



REDD+ and the agriculture frontier: Understanding colonists' utilization of the land

Guillaume Peterson St-Laurent^{a,c,*}, Nancy Gélinas^b, Catherine Potvin^{a,c}

^a McGill University, Department of Biology, 1205 Dr. Penfield Avenue, Montreal, QC H3A 1B1, Canada

^b Faculté de foresterie, de géographie et de géomatique, Pavillon Abitibi-Price, 2405 rue de la Terrasse, Université Laval, Québec, QC G1K 7P4, Canada

^c Smithsonian Tropical Research Institute (STRI), Apartado 0843-03092, Balboa, Ancon, Panama City, Panama

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ABSTRACT

Given the importance of the agricultural frontier as an engine of deforestation, this paper focuses on how colonists (from the Spanish word for “colonists” that is used to describe migrants to the agricultural frontier), who are important and largely overlooked stakeholders, perceive the new climate mitigation mechanism known as Reducing Emissions from Deforestation and forest Degradation in developing countries (REDD+). We aimed (1) to document colonists' land use, perceptions, needs, and aspirations and (2) to understand if and how they could be taken into account under REDD+ policies. The study, including multiple data collection techniques (e.g., focus group, interviews, and participatory activities), was conducted in eastern Panama. Three areas that were adjacent to the Province of Darien border were chosen because of their similar forested landscapes and varying accessibility to a main road. Our results suggest that land use preferences, culture, forest scarcity and dependency, inequalities (e.g., land use, amount of forest, and land area), and lack of technical capacities are key elements to be considered when developing a REDD+ strategy with colonist communities. We propose that halting deforestation without both considering local communities' perceptions and giving effective alternatives could seriously undermine livelihoods.

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Introduction

Meta-analysis of multiple case studies has shown that the extension of agricultural frontiers is the foremost cause of deforestation in the Tropics (Geist and Lambin, 2001). Throughout Latin America, untouched forests are considered as ‘unproductive’, while agricultural lands are commonly viewed as being more valuable than forests (Rudel, 2005). Consequently, national legislation often has provided incentives for deforestation by granting land rights to those who use the land, where the forest is cut down to serve mainly agricultural purposes (Lopez and Valdes, 2000). Many Latin American governments have been attracted by the economic potential of agricultural expansion; indeed, numerous previous development strategies (e.g., road infrastructure, logging concessions, and plantations) have all promoted the opening of agricultural frontiers and subsequent forest colonization (Lambin et al., 2001).

* Corresponding author at: McGill University, Department of Biology, 1205 Dr. Penfield Avenue, Montreal, QC H3A 1B1, Canada. Tel.: +1 514 398 6726; fax: +1 514 398 5069.

E-mail address: guillaume.petersonst-laurent@mail.mcgill.ca (G. Peterson St-Laurent).

Given the importance of the agricultural frontier as an engine of deforestation, this paper focuses on ‘colonos’ (from the Spanish word for colonists that is used to describe migrants to the agricultural frontier), who are important and largely overlooked stakeholders in a new mechanism to mitigate climate change, which is known as Reducing Emissions from Deforestation and forest Degradation in developing countries (REDD+) (UNFCCC, 2010). It has been argued that REDD+ could provide a very cost-effective mechanism for pursuing climate change mitigation (Kindermann et al., 2008; Stern, 2007; Strassburg et al., 2009) while engendering co-benefits for local communities and alleviating poverty (Angelsen et al., 2009; Brown et al., 2008). However, because conservation programs, such as protected areas, can negatively affect forest-dependent individuals' livelihoods (Brockington and Igoe, 2006; Kaimowitz and Sheil, 2007), some have feared that REDD+ may weaken rights and potentially endanger livelihoods (Angelsen, 2008; Angelsen et al., 2009; Börner et al., 2010), especially in regions with uncertain land tenure (Larson et al., 2010). Concerns are rooted in the fact that REDD+ may be yet another means by which powerful external actors – states, international institutions, and corporate/private sector actors – control local territories and lead to elite capture both at local or national levels, this time under the banner of climate change mitigation (Peskett et al., 2008).

Consideration for local people was integrated into the REDD+ decision that was adopted in Cancun, Mexico, with the provision of “ensuring the full and effective participation of relevant stakeholders, inter alia indigenous people (IP) and local communities (UNFCCC, 2010, p. 13).” Even though the general term ‘IP and local communities’ that was used in the Cancun decision has aimed at regrouping all affected communities (Thompson et al., 2011), attention has been focused so far on IP while concerns of other affected groups or communities are often ignored. Yet Brockington et al. (2006) have highlighted the danger of conservation programmes and reports that would solely focus on IP, while overlooking other affected local communities. A REDD+ approach that does not consider all stakeholders within the socially heterogeneous landscapes that can be encountered in the Tropics may not work (Pacheco et al., 2010) and, thus, serious ethical and moral issues must be faced.

Panama is actively engaged in the process of REDD+, as it serves as a pilot country in the context of the United Nations Collaborative Programme on REDD+ (UN-REDD, <http://www.un-redd.org/>) and the Forest Carbon Partnership Facility (FCPF, <http://www.forestcarbonpartnership.org/fcp/>) of the World Bank. However, the participation of colonists in REDD+ policy development is only at its earliest stages. This group, including farmers and ranchers, is accountable for much of the deforestation in Latin America (Rudel, 2005; Rudel and Horowitz, 1993; Walker et al., 2000) and plays a key role in land-use dynamics. The ‘colonists’ agricultural system’ is typically achieved in two stages (Heckadon Moreno, 2009): (i) the extractive stage, consisting of the migration of poor peasants into untouched forested areas to clear and cultivate small plots of subsistence crops, which are later converted into pastures and (ii) the expulsive phase, in which increasing population density, land speculation, reduced soil fertility, and land shortages push small farmers either to sell their holdings to the wealthiest cattle ranchers and migrate further into the agricultural frontier or to convert their farms into ranches. The subsequent extension of pasture areas leads to a scarcely populated and deforested landscape, which is reflected in the term ‘hollow frontier’ (Rudel et al., 2002).

This study has focused on settlers of humble origins who have spontaneously (i.e., without participating in planned settlement programs) and permanently migrated to the frontier. We did not consider the large landowners, who are mainly entrepreneurs living outside the frontier. These actors can invest substantial capital into their farms and have the resources to rapidly deforest large areas (Kaimowitz, 1996). Our main objective is to document the use of land, together with the perceptions, needs and aspirations of small-scale colonist farmers to understand if and how they could be taken into account when developing national REDD+ strategies. We also evaluated variation in responses that originated from different observed colonist types (i.e., based on their preferred land-use activities) and from the distance separating households from a main road.

We used eastern Panama as a case study of one of the last agricultural frontiers to face intense colonization in Central America. The Republic of Panama follows the typical Latin American agrarian code that permits farmers to settle anywhere on national land on the condition that they comply with its ‘social function’¹ (IADB, 2002). Thus, deforestation has been used historically to gain



Fig. 1. Region of eastern Panama, defined for the purpose of this study as being located between Bayano Lake in the West and the town of Santa Fé in the East.

access and demonstrate possession over land (García Aguilar, 2006; Heckadon Moreno, 2009; Wali, 1993). Even though colonists rarely receive unrestricted title over land, they have generally obtained, through deforestation, permits to claim the right of possession (referred to as ‘derecho posesorio’). Ownership under this status is legally recognized by Panama’s national government with some legal limitations such as restrictions on sale or lesser recognition by banks (IADB, 2002; The World Bank, 2000).

Methods

Eastern Panama

The research was carried out in eastern Panama (Fig. 1), which is a region covered by tropical wet forest with a yearly rainfall of 2000–2500 mm and a 4-month-long dry season (Tschakert et al., 2007). Steady colonization was established in the region with the construction of a hydroelectric dam (1972–1976) and the extension of the Pan-American Highway (1976–1980) (Wali, 1989). The eastern part of the province of Panama and the adjacent province of Darien, which represent key biodiversity areas (ANAM, 2010; CONADES, 2008), showed the third (1.5%/year) and second (1.7%/year) highest deforestation rates in the country, respectively, between 1992 and 2000 (Government of Panama, 2008). They were both identified as critical areas in Panama’s Readiness Plan Idea Note (R-PIN) Template for REDD+, which was presented to the FCPF.

Three areas were selected for study due to the presence of a similar forested landscape and varying accessibility to a principal road, to examine how access to transportation and markets affected land-use, perceptions, economic activities, and deforestation (Chomitz and Gray, 1996; Nygren, 1995; Simmons, 1997; UN-REDD, 2010). These were referred to as remote area 1 (RA1), remote area 2 (RA2), and the nearby area (NA). In RA1 (5–8.5 km from main road) and RA2 (4–7 km from main road), the secondary roads that were funded and constructed by the communities only allow irregular transit to the Pan-American Highway (mainly during the dry season) and, thus, a low degree of market access. In the NA, all colonists have direct access (<1 km) to a main road that is in fairly good condition with regular transits connecting the Pan-American Highway to the Pacific coast.

¹ See the definition of the Inter-American Development Bank that qualifies social function as “having at least two-thirds of the occupied parcel used as pasture, cultivated with crops or industrial grade timber trees, or converted to urban uses” (IADB, 2002). A definition can also be found in Law 219 (which creates the “Autoridad Nacional de Administración de Tierra”), which describes social function as the use of land for environmental, tourism, economic, residential, commercial or production uses (Comisión de economía y finanzas, Proyecto de ley 219 del 21 de septiembre de 2010, Panamá).

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