. A case study on the impact of human pressure on the environment in the Ceja de Selva, Northeastern Peru. *AMBIO: A Journal of the Human Environment*, *29*(7): 451–454.

Schjellerup, I. (2000b). La Morada. A case study on the impact of human pressure on the environment in the Ceja de Selva, northeastern Peru. *AMBIO: A Journal of the Human Environment*, *29*, 451–454.

Schjellerup, I., Espinoza, C., Rollefson, J., Quipuscoa, V., Sorensen, M. K., & Peña, V. (2009). *La Ceja de Montaña—A disapearing landscape*. Copenhagen, Denmark: The National Museum of Denemark.

Schjellerup, I., Sorensen, M. K., Espinoza, C., Quipuscoa, V., & Pena, V. (2003). The forgotten valleys: Past and present in the utilization of resources in the Ceja de Selva. *Mikael Kamp Sorensen, Carolina Espinoza, Victor Pena. The National Museum of Denmark Ethnographic Monographs*.

Shanee, N. (2012a). *The dynamics of threats and conservation efforts for the Tropical Andes Hotspot in Amazonas and San Martin, Peru* (PhD thesis). Kent University, Canterbury.

Shanee, N. (2012b). Trends in local wildlife hunting, trade and control in the Tropical Andes Biodiversity Hotspot, northeastern Peru. *Endangered Species Research*, *19*, 177–186.

Shanee, N. (2013). Campesino justification for self initiated conservation actions—A challenge to mainstream conservation. *Journal of Political Ecology*, *20*, 413–428.

Shanee, N., Mendoza, A. P., & Shanee, S. (2016). Diagnostic overview of the illegal trade in primates and law enforcement in Peru. *American Journal of Primatology*. Advance online publication. doi:10.1002/ajp.22516

Shanee, N., Shanee, S., & Horwich, R. H. (2014). Effectiveness of locally run conservation initiatives in north-east Peru. *Oryx*, *49*(2): 239–247.

Shanee, S., & Shanee, N. (2015). Measuring success in a community conservation project: Local population increase in a critically endangered primate, the yellow-tailed woolly monkey (*Lagothrix flavicauda*) at La Esperanza, Northeastern Peru. *Tropical Conservation Science*, *8*(1): 169–186.

Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: Sage Publications, Inc.

Szablowski, D. (2002). Mining, displacement and the World Bank: A case analysis of compania minera antamina's operations in Peru. *Journal of Business Ethics*, *39*(3): 247–273.

The REDD Desk. (2016). *National forest conservation programme for mitigation against climate change (Peru)*. Retrieved from http://theredddesk.org/countries/initiatives/national-forest-conservation-programme-mitigation-against-climate-change-peru

Vargas Gonzales, C., Rojas Báez, E., Castillo Soto, D., Espinoza Mendoza, V., Calderón Urquizo Carbonel, A., Giudice Granados, R., & Málaga Durán, N. (2014). *Protocolo de Clasificación de Pérdida de Cobertura en los Bosques Húmedos Amazónicos entre los años 2000*–2011 (pp. 118). Lima, Peru: Ministerio de Agricultura y Riego and Ministerio del Ambiente.

Wesche, R. (1971). Recent migration to the Peruvian Montaña. *Cahiers de Géographie du Québec*, *15*(35): 251–266.