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Community Access to Forest Resources in Latin America

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Abbreviations and Acronyms

ACOFOP	<i>Asociación de Comunidades Forestales de Petén</i> (Association of Forest Communities of Petén)
ASL	<i>Asociación Social del Lugar</i> (Local Forest User Association)
Boscom	<i>Proyecto de Bosques Comunales y Municipales</i> (Communal and Municipal Forests Project)
CFE	Community Forestry Enterprise
CIDH	<i>Corte Interamericana de Derechos Humanos</i> (Inter-American Court for Human Rights)
CIDT	<i>Comisión Intersectorial de Demarcación y Titulación</i> (Intersectoral Demarcation and Titling Commission)
CNS	<i>Conselho Nacional dos Seringueiros</i> (National Rubber Tappers Council)
CONADETI	<i>Comisión Nacional de Demarcación y Titulación</i> (National Commission for Demarcation and Titling)
CONAP	<i>Consejo Nacional de Áreas Protegidas</i> (National Council for Protected Areas)
COPNAG	<i>Central de Organizaciones de Pueblos Nativos Guarayos</i> (Union of Guarayo Native Peoples)
FLACSO	<i>Facultad Latinoamericana de Ciencias Sociales</i> (Latin American Faculty of Social Sciences)
FORESCOM	<i>Empresa Comunitaria de Servicios del Bosque</i> (Community Enterprise for Forest Services)
FSC	Forest Stewardship Council
FSLN	<i>Frente Sandinista de Liberación Nacional</i> (Sandinista National Liberation Front)
IBAMA	<i>Instituto Brasileiro de Meio Ambiente e dos Recursos Naturais Renováveis</i> (Brazilian Institute for Environment and Natural Resources)
ILO	International Labour Organization
INAB	<i>Instituto Nacional de Bosques</i> (National Forest Institute)
INCRA	<i>Instituto Nacional de Colonização e Reforma Agrária</i> (National Institute for Colonization and Agrarian Reform)

INRA	<i>Instituto Nacional de Reforma Agraria</i> (National Agrarian Reform Institute)
MBR	Mayan Biosphere Reserve
MUZ	Multiple Use Zone
NGO	Non-governmental organization
NTFP	Non-timber forest product
OTB	<i>Organización territorial de base</i> (Community Organization)
PA	<i>Projeto de Assentamento</i> (Settlement Project)
PAD	<i>Projeto de Assentamento Dirigido</i> (Directed Settlement Project)
PAE	<i>Projeto de Assentamento Agroextrativista</i> (Agro-extractive Settlement Project)
PAF	<i>Projeto de Assentamento Florestal</i> (Forestry Settlement Project)
PAR	<i>Projeto de Assentamento Rápido</i> (Rapid Settlement Project)
PDS	<i>Projeto de Desenvolvimento Sustentável</i> (Sustainable Development Project)
PIC	<i>Projeto Integrado de Colonização</i> (Integrated Colonization Project)
PINFOR	<i>Programa de Incentivos Forestales</i> (Forestry Incentive Programme)
RAAN	<i>Región Autónoma Atlántico Norte</i> (North Atlantic Autonomous Region)
RAAS	<i>Región Autónoma Atlántico Sur</i> (South Atlantic Autonomous Region)
RDS	<i>Reserva de Desenvolvimento Sustentável</i> (Sustainable Development Reserve)
RESEX	<i>Reserva Extractivista</i> (Extractive Reserve)
RIC	<i>Registro de Información Catastral</i> (Registry of Cadastral Information)
SNUC	<i>Sistema Nacional de Unidades de Conservação da Natureza</i> (National System of Conservation Units)
TCO	<i>Tierra Comunitaria de Origen</i> (Community Land of Origin)
USAID	US Agency for International Development
VAIPO	<i>Viceministerio de Asuntos Indígenas y Pueblos Originarios</i> (Vice-ministry of Indigenous and Original People's Affairs)
WWF	World Wildlife Fund (also known as Worldwide Fund for Nature)

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Abstract

This occasional paper is the result of research carried out from 2006 to 2008 on the effects of new tenure rights for forest-based communities in Latin America on access to forest resources and benefits. Focused on seven different regions in four countries, the paper examines changes in statutory rights, the implementation of those rights in practice, and the extent to which they have led to tangible new benefits from forests, particularly to new sources of income. The research sites included several types of conservation and settlement communities in the Brazilian Amazon, an indigenous territory and agro-extractive communities in Bolivia, indigenous territories in Nicaragua and community forest concessions and highland communal forests in Guatemala. Though the granting of tenure rights signifies an important achievement for many communities, new statutory rights do not automatically turn into rights in practice. Virtually all of the cases — even those in which benefits have been significant — encountered substantial challenges along the road from rights to benefits: conflicts with other resource claimants; the failure of the state to define the tenure right appropriately or defend it effectively; problems with local authorities and governance institutions; the superposition of new models

over existing institutions; obstacles to community engagement with markets; and the lack of systems to support forest resource management.

The bundle of rights granted is sometimes overwhelmed by an accompanying bundle of responsibilities, or limited by restrictions on use, and may include an important ongoing decision-making role for certain state authorities. Institutional arrangements are also shaped by a variety of local authorities, some of which have been created or given substantial new powers in the reform process but lack experience and clear accountability relations. The state often appears more concerned with establishing management regulations than with defending community rights; for their part, communities and their organizations are forced to waste time and resources defending their rights from outside interests, rather than using these to strengthen local governance and forest management capacity. Policy frameworks have generally failed to establish an enabling environment for endogenous, community-based management opportunities. The gains that have been won and the potential of these processes for improving rights and livelihoods demonstrate the value of promoting efforts to overcome these obstacles.

1

Introduction

A substantial portion of the world's forests, between 79% (White and Martin 2002) and 84% (FAO 2006), is public property under the formal ownership of the state. But an important shift has begun to occur since the late 1970s in Latin America, and more recently in Africa and Asia, such that in developing countries at least 22% of all forests are owned (14%) or held in reserve (8%) for communities (White and Martin 2002). This trend has been particularly remarkable in Latin America, where 149 million ha were transferred to communities between 1985 and 2002 in four countries alone (Bolivia, Brazil, Colombia and Peru) (White and Martin 2002). In Central America, some 2 million ha of Nicaraguan forest are located on lands that are in the process of demarcation and titling to indigenous and ethnic communities, and almost 0.5 million ha have been granted in long-term forest concessions to communities in the Petén, Guatemala. Many of these changes, though not all, are taking place as a result of the struggles of indigenous social movements for recognition of the territories they have possessed historically; others represent a variety of demands from non-indigenous actors.

These changes represent an extraordinary shift in forest rights in Latin America. But what have they actually meant in practice? The struggle for property

rights may involve a historic demand for recognition, such as for indigenous territories, but almost always also involves a demand and expectation with regard to livelihoods. According to Roldán Ortega (2004), '[t]he security and permanence of their control and use of the natural resource base is actually more important to most indigenous groups than direct ownership of the land itself'. The importance of natural resources for livelihoods is central to demands over forestlands from both indigenous and non-indigenous groups. Previous research has demonstrated, however, that tenure rights alone are insufficient to guarantee benefits to local resource users (Stocks 2005; Sikor and Nguyen 2007).

The changes described in the countries and regions chosen for this study were not intended to be representative of all the important tenure changes taking place in Latin America but rather to permit an in-depth analysis of the dynamics of change in key locations. The case studies include several types of conservation and settlement communities in the Brazilian Amazon, an indigenous territory and agro-extractive communities in Bolivia, indigenous territories in Nicaragua and community forest concessions and highland communal forests in Guatemala. Though several other regions or countries could also have

been selected, this first round of research also draws on the past experience of the researchers involved.

There are a number of different spheres of analysis that are important to understanding the effects of these shifts in rights. The first is the nature of the statutory right itself, as it has been granted by law, including its origin, justification and objectives. What is notable about these Latin American ‘forest reforms’ (Taylor *et al.* 2007; Pacheco *et al.* 2008), in relation to the agrarian reforms of the past, is that they respond to a variety of demands, including ancestral (and other) rights, forest resource conservation and livelihoods. Conservation interests, in particular the concern for maintaining forest cover, often play a central role (Pacheco *et al.* 2008).

The second sphere is the challenging process of moving from the statutory right over a territory or area to the formal property right, and the nature of the rights over land and resources that are actually won. The process of establishing secure rights to land and forest in practice has been long and difficult and has not always resulted in the changes expected. For example, under certain circumstances, the delay between the granting of the statutory right and its implementation may lead to land speculation and increased conflict. If property is defined as ‘the rules of the game’, then this implementation process refers to the ‘making of the rules’ (Larson 2008) or the ‘constitution of property’ (Sikor and Lund in press). As will be shown below, it is often a highly conflictive process involving the resolution of multiple claims, and the process itself may determine the legitimacy and security of the new tenure regime (see, for example, Hayes 2007). In addition, it defines the governance structure or authority that will “enforce” the rules’ in the future and define the

relation of the state to the community (Ribot *et al.* 2007; Larson 2008). This determines whether communities hold decision-making rights and how decisions will be made.

The third set of issues refers to the process of obtaining benefits from the forest resources over which tenure rights have been won. Numerous authors have written about the difficulty of community participation in markets for timber, in particular (Scherr *et al.* 2002; Kaimowitz 2003; Larson and Ribot 2007). Regulatory frameworks are usually aimed at large-scale logging and may specifically discriminate against smallholders and communities (Pokorny and Johnson 2008); even if regulations are designed to be ‘neutral’, they may be implemented in ways that favour logging companies (Larson and Ribot 2007). Perhaps most importantly, however, even ‘fair’ and ‘neutral’ policies fail to address the structural inequities faced by these groups due to lack of information, capital, technology and so on, which limit their access to legal logging permits, credit and markets (Larson and Ribot 2007; Larson *et al.* 2007; Pacheco *et al.* 2008). The cases discussed in this report focus primarily on timber, examining community forestry initiatives in five communities in Nicaragua, Bolivia and the Petén, Guatemala¹.

The three aforementioned spheres refer to ‘the community’ as a whole, but a fourth arena of interest involves looking inside the community. Communities are internally differentiated and often conflictive rather than harmonious and egalitarian (Agrawal and Gibson 1999). Rights may not be equally distributed within the community, and benefits that are obtained from forests may accrue to some but not all community members. This issue will be addressed only briefly in this report².

A number of other issues interact with each of these spheres to affect outcomes. The most important for this study are the interrelated issues of the role of authority and of community organizations and networks. There are a variety of different types of authorities that play a role in the definition and exercise of community tenure rights. There are authorities that grant tenure rights and responsibilities; defend the exclusion right, or the perimeter of the community's polygon, once it is defined and/or titled; represent the territory or community externally; determine and/or enforce the internal distribution of rights; and determine or enforce rights to a particular resource or area within the community. A single authority may play more than one of these roles. Some involve the state, and some involve community or territorial leaders or organizations. For their part,

community organizations and networks, in addition to the specific role played by their authorities, often also play a decisive role in the process of 'making the rules,' or defining the property right, and in facilitating access to forest permits, credit and markets.

This report attempts to understand the effects of Latin America's forest reform on local communities by analyzing these issues in seven regions in four different countries³. The two South American countries, Bolivia and Brazil, are among the four that have transferred the greatest forest area to communities, under a variety of mechanisms, in the past decade. The study included research at the regional scale as well as, usually, two communities or groups of communities in each region (see Figure 1). The Bolivia research focused on a large indigenous

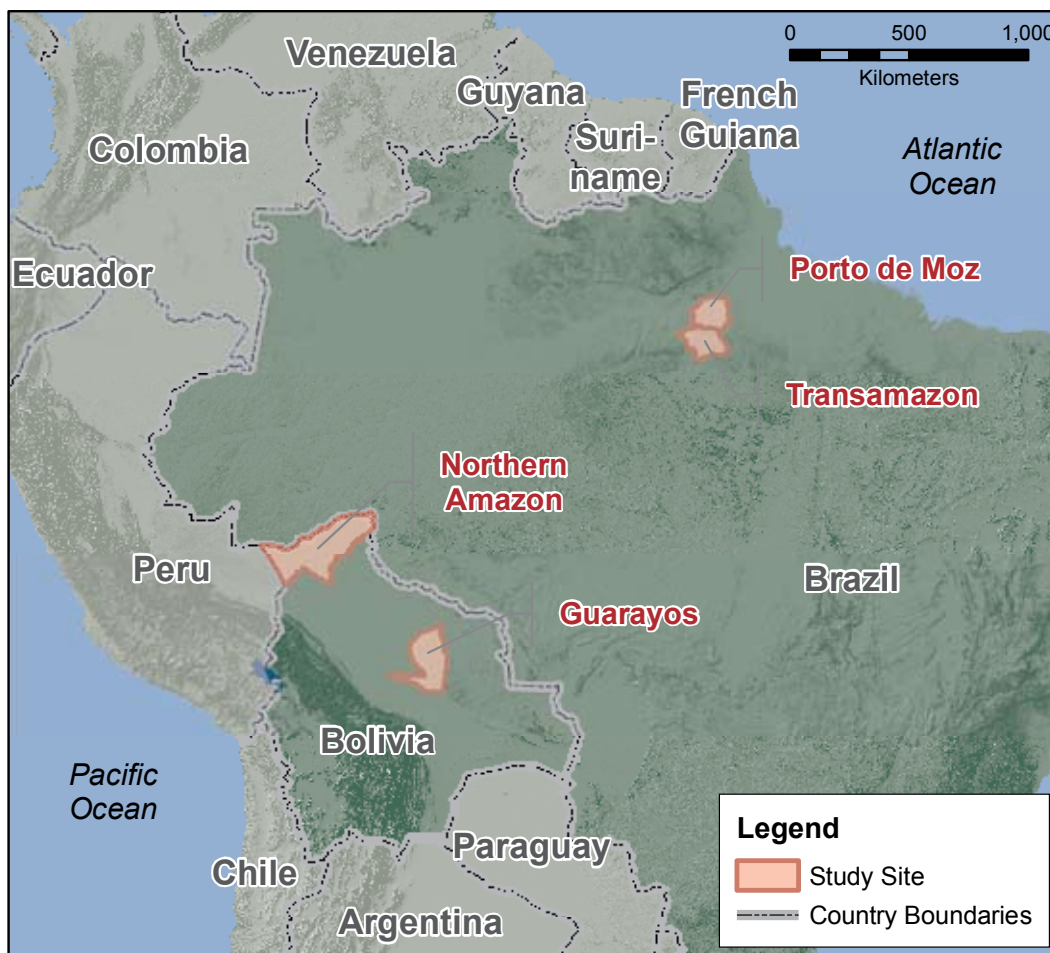


Figure 1. Map of the regions studied in South America

territory (*Tierra Comunitaria de Origen* — TCO) in the Guarayos province in the Santa Cruz department and, more specifically, on one community in an area that has been partially titled and another where titling is still in process; and in the country's northern Amazon region, where hundreds of peasant communities have received collective titles, the research focused on two such communities. The Brazil research centred on the eastern Amazon and two municipalities in the state of Pará: Porto de Moz, a large part of which was declared an Extractive Reserve (*Reserva Extractivista* — RESEX) in 2004, and Altamira, a region crossed by the Transamazon highway and covered by a variety of conservation and settlement areas. In Porto de Moz, the community-level research studied two settlements on the border of the

Verde para Sempre (Green Forever) RESEX; in Altamira, one study focused on a community established inside a Sustainable Development Project (*Projeto de Desenvolvimento Sustentável* — PDS) area, and the other on a Settlement Project (*Projeto de Assentamento* — PA).

The Central American case study sites were in Nicaragua and Guatemala (see Figure 2). The Nicaraguan sites were both located in the North Atlantic Autonomous Region (*Región Autónoma Atlántico Norte* — RAAN), where several indigenous territories are in the process of demarcation. One study centred on an indigenous territory in the municipality of Waspam; the other on two closely related communities in the municipality of Prinzapolka. In Guatemala, the research covered the community concession areas of the Northern Petén

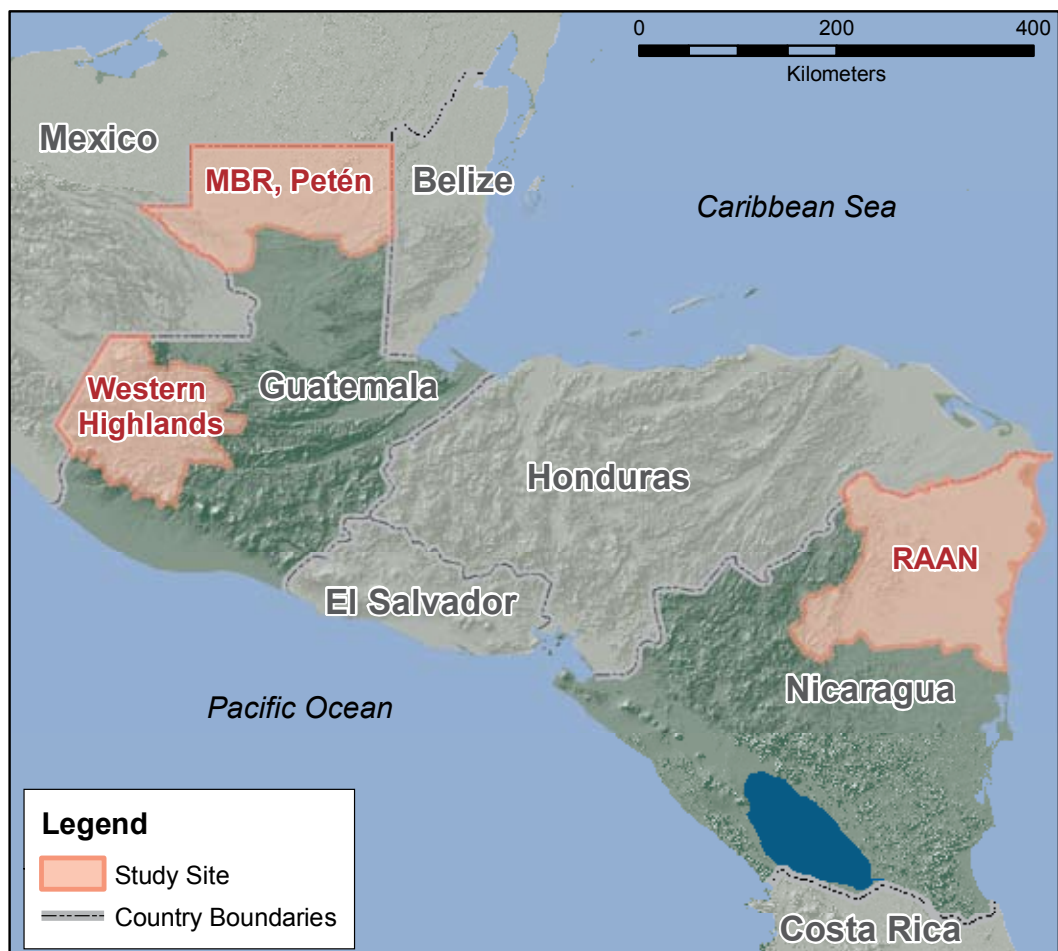


Figure 2. Map of the regions studied in Central America

and the community and municipal forest remnants of the Western Highlands. The community-level research in the Petén focused on two forest concessions, one whose members live inside the forest concession area and another whose members live outside it. The Highlands sites included four communities, but focused on one that has internally redistributed all of its communal land and trees among its founding families and another that has recently recovered rights to a community forest. The research was conducted between late 2006 and early 2008 (see Table 1).

The examples represented by these countries, regions and communities illustrate a broad variety of tenure changes. They are aimed at taking a much closer look at the concrete meaning of an important and apparently beneficial trend toward increasing forest tenure rights for communities living in and around forests. This report seeks to identify the strengths and weaknesses of these processes for

improving access to forests and associated livelihood benefits and to analyze the factors impeding the achievement of greater success.

The next section of the report reviews the literature relevant for analyzing this forest reform and its effects on access to forests and forest benefits. The third section focuses on legal and policy changes in access to forest resources in the four countries; specifically, it presents changes in the statutory right to forest tenure but also discusses other policy changes considered relevant to the framework of forest rights in each country. The fourth section presents changes in land and forest tenure, or the implementation of these statutory rights, in practice, in each of the case study regions. Section 5 turns to a discussion of access to benefits from forests, based on regulatory frameworks and access to markets. Section 6 discusses and analyzes the findings and is followed by the Conclusions.

Table 1. Sites studied at the regional, territorial and community levels

Country	Region	Territory	Community
Nicaragua	RAAN	Tasba Raya	Francia Sirpi
			Wisconsin
		Layasiksa	Layasiksa Laguna
			Layasiksa Bosque
Guatemala	Petén		Arbol Verde
			Carmelita
	Western Highlands		Mogotillos
			Estancia la Virgen
			Chancol
			Chichím
Bolivia	Guarayos	Guarayos TCO	Santa María de Yotau
			Cururú
	Northern Amazon		Turi Carretera
			San Jorge
Brazil	Porto de Moz	Verde para Sempre RESEX*	Turu
			Taperu
	Transamazon		Dispensa I
			Pontal

*The RESEX was studied to the extent that it shapes the dynamics in the region, but the community sites are not located inside the RESEX. This is due primarily to the complex procedures that the government requires from researchers in order that they be granted access.



2

The Long Road from Rights to Livelihoods

Land reform has been a central development issue in Latin America for the past 50 years, and since the middle of the twentieth century (and even earlier in Mexico) the majority of the countries in the region have designed and implemented some type of agrarian reform (see de Janvry 1981). In countries with available public land, however, it has often been easier to avoid the political complexities of land redistribution by distributing so-called uninhabited or ‘empty’ lands in these agricultural frontiers through the promotion of colonization programmes. Forests were sometimes seen as un-owned or state-owned wastelands (IDB 1977), and colonists were encouraged to clear them for agriculture, often in return for title (see Southgate and Runge 1990)⁴. Planned colonization programmes were also usually accompanied — if not surpassed — by spontaneous colonization. Both environmental concerns and indigenous territorial rights were largely neglected in the discourses, practices and modalities of agrarian reform, which erupted later as a result of shifting paradigms regarding forests and international demands by indigenous people related to their ancestral rights and territorial use of such resources (Roldán Ortega 2004).

Latin America’s new ‘forest reform’ differs from previous agrarian reforms in several fundamental ways. First, land titles or rights are granted with the

understanding that the forest resource should be maintained, and in most cases alienation rights to the land are still held by the state. In addition, most of the reformed forestlands are being demarcated and titled as collective properties, and a significant portion of these lands represent claims that have been won by indigenous and ethnic groups, based on cultural identity and ancestral possession. Hence, forest reform is characterized by a combination of goals that include not only livelihoods considerations, as in previous reforms, but also forest conservation and the recognition of indigenous or other traditional groups’ collective rights to territories, natural resources and cultural identity (Pacheco *et al.* 2008).

The relationship between forest conservation and livelihoods has not always been harmonious, to the point that some conservationists have seen humans in parks as ‘the danger within’ (Bray and Anderson 2005). Although in other parts of the world people located inside parks have sometimes been forced to leave, indigenous peoples in Latin America were often allowed to remain (Bray and Anderson 2005). Currently an estimated 86% of national parks in South America are inhabited, mostly by indigenous and traditional peoples (Oviedo 2002). Nevertheless, they have been treated as part of nature rather than as active land managers and decision makers (Davis and Wali 1994), and indigenous

leaders and advocates are arguing for recognizing the rights of people living in parks to own and manage them, at least as coequals (Oviedo 2002; COICA 2003). In this regard, Colchester refers to the shift from stakeholders to rights holders (Colchester 2004). A study of 88 *Global Environment Facility* (GEF) biodiversity projects found that 81 projects supported state protected areas ‘that imposed restrictions on access and use by indigenous and local peoples’ (Barragán 2007). Groups that lack traditional rights are probably even more controversial for conservation groups (see Larson 2001; Bray and Anderson 2005; Barragán 2007; Monterroso 2008), and, as will be seen in the case studies, in and outside of protected areas, governments are placing important restrictions on resource use, even where they grant new tenure rights.

Indigenous peoples, in particular, have gained important new rights. Until the 1980s, most indigenous people in Latin America who wanted to acquire land through formal channels were forced to do so through the same process as the non-indigenous population: through agrarian policies that failed to recognize their ethnic and cultural distinctiveness (Aylwin 2002); in practice these processes rarely benefited indigenous people in the lowland tropics. This situation has changed dramatically in the past 20 years, and recognition of indigenous land rights is the main reason why Latin America has played a leading role in shifting forest tenure rights from states to communities. As of 2004, the most advanced legal frameworks for indigenous land tenure and rights were those of Bolivia, Brazil, Colombia, Costa Rica, Panama, Paraguay and Peru (Roldán Ortega 2004). As of 2007, Barragán (2007) included Ecuador and Nicaragua also, as countries that have recognized collective domain in perpetuity and the use of their own forms of self-government.

The territory model — seen as the most advanced form of granting indigenous tenure rights — should permit sufficient space for resource conservation, use

and management, real participation of indigenous peoples in the definition and demarcation process, and the use of resource management models that combine traditional and modern practices for long-term development (Davis and Wali 1994). Indigenous advocates would argue that one of the most important factors is the recognition of the right to self-government. Of the countries studied here, Nicaragua’s indigenous territories, Bolivia’s TCOs and Brazil’s state-owned indigenous reserves more or less represent the territory model, but Guatemala still fails to distinguish indigenous from non-indigenous land rights (Aylwin 2002). Though in practice the territory models adopted do not necessarily promote all of the aforementioned goals⁵, they still represent another important difference with regard to the agrarian reforms of the past: the forest reform often involves the recognition of rights of people already living in the forest, who also are likely to have their own system of tenure relations and forest governance. This process of formalizing what existed previously as customary institutions⁶ brings with it an additional set of challenges that has an effect on tenure rights; for example, it can lead to overlapping institutions, open access dynamics, conflicts among authorities and other problems (see Fitzpatrick 2005, 2006; Larson 2008; Pacheco *et al.* in press). Though not all of the cases described here address indigenous territories or customary institutions, almost all involve previously existing settlements and resource management practices.

To what extent have changes in statutory rights led to changes or benefits in practice? The rights-based approach to livelihoods combines the concern for human rights with livelihood improvements, which are seen here as central issues for addressing the problems of Latin America’s indigenous and other forest-based populations and for understanding the effect of property rights changes on these groups. The rights-based approach represents an

attempt to re-politicize development and bring in normative, pragmatic and ethical issues by empowering people to make claims against their governments and demand accountability (Nyamu-Musembi and Cornwall 2004). Achieving new legislation that recognizes or grants new rights to land and forests is a significant victory, but the exercise of these rights is not fully possible until the statutory right has been implemented and enforced. This involves a political process that is likely to challenge vested interests at every step. On the ground, then, a rights-based approach is successful when the power dynamics of access to resources are altered in such a way that the formerly excluded and marginalized groups have greater access to livelihood assets (Larson and Ribot 2007).

Most of the cases involve demarcation and titling of collective property as a way to grant new tenure rights. 'Property' refers to the actions actors can take in relation to each other regarding objects of value (Benda-Beckman *et al.* 2006) and represents 'an enforceable claim' (McPherson 1978). This claim is enforceable because, at least to some degree, it is legitimate, 'in the sense that the state or some other form of political-legal authority sanctions' it (Sikor and Lund in press). A property title is supposed to guarantee security, though this is not necessarily the case in practice⁷. Bromley (2005) argues that titles can increase insecurity for the poorest sectors (see also Cousins *et al.* 2005), and that titles that do not have the full backing of the State that issued them are meaningless. Broegaard (2005) argues that *perceived* tenure security is more important than the possession of a title in determining farmers' investment behaviour. In her study of farmers in rural Nicaragua, Broegaard found that those who felt secure but did not have title recognized other local sources of legitimacy that were more important. Thus legitimacy is an important source of security (Sikor and Lund in press). Hayes (2007) found that the *process* for establishing property rights was central

in guaranteeing its legitimacy. In some of the cases discussed here, where customary practices were well defined and locally legitimate, titling has had little effect on existing rights.

The state plays a central role in (1) granting the statutory right, (2) implementing that right, in the form of property titles, concession contracts and so on, (3) protecting community rights from more powerful competing interests, and (4) facilitating an enabling environment for resource use and trade. One of the central problems for Latin America's remaining forests is the multiple demands on and conflicts associated with forests. In a study of six Latin American countries granting tenure rights to indigenous people, Stocks (2005) found that time was one of the greatest enemies in the process of securing land, as counter-claimants multiply and political will declines.

Nevertheless, it is important to recognize that the state itself has also often sought to exploit forest resources for its own profit as well as to undermine common property regimes (Richards 1997; Tucker *et al.* 2007). With regard to indigenous populations in particular, Latin American governments have historically sought to assimilate them into the peasantry, rather than support any kind of autonomous self-government (Van Cott 1994). It is no surprise that the act of granting new tenure rights does not necessarily result in the changes aspired to, and that real gains are often achieved only through the ongoing political struggle of indigenous and landless social movements. In Mexico, which has one of the largest community forestry sectors in the world, Bray *et al.* (2006) argue that agrarian reform laws laid the foundation for secure community access for forests but that, for many years, government 'exercised a very high degree of control over internal decision making in the communities, and particularly over the use of forest resources'. Pro-community reforms began with 'reform-oriented actors' within state institutions, as well as with rising

grassroots resistance to forest concession policies. Forest reforms followed.

The process of obtaining the statutory right in practice can be referred to as the process of *making* the rules of the game (Larson 2008). Property is recognized as a bundle of rights, and common property systems can be highly complex. With regard to natural resources, this bundle is usually broken down along a continuum from access, to withdrawal, management, exclusion and alienation (Schlager and Ostrom 1992). In Latin American forests there are often important differences in withdrawal and management rights depending on non-timber or timber and domestic or commercial uses. The bundle of rights can also be differentiated among a variety of 'rights holders', including the state, the collective and individuals (Meinzen-Dick 2006). However, there are additional variables that form part of the 'rules', such as the basis of the rights, the time frame for which rights are granted and the nature and role of authority.

The question of authority is often left out of discussions of property, yet it is important for a variety of reasons, governing how decisions are made, whose opinion or knowledge is taken into account, and access in practice. Property rights are not granted in a vacuum but over a set of existing institutions and thus represent the meeting of formal, state-based and customary or informal local arrangements. In the constitution of property, therefore, authority relations define the extent of decision-making power that is held at different levels, from the community to the state, and the way in which customary and *de facto* local management norms and knowledge regarding resource management are — or are not — recognized in the formalization of tenure rights and institutions. Authority is also important in understanding on-the-ground dynamics of power, which shape access to resources and benefit distribution.

With regard to the first set of issues, in the simplest formulation the bundle of

rights can be divided between use rights (access and withdrawal) and control or decision-making rights (management, exclusion and alienation) (Schlager and Ostrom 1992). Each of these decision-making rights may be maintained by the state, devolved to communities, or more likely, particularly with respect to management, divided and shared by complex sets of rules and regulations depending on the specific resource (such as low value or high value, non-timber or timber products) or its purpose (domestic or commercial). When new rights are granted, or existing rights are recognized, new arrangements may result in the increased participation of state authorities in local resource management rather than greater local control (Contreras 2003; Sarin *et al.* 2003; Elías and Wittman 2005).

Beyond this level of decision making there are also those who decide who holds which rights, as well as those who enforce rights at different scales. Sikor and Müller (in press) address the issue of state versus community authority in land reform, challenging the western notion of property that understands the state as the ultimate guarantor of property rights. The authors argue that state-led land reforms are top-down exercises that guarantee title but not much else. That is, they do not guarantee security, protect complex customary processes and practices or recognize community authority over land. They argue for a community-led approach that might enhance flexibility and draw in state and non-state actors who can better initiate and sustain reforms with more desirable results.

Authority also shapes access and benefit distribution on the ground. In their theory of access, Ribot and Peluso (2003) distinguish between property as a bundle of rights and access as a 'bundle of powers'. They argue that certain authorities and institutions control access, such that even when people have rights they have to act through these authorities to gain access. If property refers to a set of rules, then these are the authorities that

enforce the rules (Ribot *et al.* 2007; Sikor and Thanh 2007). Other authors have pointed out that the power of authorities can be more important than tenure in determining benefit distribution (Ribot 1998; Klooster 2000).

Fitzpatrick (2005) ties these more abstract notions of property rights and authority to concrete forms of governance, making the link between the different scales of decision making. He highlights four different ways in which the state can recognize customary tenure, from lesser to greater intervention: the minimalist approach simply recognizes and protects what is there, such as defining the area on land registry maps without further intrusion; the agency method establishes an actor that represents and negotiates in the name of the collective; a third approach involves the formal incorporation of the group into a legal entity; and the final approach is through land boards, in which appointed or elected groups that include community and state actors negotiate and allocate rights. He argues that the degree of 'legal intervention in a customary land system should be determined by reference to the nature and causes of any tenure insecurity'. In the cases studied here, the vast majority fit best into the formal incorporation approach. These choices establish the nature of property and authority under new or formalized tenure rights. Stocks (2005) found that weak governance institutions beyond the community level were a serious problem in the transfer of territorial rights to indigenous people, and that this problem is often ignored in the rush for demarcation and legalization.

If gaining new statutory rights is the first step and obtaining them in practice is the second, the third is to improve livelihoods through benefits from forest resources. The theory of access makes the link between rights and livelihoods by pointing out that the power to act on those rights also depends on negotiating a number of complementary access mechanisms (Ribot and Peluso 2003;

Larson and Ribot 2007). With regard to forest products, especially timber, to operate legally communities need to obtain permits from state forestry authorities, which may, in itself, be prohibitive. They also need access to other assets such as capital, technology and knowledge in order to participate in activities such as timber markets.

Sikor and Nguyen (2007) use the theory of access to look at the devolution of forest rights in Vietnam and the extent to which those rights were translated into endowments (access to land and trees) and entitlements (access to other utilities derived from forest goods and services, including access to markets) at the household level. The authors find that political factors are likely to have a stronger effect on endowments, whereas economic factors have greater influence on entitlements. Wealthier households benefited more than poorer households from timber production.

The issue of forest product markets has been addressed recently by a number of researchers who have begun to explore the role of forests in poverty alleviation, especially through the development of small forest enterprises (Scherr *et al.* 2002; Angelsen and Wunder 2003; Sunderlin *et al.* 2005; Kozak 2007; Molnar *et al.* 2007; MacQueen 2008). Forest product markets, particularly for non-timber forest products (NTFPs), provide important livelihood inputs for poor households, but development assistance has focused primarily on forests' contribution to subsistence needs, rather than on how to take advantage of expanding market opportunities (Scherr *et al.* 2002). The obstacles for smallholders and indigenous communities, particularly in timber markets, are numerous: timber has characteristics that are "anti-poor" in that they require capital, skills, land tenure, technology, production systems and time horizons that do not favour poor people' (Angelsen and Wunder 2003). Molnar *et al.* (2007) argue, however, that there is growing evidence that 'when policy

and tenure constraints are lifted, there is a rapid response in both the number of CFEs [Community Forestry Enterprises] and their contribution to employment and local income'. With regard to timber, however, it would appear that more than secure tenure and 'lifting constraints' will be required.

2.1 Organization of the Research

As explained above, the research was carried out in seven regions, or meso-regions, in four countries. These regions were chosen to represent places where change has occurred or is in process with regard to forestland or resource tenure rights, and where opportunities also exist to strengthen rights or effect policy changes. The meso level was chosen to reflect a range of tenure regimes in a contiguous geographical region where people share or compete for a common biophysical landscape, and which shapes the context of the tenure regime being studied. The regional analysis focused on characterizing the spectrum of land tenure situations, population dynamics, forests and land-use change and competing interests and issues.

In each region, communities or groups of communities were selected for in-depth research. Depending on the nature of the issues, however, this research focused more at the level of the territory in some sites, such as Nicaragua, where indigenous territories are much smaller (than in Bolivia's large indigenous territories, for example), or on a group of communities, such as the Arbol Verde enterprise in the Petén, Guatemala, though in every case touching base at the community level for certain aspects of the research. The case study research was thus carried out in a variety of ways depending on the site. In addition, researchers were chosen based on a combination of issues including not only research capacity but also strategic interests such as long-term commitment to the region, experience in the issues or

communities and/or the development of local research capacity. Methods ranged from the use of participatory methods in one case in Brazil, to the participation of community members in gathering data (in one site each in the Petén, Guatemala, and in Nicaragua), to more traditional use of key informants, semi-structured interviews and surveys. In some cases, complementary research or interviews were carried out to explore specific issues in greater depth.

Every case was guided by the same set of central hypotheses and research questions, emphasizing four areas: land and forest tenure, community organization, the regulatory framework, and credit and markets for forest products. Crosscutting all of these issues were a set of concerns regarding access to forest resources and benefits and the role of informal institutions in land tenure and resource access. The in-depth research at each site also involved questions about community history as well as indicators regarding forest-cover change, income and other livelihood changes, and issues of equity in the distribution of benefits, where this was possible. The result of this process is a set of reports that cover a similar set of issues but that vary in terms of priorities regarding the type and depth of information captured at different scales and with regard to different variables.

Though it may not be possible, therefore, to compare specific data across all the sites, the studies together provide important insights into the nature and effects of this new forest tenure reform as it is unfolding in its myriad configurations and in different contexts. This report summarizes and analyzes the portions of the research pertaining to the question of access to forests: from the statutory right, to the practice of the right through specific new tenure relations on the ground, to the interaction with regulatory frameworks and markets for the extraction and sale of forest products.

3

Changing Statutory Rights to Forests

Important statutory changes with regard to forest tenure have been enacted in each of the four countries studied. This section summarizes those changes with particular emphasis on, but not limited to, the tenure changes most relevant to our case studies and thus provides an introduction to the cases (see Table 2 for a summary).

One of the most striking aspects of the forest reform, which differentiates it from the agrarian reforms of the past, is that the new statutory right to forests is based on a combination of livelihoods, conservation, indigenous rights and agrarian rights justifications and objectives (Pacheco *et al.* 2008; see also Barry and Meinzen-Dick 2008). The communities studied in this research include both indigenous and a variety of non-indigenous groups, such as extractivists like rubber tappers, *chicleros* (gum harvesters) and Brazil nut (*Bertholletia excelsa*) gatherers, migrant colonists and endogenous peasant smallholders. Nicaragua is the only country in which the basis of the new law, for the recognition of indigenous territories, is exclusively to recognize indigenous ancestral (and more recent) use rights. Bolivian law also recognizes indigenous rights (indigenous lands), but establishes land rights for non-indigenous groups (communal properties and social concessions) as well, and for all groups takes into account livelihoods considerations in defining the required

area. The Brazilian models represent a mixture of indigenous and ethnic rights, conservation and livelihoods criteria (extractive reserves and forestry settlements). The community concessions in the Petén, Guatemala, are based on a conservation model combined with livelihoods considerations. The case of tenure change in the Guatemalan Highlands is much more attenuated than in the other cases, with the existence of communal lands finally being recognized in law for the first time.

The change in statutory rights will be discussed for each country in turn, focusing on forest tenure; in addition, other important legal changes relevant to forest reform will also be mentioned as appropriate. Though forest tenure models are developed under a variety of different names, for the purpose of this study they have been grouped into five categories: indigenous territories, extractive reserves, agro-extractive or forestry settlements, social or community concessions and highland communal forests. These will be compared and discussed briefly at the end of this section.

3.1 Nicaragua

Nicaragua's 1987 Constitution recognizes and guarantees the rights of indigenous and ethnic communities to their cultural identity, forms of organization and property, as well as to the enjoyment of their waters and forests. Also in

Table 2. Summary of statutory changes

Case study	Model	Summary of statutory change	Comments
Nicaragua: RAAN	Indigenous territory	Recognition of indigenous historic rights to traditional use areas: 1987 Constitution and 2003 Communal Lands Law for implementation	Demarcation and titling has progressed very slowly but with new impetus under the government that took office in January 2007
Guatemala: Petén	Community concession	Roughly 450 000 ha of forest granted in 25-year renewable concession contracts to 12 formal community organizations, beginning in 1994	Concessions are located in the Multiple Use Zone of the Mayan Biosphere Reserve
Guatemala: Highlands	Communal forest	Recognition of indigenous land rights in 1985 Constitution, 1995 Peace Accords; 1996 ILO Convention 169 signed; 2005 Law of Cadastre recognizes communal lands	Statutory right not fully implemented in law; other policies and projects undermine indigenous collective rights
Bolivia: TCOs	Indigenous lands (TCOs)	Law of the National Service of Agrarian Reform (INRA Law) in 1996 recognized TCOs as a new type of communal property for indigenous peoples; Forest Law (1996) granted forest subsistence use based on 'usos y costumbres' (use and custom) and the right to commercialize forest products with approved management plans	Although titling of TCOs was to be prioritized, after 10 years the titling of most TCOs remains incomplete
Bolivia: Northern Amazon	Agro-extractive community	Communal properties for agroextractive communities allowed by decrees modifying the INRA Law (<i>Decreto Supremo DS25848-2000</i> , <i>Decreto Supremo DS27572-2004</i>) to establish 500 ha per family as standard for defining community lands	Titling has advanced substantially
Brazil: Porto de Moz	Extractive Reserve	Presidential Decree from 2004 based on Law of the National System of Conservation Units (SNUC) No. 9.985 (2000), granting land rights to local people as long-term usufruct rights	Often used to legitimize rights of traditional extractivist populations; granted by federal government over both federal and state lands
Brazil: Transamazon	Agro-extractive settlement (Sustainable Development Project – PDS)	<i>Portaria INCRA n.º 477</i> (1999), granting land rights to local people as long-term usufruct rights; mixes individual and community land access rights	Being used to settle smallholders in forestlands, not exclusive to the Transamazon
	Settlement Project (PA)	<i>Instrução Normativa INCRA n.º 15</i> (2004), granting definitive title to individual smallholders belonging to the colonist settlement	The modality most common for titling land to agrarian reform settlements

1987, the North and South Atlantic Autonomous Regions, the *Región Autónoma Atlántico Norte* and *Región Autónoma Atlántico Sur*, known as RAAN and RAAS, were created based on the Autonomy Statute (Law 28), which was passed by the Sandinista government as part of the peace negotiations taking place with dissident groups that supported counterrevolutionary forces in the 1980s' war. The Autonomy Law created the framework for establishing Regional Autonomous Councils by popular election in 1990, but it took a further 15 years for the approval of the accompanying Regulations (*Reglamento*) required for the full implementation of the Autonomy Law. In 2003, the Communal Lands Law⁸ (Law 445) was enacted. Like the Constitution, the Communal Lands Law formally recognizes the rights of indigenous and ethnic communities to their historic territories, but it also establishes the institutional framework for demarcation and titling and for the formal recognition of indigenous authorities. According to data from 2000, 70% of Nicaragua's forests (4 million ha) are located in the autonomous regions, which comprise almost half of the national territory (MAGFOR/INAFOR/MARENA 2001). Though there are no official statistics, it appears that today at least 2 million ha of forest are located on areas claimed as indigenous territories.

The Law resulted from the demands of Coast⁹ indigenous communities and, more specifically, of commitments acquired by the Government of Nicaragua in the ruling by the Inter-American Court for Human Rights (*Corte Interamericana de Derechos Humanos* — CIDH) in the case *Awas Tingni v. Nicaragua*. The community of Awas Tingni filed the International Court demand against the government for granting a forest concession, on their traditional lands and without community consent, to the Korean company SOLCARSA in 1995. The community's legal representatives had fought the concession in the national courts to no avail, in spite of a Supreme

Court ruling in 1997 that the concession was unconstitutional for failing to obtain the prior approval of the Regional Council as established by law (Wiggins 2002).

In 2001, the CIDH ruled in favour of Awas Tingni, holding that 'the international human right to enjoy the benefits of property includes the right of indigenous peoples to the protection of their customary land and resource tenure' (Anaya and Grossman 2002). It found that the Nicaraguan Government had violated the American Convention on Human Rights as well as the community's rights to communal property as guaranteed by the Nicaraguan Constitution. The Court ordered the state to adopt the relevant legislative and administrative measures necessary to create an effective mechanism for demarcation and titling for indigenous communities 'in accordance with their customary laws, values, customs and mores' (Judgment, cited in Anaya and Grossman 2002).

The Communal Lands Law guarantees indigenous communities 'full recognition of rights over communal property, [and] use, administration and management of traditional lands and their natural resources' (Article 2). These rights are buttressed by a new Forestry Law (Law 462) that was also passed in 2003. Before these new laws, the central government granted logging concessions on indigenous lands that it considered national lands, as well as alienating those lands to third parties, expressed primarily through land distribution in the 1990s to demobilized combatants. By law the Regional Autonomous governments had to approve resource concessions, but the indigenous communities themselves did not. The new legal framework states that community or territorial authorities, if and when 'they have the express mandate of the Community Assembly', should authorize all contracts for resource exploitation; in practice it is the *síndico* — an elected traditional authority in charge of natural resources — of a community

or territory that has been authorized to sign in the name of the community. Hence with regard to the five components of property rights, communities have the right by law, with regard to forest resources, to access, withdrawal, management and exclusion, but not alienation of these rights; indigenous lands are inalienable, non-transferable and non-mortgageable.

3.2 Guatemala

Guatemala is an exceptionally ecologically rich country. According to the Environmental Profile of Guatemala (IARNA/URL/IIA 2006), the northern Mesoamerican land area constituted by the Petén, and parts of Belize and Mexico, an area comprising less than 0.5% of the earth's land surface, is home to 17% of all known terrestrial species and holds second place in a list of the 25 regions of the world with the greatest number of species and endemism. It is also home to one of the most important sites of ancient Mayan civilization as well as to a diverse group of contemporary populations and cultures. According to its Master Plan, the Petén's Mayan Biosphere Reserve (MBR) was created in 1990 to protect the existence, conjunction, diversity and quality of the natural and cultural resources located there, and the goods and services these provide (Barry and Monterroso 2008). The MBR is also subject to substantial human pressure.

Various factors led to the development of the community forest concessions inside the MBR's Multiple Use Zone (MUZ). The Peace Accords stated that 100 000 ha of the MUZ should be given to organized groups for them to manage. There were several communities already located inside the MUZ when it was created, and these plus community groups from surrounding areas formed the Committee of Forestry Communities of Petén (CONCOFOP), which later became the Association of Forest Communities of Petén (*Asociación de*

Comunidades Forestales de Petén — ACOFOP), to pressure for land and resource management rights. Private logging concessions had been managing forests poorly; conservation groups allied with communities to pressure the government to give the communities a chance to show they could be better associates for conservation. In order to comply with the new institutional requirements in the face of low budgets and staff shortages, the Guatemalan National Council for Protected Areas (*Consejo Nacional de Áreas Protegidas — CONAP*) saw the communities already living in the reserve as a possible way to facilitate their work (Barry and Monterroso 2008). The first community concession was conferred in 1994. Today there are 12 community concessions for a total area of 426 000 ha, all but one with Forest Stewardship Council (FSC) certification in 2006.

The concession contracts grant community concessions the right to the exclusive use of the defined area and its resources for 25 years. Unlike industrial concessions, the community concessions allow the use and management of both timber and non-timber forest products (NTFPs). The concession contracts require all resource extraction to be organized collectively and based on management plans approved by CONAP, although the plans for specific NTFPs have only just begun to be implemented. The emphasis was on timber. All concessionaires were required to develop sustainable timber management plans (including full inventories, environmental impact assessments and detailed plans for harvest operations), to file operational reports every semester, to pay a variety of taxes and fees, and to acquire FSC certification. The community organizations receiving the concession rights were also required to create and incorporate legal entities with formal by-laws and internal regulations to take legal responsibility for their concession. The creation of these organizations meant that the rights holders are not necessarily one and

the same as the ‘community’ in which they live — that is, not all community members are members of the concession organizations. Concessionaires were also initially required to sign technical assistance contracts with local non-governmental organizations (NGOs), but this is no longer the case.

With regard to the rights conferred, therefore, the concessions have use, withdrawal, management and exclusion rights. Withdrawal and management must adhere to strict guidelines. Exclusion rights, however, conflict with other laws in some cases. For example, the law governing *chicle* gum (*Manilkara* spp.) extraction recognizes the right of access to *chicle* on all state-owned lands for anyone requesting a permit, and CONAP continues to give these licences in concession areas.

The Highlands study refers to a different — and much more attenuated — tenure change. As the origin of over half of the country’s watersheds, including several with irrigation or hydroelectric potential, the Western Highlands play a vital role in the country’s hydroecological balance. In spite of being dominated by very small individual farms known as *minifundios*, there are still 7500 km² of forest, covering 32% of the land¹⁰, and a variety of sources indicate that a large portion of these remaining forests are located on lands ‘owned’ by municipal governments or communities. Until recently, however, Guatemalan law did not recognize communal lands. Rather, numerous other legal entities exist to register lands with more than one owner, and many communal forests are legally owned by municipal governments.

The 2005 Law for the Registry of Cadastral Information (*Registro de Información Catastral* — RIC) recognized communal lands in national law for the first time; it specifically established that communal lands ‘are lands in property, possession or tenure of indigenous and peasant communities as collective entities, with or without

legal standing. In addition, those lands that are registered in the name of the state or municipal governments, but that have been traditionally possessed or held communally, form part of these lands’ (Article 23). Prior to this, however, the 1985 Constitution recognized indigenous peoples’ rights to the lands they have utilized historically (Roldán Ortega 2004). The 1995 Peace Accords, specifically the Accord for the Identity and Rights of Indigenous Peoples, established the government’s obligation to respect the rights of indigenous peoples, including rights to the restitution and protection of their communal lands. In 1996, Congress ratified the International Labour Organization’s (ILO’s) Convention 169 concerning Indigenous and Tribal Peoples in Independent Countries¹¹.

Nevertheless, although additional legal procedures and instruments for the legalization of communal lands have not been created, a number of other dynamics have — in some cases — promoted greater recognition of communal forests and given more substance to communal land rights. These include various programmes and projects promoting community forest management and incentives for forest protection and planting, such as the Forestry Incentive Programme (*Programa de Incentivos Forestales* — PINFOR). PINFOR is a government programme that provides incentive payments to promote forest plantations through reforestation and silvicultural management as well as for natural forest protection. The vast majority of beneficiaries are private individuals and companies, but the state forestry institute’s Communal and Municipal Forests (*Bosques Comunales* — Boscom) programme has promoted the implementation of PINFOR in communal forests, as well as in municipal forests. Several municipal governments have given special certifications to communities, recognizing their rights over municipal forests. Though the composition of tenure rights varies greatly among communal and municipal

forests throughout the Highlands, the four communities studied all have access, withdrawal, management and exclusion rights to communal forest areas. In one case (Chichím), these rights are explicitly limited to non-commercial uses only; in two other cases (Mogotillos and Estancia la Virgen), the communities themselves have no interest in pursuing commercial uses (Elías and Mendoza 2008).

3.3 Bolivia

Access to forest property by rural people in Bolivia has undergone a major transition in the last decade due to changes in statutory rights to land and forests based primarily on two laws enacted in 1996: the new forestry law and an agrarian reform law known as the INRA (*Instituto Nacional de Reforma Agraria*) law. Both laws were negotiated during a period of broader reforms in the country and provided parallel frameworks affecting the status and use of Bolivia's forests. Almost half of Bolivia's territory is covered by forests (47% or 534 000 km²), and most of this forest area (approximately 80%) is located in the country's eastern lowlands (MDSMA 1995). Almost 41 million ha of this forest area have been declared permanent production forest by the government (Pacheco 2006). The reforms were most relevant for the lowland tropical forests of the Amazonian region.

The forestry law was an attempt to restructure the forest sector by mandating the use of sustainable forest management practices and for reorganizing the government's oversight mechanisms, but is most significant for this discussion because of the dramatic precedent it set by devolving rights over forests to a large range of stakeholders. Prior to this law, indigenous peoples and peasant smallholders had no recognized formal rights over forests and were technically prohibited from commercializing forest products. Rights to harvest and trade forest products were reserved for a small number of forest industries that were given exclusive rights through a contract

system to extensive forest areas — rights that trumped other property claims, whether legal or customary.

With the ratification of the new forestry law, indigenous communities and non-indigenous smallholders with forest properties were granted the rights for access, withdrawal, management and exclusion, including, with formal authorization through an approved management plan, the commercialization of timber. Local non-resident groups could also form forest user associations called ASLs (*Asociación Social del Lugar*), designed as a form of collective entity for local people involved in logging to gain access to forest concessions on state lands designated as municipal forest reserves. The key, however, was the formalization of property rights for these rural stakeholders so that they could take full advantage of these opportunities.

The INRA law was intended to bring clarity and organization to the country's complex, overlapping and inequitable property rights situation but also had the more ambitious goal of redistribution, by 'identifying the technical or legal reasons for annulling or confirming land ownership' (Kay and Urioste 2005). The law defined several size classes of private property but recognized collective community lands and also a type of communal property for indigenous people known as a TCO (*Tierra Comunitaria de Origen*). Both types of communal property are defined by the law as inalienable, indivisible, non-reversible, collective, non-mortgageable and tax-exempt. The focus on these new types of property was partially in response to growing indigenous activism, particularly in the eastern lowlands where the territorial needs of indigenous and peasant smallholders have long gone unresolved or ignored.

Grassroots collective action also influenced the determination of the territorial needs for extractive forest communities in Bolivia's northern Amazon, which played out in a series

of governmental decrees modifying the INRA law. After the law was ratified, progress implementing the reforms in the region was delayed due to a protracted dispute for control of forest lands between estate owners, known as *barraqueros*, and forest communities and rural workers who worked for them as harvesters. Initially, in late 1999, the *barraqueros* used allies in La Paz to have a decree issued that would recognize their claims on the region's forest lands, which would have created 3–3.5 million ha of concessions benefiting about 200 people (Aramayo Caballero 2004). The decree generated unrest and a collective response from indigenous and peasant peoples in the region, culminating in a mass march on the capital in 2000, forcing the government to nullify the first decree and issue others prioritizing the titling of community land claims; these reforms increased the standard from 50 ha to 500 ha per family for the Northern Amazon, assuring sufficient land to maintain forest livelihoods based on NTFP extraction.

Titles for TCOs and communities give residents formally recognized, exclusive rights to the forests on their land and allow them to utilize forest products for subsistence and domestic uses. The sale of forest products requires the approval of a general management plan. The forestry law concentrates primarily on timber, however, and pays little attention to the management of NTFPs. Industrial timber concessions were allowed to exploit NTFPs under 'auxiliary contracts', but areas rich in Brazil nuts were to be ceded to traditional users, such as *campesino* (farmer) communities. ASLs were also supposed to have been ceded rights as a priority without competition, for example, for areas rich in Brazil nuts. Although well intentioned, the rhetoric was not supported by the policy and normative mechanisms necessary for allocating NTFP rights, which would have required the delimitation of the management area and the preparation, approval and implementation of a management plan, as well as annual operational reports — steps that were

impossible without progress in the agrarian reform and the necessary technical norms explaining management requirements. It would be almost a decade before the government issued technical norms for managing NTFPs, and these have largely been ignored by producers.

3.4 Brazil

Brazil's approach to addressing property rights in its Amazon region has gone through several stages in recent decades, which are traced briefly here. In the 1970s, military governments prioritized the occupation and development of what they perceived as an 'empty' frontier. With subsidies and tax incentives they enticed new agricultural and extractive industries to enter the region and replace a forest-based economy that the government viewed as stagnant and antiquated. These initiatives also included massive colonization efforts to resettle displaced and unemployed families from other regions in the Amazon as an escape valve to avoid social unrest (Mahar 1979; Smith 1980; Moran 1981; Bunker 1985). In 1970, in an effort to overhaul the tenure regime and facilitate this transition, the government formed the National Institute for Colonization and Agrarian Reform (*Instituto Nacional de Colonização e Reforma Agrária* — INCRA) by combining other, weaker titling agencies.

INCRA introduced a colonization model called the PIC (*Projeto Integrado de Colonização*) as part of the government's Transamazon highway development programme. Along each of the new roads, the government set aside a 100-km strip to be used for small-farm colonization. The PICs were comprehensive programmes in which INCRA was responsible not only for surveying and titling farm lots but also for the construction of basic infrastructure and organization of all the services needed by colonists (Moran 1984). Nevertheless, it proved difficult

for INCRA to meet these ambitious objectives, and hardships led many families to abandon the projects (Martine 1990; Smith 1980). In 1975, as part of the new agenda, government colonization programmes switched to directed settlement projects known as PADs (*Projeto de Assentamento Dirigido*). PADs were similar to PICs, but were an attempt to learn from prior mistakes and improve the system. The major difference was that the new model was supposed to be easier and faster to implement, because INCRA had a more limited role in supporting the colonists once they were settled.

The government's development strategy for the Amazon, which foresaw centralized control and orderly occupation and investment, was confronted both by spontaneous colonization, which brought waves of immigrants into the region, and by the reality that the region was already populated by a large number of people who resisted displacement. For the former, 'rapid settlement projects' (*Projeto de Assentamento Rápido* — PAR) were instigated, legitimizing spontaneous settlement along roads or even invasions along rumoured paths of future roads. While the government tried to control the process and impose order, PARs actually undermined the stabilization programme, because the regularization of invaded areas encouraged additional invasions. With regard to the latter, new forms of settlement were the result of grassroots and NGO pressure. In 1985, the first national meeting of Amazon rubber tappers was held in the national capital, Brasília. During the meeting, the National Rubber Tappers Council (*Conselho Nacional dos Seringueiros* — CNS) was formed; this was the first national organization capable of representing the interests of rubber tappers and other forest workers in Amazonia effectively (Schmink and Wood 1992). Collective action by CNS members, supported by civil society groups, activists and international

human rights and environmental NGOs, eventually forced the government to recognize the demands and existing rights of forest people in the Amazon (Schwartzman 1991; Schmink 1992).

In 1987, in response to pressure from rubber tappers in Acre who refused to be relocated to colonization projects, INCRA introduced an agro-extractive settlement known as a PAE (*Projeto de Assentamento Agroextrativista*) as an alternative to the PAD model (Bakx 1986). The PAE essentially recognized the *de facto* occupation of forest lands by rubber tappers (or other forest peoples) and defined an outer polygon boundary that allowed existing land-use patterns and rights to persist. Three years later, in 1990, the federal government created a new classification of conservation area, the Extractive Reserve or RESEX (*Reserva Extractivista*), as another option to allow forest peoples to remain on their land. Although similar, unlike the PAEs that fall under INCRA, RESEX fall under the jurisdiction of the Brazilian Institute for Environment and Natural Resources (*Instituto Brasileiro de Meio Ambiente e dos Recursos Naturais Renováveis* — IBAMA). IBAMA's operations and mandate are significantly different from those of INCRA, focused primarily on environmental protection rather than resettlement or development. Shortly after the inclusion of the RESEX model, legislation was further broadened to create Sustainable Development Reserves (*Reserva de Desenvolvimento Sustentável* — RDS) as well.

In spite of existing tension and difficulties, however, colonization and resettlement did not disappear from government programmes, although their form did continue to change. Brazil's 1988 Constitution gave new impetus to the agrarian reform process, including the allocation of forestlands. The Constitution banned the expropriation of 'productive lands' (Article 184) and required INCRA to purchase large-scale landholdings that were not fulfilling a

social function, to be redistributed to smallholders (Mueller *et al.* 1994). Land purchases for resettlement also provided large landowners with a convenient escape from bad investments¹². The allocation of public forestlands would be guided by agrarian reform priorities, with beneficiaries receiving usufruct concession rights, but not alienation rights.

Colonization and resettlement continued with standardized settlement projects (*Projeto de Assentamento* — PA), which divided the landscape into relatively uniform grids of plots (usually about 100 ha each) intended primarily for agricultural purposes. Nevertheless, in response to grassroots pressure from social movements demanding recognition of their rights and models capable of accommodating their forest livelihoods and social identity, a diverse menu of settlement projects began to appear. In addition to PAEs, new property types included *quilombos*, which recognized the traditional rights of descendents of escaped slaves, sustainable development projects (*Projeto de Desenvolvimento Sustentável* — PDS) and forestry settlement projects (*Projeto de Assentamento Florestal* — PAF), all of which recognized customary practices involving forest use or assumed some level of collective forest use.

Property in the PAs is distributed in individual plots to families and could eventually be titled as private property (although the state technically maintains the alienation rights). The PAs were intended primarily for agriculture, though residents are restricted from clearing forests from the entire plot (beneficiaries were initially required to conserve 50% of forest cover, but more recent modifications have placed the limit at 80%). PAEs and *quilombos* are communal properties in which internal distribution and access rules are based on the residents' customary practices. The PDS and PAF have a mixture of private individual plots and communal forest

areas and usually involve the resettlement of families migrating into the region. These models all operate under INCRA.

Natural resource use in RESEX and RDS is much more restricted, because these models fall under IBAMA and are subject to environmental rather than agrarian reform regulations. Both models were formally adopted by the National System of Conservation Units (*Sistema Nacional de Unidades de Conservação da Natureza* — SNUC), created in 2000. The SNUC oversees conservation areas and protected lands to preserve biodiversity and conserve natural habitats. The SNUC considers two categories of territories: integrated protection areas and sustainable use areas. RESEX and RDS are included under the latter. Restrictions on natural resource use are intended to protect species under threat locally, or prohibit practices threatening ecosystem regeneration. Forest management for timber is allowed only if sustainable practices are implemented under an approved management plan and if the activity is complementary to other traditional activities. Forest clearing for agricultural uses is limited to only 10% of the total area.

3.5 Tenure Models

Of the various statutory changes discussed above, five different tenure models stand out in the communities and regions or territories studied for this research, though not all were studied directly or are found in every region. These include: communal forests in the Guatemalan Highlands; indigenous territories in Nicaragua, Bolivia and Brazil; extractive reserves in Brazil; different types of extractive, agroextractive and forest settlements, mainly in Brazil and Bolivia; and community concessions in Petén, Guatemala, and ASLs in Bolivia (see Table 3). This section will present a brief comparison of the models; many of the issues raised here will be taken up more fully in later sections.

Table 3. Comparison of predominant land-tenure models

	Communal forests	Indigenous territories	Extractive reserves	Agro-extractive and forestry settlements	Social or community concessions
Access	Collective but mediated by community organizations	Collective but mediated by indigenous community organizations	Collective but mediated by RESEX Council	Collective but mediated by existing community social organization	Collective but mediated by the productive organization created to manage the concession
Withdrawal/ domestic use*	No/few restrictions for NTFPs; firewood/ timber permitted with local approval and permit from state forest agency	No restrictions for NTFPs or firewood; may require local approval for other timber products	No restrictions for NTFPs or timber products for domestic use	No restrictions for NTFPs or timber products for domestic use	No restrictions for NTFPs or timber products for domestic use
Management/ commercial use*	Commercial use of timber sometimes prohibited; where permitted requires approved management plans	Commercial logging requires approved management plans	Commercial logging ok if it complements other economic activities based on approved management plans	Commercial logging requires approved management plans	Commercial logging (and NTFPs in Petén) requires approved management plans
Exclusion	Members have the right to exclude outsiders	Members have the right to exclude outsiders	Members have the right to exclude outsiders	Members have the right to exclude outsiders	Members have the right to exclude outsiders but not always for NTFPs
Alienation	Land transactions are not allowed	Land transactions are not allowed	Land transactions are not allowed	Land transactions are not allowed	Land transactions are not allowed; concession right cannot be transferred to third parties
Authority representing the collective	Traditional community authority	Elected territorial authority or organization; indigenous organization (varies by case)	Elected council for RESEX organization	Community representative organization (e.g. agrarian syndicates)	Elected directors of concession organization

*The traditional categories have been modified to identify relevant domestic v. commercial uses.
Source: Elaborated by the authors based on Albornoz *et al.* (2008); Elías and Mendoza (2008); Lewis Mendoza *et al.* (2008); Monterroso (2008); Nunes *et al.* (2008); Vieira *et al.* 2008; Wilson (2008). See also Pacheco *et al.* 2008.

In many ways, these five models appear very similar in terms of the tenure rights each has granted to the beneficiary populations. In almost all the cases, communities have rights to access, withdrawal, management and exclusion, and, only in rare cases, alienation. They do not, however, have the rights to withdraw or manage certain resources for commercial purposes, particularly timber, without approved management plans. In most cases these restrictions do not apply to NTFPs, or to domestic use of firewood or timber. Differences on these points may be related more to the legislative framework in each country rather than the model itself. For example, only Guatemala requires permits for domestic uses of firewood and timber.

Other differences among the models can be seen in a more detailed examination of specific resources or the nature of the management plans, some of which are highly restrictive, such as the rules for logging in the RESEX. This is related, at least in part, to the basis of the rights granted, such as the nature of conservation restrictions or livelihoods considerations. The Petén concessions, for example, which are located in a protected area, require management plans for each product harvested, including NTFPs, though this has been slow to implement. In most of the other cases, management plans are not required for NTFPs; in Bolivia's agroextractive communities that depend on Brazil nuts, government attempts to impose management norms have had little effect.

The security of the legal mechanism by which rights were granted is also an important consideration (Roldán Ortega 2004). For example, the Petén concessions lack a legal framework that would give the concession contracts greater weight in the face of conflicts, and they can be easily cancelled. Time and spatial constraints are also important for differentiating among the models. For social and community concessions that are granted based on limited time

periods, insecurity is likely to increase as the renewal date approaches, particularly in the face of powerful competing interests. The expansion of land rights to 500 ha per family in Northern Bolivia, as a livelihoods consideration, represented an important victory for agroextractive households.

Another point of comparison is the nature of the authority representing the collective that receives the tenure rights. This includes whether or not it is an existing institution such as an indigenous traditional authority, an elected community (non-customary) governance body or a new institution established for the purpose of the transfer of rights. It also includes whether or not the institution is a broader governance institution with political-legal authority or a more limited purpose management institution. Indigenous communities, as mentioned in the previous section, are more likely to demand institutions for self-governance.

Hence, indigenous claims based on ancestral rights and self-government should also be distinguished from the other tenure models. The symbolic and practical meaning of this has been seen in Nicaragua. In 2006, the Bolaños administration, in a media event, handed out temporary land titles to several indigenous communities located inside the Bosawas Reserve. Leaders of one of the territories, Mayangna Sauni As, decided to pursue the process to obtain definitive title. The resulting title, however, generated substantial conflict among indigenous leaders. This is because, according to the Civil Code, 'in the case that registration accounts are inexistent for a property', procedures require it 'to be registered in the name of the State to then be able to transfer dominion to indigenous communities', based on the legal principle that no one can give away what he or she does not own (CEJUDHCAN 2006). Accepting this procedure meant inherently accepting that indigenous communities were not *already* the legitimate

landowners — a legal point which is, in fact, recognized by the Constitution. Most indigenous leaders found this to be unacceptable, and lawyers from the Coast argued that it violated indigenous rights and that accepting the state's right to grant the title in this way also recognized its right to take it away (Acosta personal communication).

This is related to the issue of the alienation right. In the other models, the state retains the alienation right to the land. In the Nicaraguan case, though the tenure reform does not grant communities the alienation right, by law

it cannot be alienated by anyone else either — including the state. Registering the land to the state, therefore, appeared to grant it a degree of control over indigenous lands that is unacceptable, including an inherent alienation right.

Other important differences among the cases are found in the diversity of situations shaping efforts to implement these tenure rights in practice. Here the differences transcend the type of model, however, but rather are related to the political, social and economic processes defining each context, which is the topic of the next section.

4

Making the Rules of the Game: Implementing the Statutory Right

What tenure rights do communities have in practice that they did not have before? What have they lost? And why do they not always have all the rights implied by the statutory change? This section discusses the implementation of the statutory rights presented above. Each country or case is described in turn. A series of issues are taken into account, though not necessarily with the same degree of emphasis. The goal is to present the most important variables shaping the characteristics and outcomes of the process in each context. Each case study begins with a brief introduction, a description of the process and its current status. This is followed by a discussion of the tenure rights that have been conferred in practice, central sources of conflict or threats to the implementation or security of rights, and a summary of issues strengthening or threatening tenure security. The cases are followed by a short comparative summary and discussion.

4.1 North Atlantic Autonomous Region (RAAN), Nicaragua

The Nicaraguan cases involve the establishment of indigenous rights to the lands and resources that the communities have used historically. As mentioned earlier, the new tenure rights, which permit communities the exclusive use and management of their territories and natural resources, are substantial in relation to what they were in the

past. Domestic use of forest resources requires only the permission of the territorial authority, whereas commercial logging requires management plans approved by the forestry authority. The communities have exclusion rights but have had little support from state or regional institutions to enforce these. It has also taken many years to implement these new tenure rights in practice, and there are still demarcation and titling issues to resolve. The central conflicts are with colonists and neighbouring communities. But another key issue that has not been resolved is the size of the territory to be demarcated and the specific role of the territorial authority with regard to representation and the enforcement of natural resource rights.

The Current Process. The central government began to enforce indigenous communities' constitutional rights — which meant limiting its own powers — only after it was forced to. The *Awas Tingni* court case led to the suspension of logging concessions authorized without community approval in the Autonomous Regions and the designation of the *síndico* as the formal representative of communities for signing contracts; it also led to the Communal Lands Law. Since the law was passed, the implementation of provisions for demarcation and titling moved at a snail's pace, at least until 2007. The first titles were handed out under the Bolaños government in 2006, but it appears that this 'titling' was more

of a media event than anything else; only one such title is now registered, after community leaders from one of those territories, Mayangna Sauni As, actively pursued the issue — though this was not without substantial controversy, as explained previously.

The Communal Lands Law created the institutional framework for demarcation and titling in 2003. The National Commission for Demarcation and Titling (*Comisión Nacional de Demarcación y Titulación* — CONADETI) is a large organization comprised of Autonomous Regional Council presidents, a variety of central and municipal government representatives and one delegate of each ethnic group in the autonomous regions. CONADETI is charged with directing the process, ruling on petitions for demarcation and titling and coordinating with the Rural Titling Office (OTR) for the issuance of titles. Operations are to be carried out by Intersectoral Demarcation and Titling Commissions (*Comisión Intersectorial de Demarcación y Titulación* — CIDT) in the two autonomous regions.

CONADETI and the two CIDT offices were not authorized operating budgets by the central government until 2005, and, once they were, it was not clear how the funds were spent: large sums were used for travel and per diems for CONADETI members, and budgets have apparently been highly inflated and not managed transparently (Acosta 2006). The Commission was paralyzed for several months in 2006 because the Northern Region (*Región Autónoma Atlántico Norte* — RAAN) president refused to hand over operations after two years to the Southern Region (*Región Autónoma Atlántico Sur* — RAAS) president, as per the procedure that had been agreed upon previously. And conflicts over the budget were also delaying CONADETI's activities as of March 2007.

For their part, communities and territorial organizations have aligned themselves with non-governmental

organizations (NGOs), donors and other supporters to conduct the required diagnostic studies for demarcation, as well as to start negotiations over border conflicts with neighbouring communities. A CONADETI report from June 2006 showed 22 RAAN communities or territories undergoing demarcation (cited in Acosta 2006).

The return of the Sandinista political party (*Frente Sandinista de Liberación Nacional* — FSLN) to power in January 2007 provided a new opportunity for moving forward. In May 2006, Brooklyn Rivera, leader of the Miskito political party Yatama, signed an accord with the FSLN's then-presidential candidate Daniel Ortega, promising FSLN support on specific issues regarding demarcation, autonomy, Coast elections, forests and the agricultural frontier, among others. It is important to note, however, that not all Yatama members were in favour of signing accords with their former enemy, and not all indigenous and ethnic groups from the Coast support Yatama. After winning the presidential election, the FSLN began to fulfil at least some of its promises. One of those was to include Coast leaders in ministerial posts in the central government. These central government authorities together with regional elected authorities comprise the Caribbean Coast Development Council, which has taken the lead in decisions relating to the autonomous regions.

New Tenure Rights. The experience in Nicaragua demonstrates that 'tenure change' does not require title to begin; it did not even begin with the Communal Lands Law. Rather, the first important statutory change regarding rights to indigenous territories, in the 1987 Constitution, began to have effects even before the central government took significant steps to implement it. For example, six territories inside the Bosawas Biosphere Reserve conducted 'self-studies' for mapping and demarcation in the 1990s (Stocks 2007) with the support of foreign funds; five of these were the ones that later

received titles in 2006. One of the study communities, Layasiksa, sought and gained formal recognition in 1996 from the Regional Council for part of the territory it claimed (35 000 ha), though it took several years before the community was able to enforce its exclusive rights over that area, and it is still negotiating certain borders with neighbours. The main tenure rights discussed here are the right to exclusion, with regard to the state, third parties and neighbouring communities, and the right to manage and reap the benefits from forests and forest resources.

The failure to move more quickly on demarcation and titling has probably increased conflicts over land (Finley-Brook 2007). At least in some areas, the territories claimed have grown over time, and alliances have shifted. Some communities find membership in one or another territory more attractive (Lewis Mendoza personal communication). In our study communities, however, tenure rights have clearly improved. First, the state can no longer grant logging — or any other — natural resource concessions on the untitled lands claimed by indigenous communities without community approval¹³. In both of the study sites, in the mid 1990s, the Chamorro government assigned land titles to former combatants as part of demobilization agreements, for approximately 11 500 ha in Tasba Raya and 5000 ha in Layasiksa. The Communal Lands Law protects only titles assigned to non-indigenous third parties prior to 1987, but there appears to be no interest in challenging these land grants, which were made mostly to local community members. There is, however, interest and legal grounds for challenging the *sale* of any of these areas today — a problem that has not been formally addressed.

Second, the Communal Lands Law makes it clear that colonist invasions of lands claimed by indigenous communities are illegal and establishes the basic guidelines regarding how third parties in indigenous territories should be addressed. Colonists

with legitimate titles issued prior to 1987 who have been in possession of their land may remain, but if they wish to leave they must sell the ‘improvements’ to the community. Those who have illegitimate titles should be indemnified and the lands returned to the community. Those who have no title but wish to stay should leave or pay rent. These rules are not entirely clear to people on the ground, and some indigenous people (and colonists) believe that all colonists will have to leave when the community receives title. Another problem is that there are no funds available for the required indemnifications (Finley-Brook 2007).

In practice, communities that have sought government support to prevent colonist invasions have had little response. In a case that received national attention as well as a visit from a foreign ambassador, in 2004, the Layasiksa community took the law into its own hands to evict a group of colonists who had been living in the area for several years and whose population, and hence their land claim, had continued to grow. Community authorities spent two years trying to address the problem by following the appropriate legal procedures: they filed charges before judges in Rosita and Siuna and petitioned members of the Regional Council; they requested the intervention of the Demarcation Commission and the Mayor of Prinzapolka. According to the Nicaraguan daily *La Prensa* (Feb 8, 2004), ‘The complete lack of response from judicial, police and political authorities from the area, after two years of protests by Layasiksa’s Miskitos [the majority Nicaraguan indigenous group], led them to make the decision to solve the problem by their own means’. The conflict led to two deaths and, finally, government intervention. The colonists abandoned the area with the government’s promise to provide other lands.

The Communal Lands Law also gave Tasba Raya leaders greater courage to confront colonists and other invaders. While the field research was being carried out for this study, a small group

of peasants invaded a forested area claimed by Tasba Raya, not to set up an agricultural settlement but rather to log. Unconfirmed rumours suggested that they were tied to the relative of a current regional government member, which could have made community leaders more hesitant to act. Nevertheless, they chose to confront the invaders, who left with their chainsaws and most of their other tools, but abandoned three barrels of fuel and the wood they had cut, all of which were confiscated by the community (Wilson 2008).

Third, the Communal Lands Law established procedures for resolving border conflicts between communities. Both of the study communities have overlapping claims with neighbours. The Law calls on neighbouring community and territory leaders to ‘use all efforts at dialogue and agreement necessary’ to resolve their conflicts. When these efforts at conciliation fail, however, the decision moves through several stages in the Regional Council, with the final verdict falling to the plenary of the Council. Layasiksa is in the process of negotiation with neighbours. A conflict between Tasba Raya, a Miskito territory, and the community of Awasi Tingni, a Sumo-Mayangna community, was finally resolved by the Regional Council (Resolution #26, February 14, 2007), which allocated more or less half of the disputed land to each. Though by law this decision represents the conclusion of the issue, at least with regard to administrative procedures (as opposed to civil court procedures), it appears that none of the communities see it as legitimate (Wilson 2008).

With regard to timber management, Tasba Raya, which has a large area of individually titled lands as well as newly won rights to a communal area, has not reaped the benefits of forest management rights in any notable way. Layasiksa, however, has strengthened its land claim with the development of two forest management plans in its territory. In fact, it had fought for the suspension of two

other management plans in the name of neighbouring communities, granted by the Forestry Institute after the Regional Council had declared the area under Layasiksa’s jurisdiction (both shut down operations but it is not clear to what extent this was because of Layasiksa’s actions). Of Layasiksa’s two plans, one constitutes a community concession with a nearby logging company; the other is owned and managed by the community forestry enterprise Kiwatingni, founded with important technical and financial support from the World Wildlife Fund (WWF) (Lewis Mendoza *et al.* 2008). The law also grants communities a portion of tax income from all natural resource exploitation on their lands, though this is not always obtained in practice.

Central Sources of Conflict. In addition to local concerns regarding borders and the presence of third parties, the central issue in the Nicaraguan territories is the definition of the territory itself. In both of the cases, the communities had organized recently into territorial organizations (one shortly after the research was completed). The Communal Lands Law establishes procedures for coming together as a territory and forming territorial authorities but permits titling either as a single community or a group. Tasba Raya, which has seven recognized communities, initially preferred to be demarcated as individual communities, and Layasiksa, which actually constitutes two communities, preferred to be demarcated as ‘the community of Layasiksa’. Yet both have decided that forming a territory is in their strategic interest (Larson 2008).

Coast political leaders have been pushing community authorities to reach agreements for the conformation of territories for demarcation. They are interested in designing territories that cover a significant part of the land area, leaving little behind as ‘national land’, and including all indigenous communities inside a territory; moving quickly while the political moment is favourable; and reshaping electoral districts to eliminate the municipal structure imposed by

the central government and to return political power to the indigenous minority (the elected Regional Council of the RAAS now has a non-indigenous majority). In a meeting between regional authorities and community leaders in May 2007, the head of the Miskito political party Yatama announced that the procedures for demarcation and titling were being simplified to facilitate the process. He argued that communities should form larger territories in order to 'move quickly', emphasizing that 'it isn't to have the land but to put our government in between' the central government and the Coast, and to have greater strength for facing the central government and the invasion of colonists (CRAAN 2007). He spoke of the importance of resolving the demarcation and titling issue in order to move forward on the other points of the accord with President Ortega.

This new governance structure could bring a more substantial devolution of authority to the indigenous and ethnic populations of the Coast, though it is important to mention that not all Coast ethnic groups feel represented by Yatama. The territories recently formed by Tasba Raya and Layasiksa would both be subsumed into much larger areas. Though they would still participate in the election of the territorial authority, they have worked hard to improve accountability more locally, and 'their territory' would no longer be represented by 'their leaders' (Larson 2008).

The fundamental issue here is the role of the territorial authority, which should be elected in assemblies of the traditional community authorities that represent the group of communities forming a territorial unit. According to the law, the territorial authority's specific responsibilities are to administer 'the communal property rights and those of common use areas', together with community authorities (Article 30). They also are the ones who authorize the use of natural resources that are for the 'common use of the territory's member communities' by third parties (Article

10). According to Article 5, they are 'administrative organs of the territorial unit that they legally represent'. Hence these authorities play a central role in resource access within the territory as well as in excluding (or permitting) third party access. In practice this is the authority designated to withdraw tax income in the name of the territory from national accounts. But this is not all. Coast political leaders are hoping to use the territorial structure to go much further in the restructuring of Coast autonomy as a whole (Canales personal communication). One of the goals is to redesign the electoral districts, eliminating the municipal structure imposed by the Electoral Law, and replacing them with the newly demarcated territories. Territorial authorities would then also be formally recognized as the lowest tier of government. Hence their decision-making power could be much greater than that contemplated in current legislation.

Experience to date, both at the community and government levels, however, has already demonstrated the risks. At the community (and territory) scale, the *síndico* is the leader granted the authority by law to sign contracts for the sale of community resources. Throughout the region, this resulted in serious problems of corruption and, at least until recently, the almost complete failure of communities to control or sanction this behaviour. It took several years, and outside organizational support, for the communities in the study to elect more responsible *síndicos* and increase their accountability (Lewis Mendoza 2008, Wilson 2008). The government's role has not been very assuring either, in relation to these authorities. In both case studies, on more than one occasion, the government had failed to certify the elected *síndico* at all or in a timely fashion. In one case a person was certified who was not the person elected, who then withdrew the community's tax income. These examples indicate that the nature of territory and territorial

authority has concrete political and economic consequences for indigenous communities.

Security of Tenure. The right and ability to exclude colonists from land invasions is seen as an important element of tenure security in Nicaragua, as well as the guarantee of tenure rights over a long period of time. In the Nicaraguan cases, both study sites believe firmly in their right to exclude outsiders and have increased their ability to do so through community organization. They have not been able to count on the support of the state, however, and land invasions continue uncurtailed in some areas. The expectation that new rights will be held in perpetuity is high where lands are demarcated and conflicts have been resolved, though there are also areas still under conflict in the region. Negotiated solutions clearly have greater legitimacy, however, than decisions made by the Regional Council.

In Layasiksa, the relationship between forest management (in this case for timber) and tenure security is apparent. WWF surely would not have been willing to invest in the community if tenure had not been relatively secure, though there were still a variety of overlapping claims when the project began. In turn, the two forest management plans, as well as the organization of the community as land managers in general, also increased the community's tenure security. Though their full dominion over the area claimed, now 115 000 ha, is not complete, they have substantial legitimacy.

The conflict with political leaders has also led to insecurity, not with regard to possession of the land but with regard to governance, which has repercussions for resource management due to the role of authorities in implementing and enforcing tenure rights and regulations.

4.2 The Petén, Guatemala

The Petén concessions gave community groups formal rights where they had

previously had primarily informal rights and little access at all to timber. Though the concession contracts grant exclusion rights, these are attenuated by an incongruent legal framework and the pressure of multiple external stakeholders interested in the region's valuable natural and cultural resources. The concession rights are granted for 25 years, and they can be renewed but also cancelled at any time for non-compliance. The contracts impose substantial responsibilities on members. For its part, however, the state has failed to maintain a consistent position supporting the community concessions, thus undermining the ability of these organizations to meet their obligations. Nevertheless, in spite of threats to their future, the concessions have provided considerable livelihood benefits.

The Current Process. The community concessions in the Petén were authorized between 1994 and 2001. The oldest established, therefore, had been operating for 13 years at the time of this study, and the two concessions studied were authorized in 1997 (Carmelita Integral Development Cooperative) and 2001 (Civil Society Association Arbol Verde). From 1990 to 2002, over \$100 million was invested mainly by the US Agency for International Development (USAID), the Interamerican Development Bank (IDB) and the German development bank *Kreditanstalt für Wiederaufbau* (KfW), overwhelmingly in support of government conservation programmes, training, technical equipment and NGO projects in the Mayan Biosphere Reserve (MBR). But this model of external support has shifted from purely technical assistance to more of a joint effort between the state agency in charge of the reserve, National Council for Protected Areas (*Consejo Nacional de Áreas Protegidas* — CONAP), and the secondary level community organization of the member concessions, Association of Forest Communities of Petén (*Asociación de Comunidades Forestales de Petén* — ACOFOP) (Gómez and Méndez 2005; Taylor *et al.* 2008). ACOFOP plays

a central advocacy role in representation of the needs and demands of the community concessions.

Though they are often referred to as a group, the concessions are highly diverse. They have different levels of homogeneity, identity, cultural cohesion and organization. The resources they manage vary in productive potential, as do the industrial capacities of each group. The individual organizations have different administrative and political systems and are linked in different ways to markets. They also have different histories and relations to agriculture, non-timber forest products (NTFPs) and logging. The community concessions established an institutional framework for governance of what was previously, in many ways, an open access frontier, though in some areas there were important informal institutions governing access to NTFPs such as *chicle* gum and *xate* palm (*Chamaerorea* spp.) (Monterroso 2006; Hurtado 2007). It is notable that from 1990 to 1999 the Multiple Use Zone (MUZ), where the concessions are located, had the lowest annual deforestation rate in the MBR, at 0.16%, in comparison with the Nucleus Zone, at 0.32%, and the Buffer Zone, at 3% (Tattenbach *et al.* 2000). In 2003, a particularly bad year for forest fires, almost 56% of the Laguna de Tigre National Park burned, compared to less than 10% of the land under community concessions (WCS, IRG, Proyecto FIPA and CONAP 2003).

New Tenure Rights. The concession model created a set of institutions that made it possible for groups of people residing in the MBR to gain formal access to land and forest resources. It is not the only formal model of resource access in the Petén, but after 1990 and the establishment of the Reserve, community access to the MUZ was limited to concessions and ‘Rights to Remain’. The latter are authorized to residents living in the MUZ prior to the declaration of the reserve who are members of established communities that have negotiated their

settlement rights collectively with CONAP. Hence, for communities residing inside their concession, as at Carmelita, members of the concession organization have rights through the concession contract, but non-members still have ‘Rights to Remain’. This entitlement grants use rights to 40 *manzanas* (28.6 ha) per family for 25 years, and is renewable depending on the community’s compliance with park regulations. The 25-year concession rights are also renewable under the same conditions.

The concession contracts for both Carmelita and Arbol Verde grant them *exclusive* access, withdrawal, management and exclusion rights to all forest resources. Prior to the contracts, these groups only had informal rights to NTFPs, so the concession formalized those rights and granted rights to a new and valuable resource: timber. In practice, the institutional framework surrounding the development of the concessions focused only on timber, ignoring NTFPs until recently. This has generated a number of problems.

Carmelita was founded as a community of *chicle* extractors in 1925. The concession brought substantial changes to resource use and management and the organization of production. For over 80 years, decisions regarding resource access rights were made by *chicle* and *xate* contractors, under a complex set of rules and norms. The new concession contract placed one set of formal tenure rights, now centred on timber, over another set of informal institutions centred on NTFPs. The change in the authority defining rules of access shifted access rights as well as power relations. It required the existing leadership, organized as a traditional Guatemalan Pro-development Committee (*comité pro-mejoramiento*), to organize legally as a cooperative in order to apply for the concession contract, which refocused its mandate and generated tensions. Originally there were only 34 members, though today the co-op has over 100, or 80% of all adult community members (Monterroso 2008).

The members of Arbol Verde live in nine towns outside their concession area. Their forest concession is 80 km away and had not been used traditionally by this population. They use the concession area only for logging. Nevertheless, both Carmelita and Arbol Verde are affected by the Chicle Law, as mentioned earlier, which allows access to state forests with a licence from CONAP. These are given to traditional *chicle* extractors, some of whom live in or near the concession areas; many, however, immigrate temporarily from other regions such as the Southern Petén during the extraction season. Traditional *chicle* extractors create problems for the concession organizations. Arbol Verde's members have little control over these extractors but are still responsible for managing the forest and guaranteeing forest quality as a condition for maintaining their concession and certification. CONAP lacks the institutional capacity to monitor the people to whom it grants permits. The concessions also create problems for traditional extractors because they are now faced with exclusion. Carmelita, which has internal pressure from both members of the concession and the community to grant access for these activities, has implemented a system of local permits that allows it to monitor access, although these permits have no legal standing; with regard to *xate*, internal regulation has improved in part thanks to the development of a management plan for this activity (Monterroso 2008).

For its part, for the past three years Arbol Verde has refused to allow *chicle* or *xate* extractors¹⁴ (or almost anyone else) to enter its concession, though there are some incursions by neighbours. For Arbol Verde, the concession clearly granted substantial new tenure rights to people who did not previously have forest access, and to date it has more or less been able to exercise its exclusion rights by maintaining guards in the area.

If membership in the organization confers access rights, the terms of

membership are also important for understanding access. Carmelita is a cooperative that permits all members of the community to join, though some have chosen not to. Arbol Verde, however, is an enterprise that already has the largest membership of all the concession organizations. Given its size, it now allows new members to join only if a current member is willing to sell his or her rights.

Central Sources of Conflict. There are a number of sources of conflict that constitute threats to the sustainability of the concessions; this section will address only those that have not already been mentioned above. These can be divided, more or less, into external and internal threats. There are external threats to the concessions that affect certain locations more than others. These include the expansion of the frontier for agriculture, for biofuel plantations and for ranching. Ranching now occupies 12% of the land area in the municipality of San Andres and 31% in La Libertad, and agriculture 2% and 13% respectively (Monterroso 2008). These are the two municipalities with the largest part of their land area located inside the MBR, with the former including five of the community concessions and the latter the two largest national parks. The frontier has increased pressures particularly on the four smaller concessions at its edge, along a major road, and led to a crisis of the forest management model as a tool for controlling frontier expansion in these communities. These communities, which like Carmelita live inside the concession area, were founded more recently than Carmelita and have no tradition of forest management, for NTFPs or timber; to make matters worse, they were granted small, low-value forests. Rising land values have led to an active land market, which is also tied to other illegal activities such as drug trafficking.

Powerful groups with economic interests in tourism have presented another important external threat with the proposal for the expansion

of the Mirador-Rio Azul National Park. In 2002, a Guatemalan NGO run by a US archaeologist obtained the government's agreement to this proposal (Governmental Accord 129-2002), which overturned the concession legislation. It gave the NGO exclusive rights to the management of archaeological resources in the Mirador Basin and expanded the park into five community concessions as well as two industrial concessions. The expansion was to lay the basis for large-scale tourism development centred on the archaeological sites of a Mayan ceremonial centre. The community most affected was Carmelita. ACOFOP invested substantial time and resources to play a central role in the 3-year process that overturned the accord. Advocates for the Mirador Project continue to attack the concession model in the international press (Howard 2004; Davis 2005; Brazil 2007; Murray undated), and their actions have fostered divisions in the community of Carmelita. In particular, a small group of Carmelita residents has chosen to remain outside the cooperative and use their ties to these power groups to obtain resource access.

Outside economic interests also include subsoil concessions, since the state retains not only the alienation rights to the land in the reserve but also the subsoil rights. One year after signing its concession contract, Carmelita fought plans to grant a concession for petroleum exploration on its land, and the government ruled in favour of the community concession. Though the concession contracts specifically mention that there will be compensation for damage to natural resources from mining or petroleum concessions, it is not clear how, who or what would be compensated, particularly taking into account the livelihoods and subsistence needs of the Carmelita community. Recently, pressure has resumed for expanding exploration and exploitation (Monterroso 2008).

Internal threats to the concessions include organizational weaknesses, lack of community cohesion, distrust and

the difficulty of developing mechanisms for the transparent management of funds. These problems vary among the concession organizations, but some have institutional and structural roots that could be mitigated with improved policy and NGO support. They are exacerbated by external pressures, especially by interest groups that foment divisions in communities for their own benefit. Organizational weaknesses also originate from the way these groups were formed, as seen in Carmelita, and affect current relations between the concession-rights holders and the non-member population (Monterroso 2008).

These internal problems have been influenced by the priority placed by donors, NGOs and CONAP on timber at the expense of other resources. This was mentioned with regard to NTFPs but is also true regarding agriculture, which has largely been officially ignored, in spite of its importance for local livelihoods. Arbol Verde members have the advantage of living outside the MUZ, in the Buffer Zone where land ownership and agriculture are permitted. Carmelita is not an agricultural community, with only 15% of the people dedicated to this activity, but the importance of agriculture is growing. It is a central issue for the four communities at the edge of the agricultural frontier and under greatest threat. There has also been substantial donor and government pressure for the development of profitable enterprises, without a clear definition of the meaning of a 'community enterprise' (see Antinori and Bray 2005). For example, Arbol Verde suspended a variety of other productive activities that it had been exploring because they were seen as insufficiently profitable. Further consideration needs to be given to the concept of 'community' in community concessions, as well as greater analysis of accountability, management capacity and mechanisms for benefit distribution, which differ among communities.

Security of Tenure. External threats are often related to multiple interests

in the reserve and the capacity of the concession model to resist or provide an alternative, which, in turn, depends on the government's commitment and the degree of security of rights established by the institutional framework. The state should play a central role in guaranteeing exclusion rights. In fact, it not only fails to do so but it is also sometimes implicated in supporting competing interest groups. The failure to address these issues threatens the security of the concessions and people's rights.

Enormous responsibility is placed on the concession holders for the condition of the forest as established by the conservation framework defining the nature of the reserve and its use zones. If they fail, for example, by losing certification or failing to obtain the approval of their Annual Operating Plan for logging, the contract can be cancelled. The communities are responsible for forest condition, but they do not have full control over resource use due to access rights granted to others with *chicle* permits. They are also faced with challenges far beyond their capacity to manage, such as the advance of the agricultural frontier and land and drug trafficking. The contracts do not provide for graduated sanctions, simply cancellation if non-compliance is noted. Together these problems place the concessions at risk.

The concession model, as it currently stands, is too dependent on the government's political will. Without repeated lobbying and collective action by local organizations such as ACOFOP, it is unlikely that concession organizations would have achieved even the level of security that they currently have. Community members describe the run on land that takes place prior to every presidential election, as people hedge their bets. ACOFOP worked with a member of the previous Congress on a Framework Law for the community concessions, but the draft bill was never introduced. The time, energy and resources needed to

address external threats such as Mirador represent a substantial investment spent unnecessarily on defending the concessions rather than strengthening them.

4.3 Highlands, Guatemala

The communal land model in the Guatemalan Highlands is based on the formal recognition of lands and forests that have been historically under communal management by indigenous and peasant communities. In spite of important changes in national legislation, however, this model has not been fully implemented in practice. Though some important advances have been made in favour of communal forest-tenure rights, in the absence of a far more substantial political commitment to building the procedures and mechanisms for their definition and legalization, the demands of other actors on these areas more often undermine communal rights.

The Current Process. Highland communities, particularly but not only indigenous communities, have been managing local forests historically for a variety of goods and services, including firewood, timber, fibre, inputs for agriculture, food and water. Today, more than 80% of rural families obtain the forest products they use in their homes from trees or forests on their parcels or from community or municipal forests (CARE/FLACSO 2001). The implementation of a land registration programme, the Registry of Cadastral Information (*Registro de Información Catastral* — RIC), has established the first real opportunity to legalize communal lands and forests to communities, though some have obtained titles through other co-ownership arrangements, such as the Chancol Farm in the case study.

The implementation of the RIC began in other regions of the country because of the outdated manual registry system — which first requires additional investments so that it can be modernized — still being used in the

Western Highlands (Miranda personal communication). So far, there are concerns that the analysis of communal lands has not been serious or systematic, and that in practice a more substantial legal basis for demarcation and titling of these areas, beyond the administrative declarations and certifications that the RIC would provide (RIC Law, Article 65), is still lacking.

Meanwhile, Highland communities have begun to obtain formal recognition of their communal forests in other ways. This is in part due to a proliferation of projects and programmes that began to work with communities in the 1990s on conservation and development initiatives, providing new spaces for recognizing the legitimacy of their customary claims over communal forests. For example, if other documents are not available, the National Forest Institute (*Instituto Nacional de Bosques* — INAB) requires the municipal government to certify a community's right to communal land or forest to participate in its Forestry Incentive Programme (*Programa de Incentivos Forestales* — PINFOR) for forest protection and reforestation. Some communities, such as the Mogotillos case study community, have fought for, and won, municipal government recognition of their forest rights on their own.

New Tenure Rights. Highland communities are very heterogeneous, as are the tenure arrangements they enjoy. The case study research focused on two communities, Chancol and Mogotillos, and to a lesser extent, for comparison, the communities of Estancia La Virgen and Chichim. Chancol is a large farm encompassing 15 000 ha that was titled in 1950 in the name of 504 associates, who were the original owners. The land was recently distributed equally among the families of these associates, leaving only a small communal area, but the title remains collective, and is held by a board of directors that is elected every two years. Overarching land and resource management norms and rules are still addressed collectively by the General

Assembly, which consists of all the descendants of the original associates; decisions made at annual meetings are overseen by the board. Nevertheless, individual landholders have the full range of tenure rights, including the right to sell the land to people external to the 'community', though sale is prohibited if the owner is receiving reforestation incentives from a programme such as PINFOR (Elías and Mendoza 2008).

Mogotillos and Estancia la Virgen are both located on municipal lands, but these are occupied by individual proprietors with alienation rights to their parcels. Mogotillos fought and won the municipal government's formal recognition of its rights over a 50-ha forest that had historically been communal. It now has all tenure rights to that forest, except alienation. Estancia la Virgen has been managing a 56-ha area of forest, which had been abandoned by its proprietor, as a communal forest since 1992; at the time of this study community leaders had negotiated with someone who claimed to be the current proprietor to obtain 8 ha for the community but had then decided to fight for rights to the entire area (Mendoza 2007). Finally, Chichim — the only indigenous community in the study — is also located on municipal lands and has a communal forest that is formally municipal. Through agreements with the municipal government, it has the rights to access, withdrawal, management and exclusion, but it explicitly does not have the right to commercial use of any forest resources (Mendoza 2007).

In spite of the rights to communal lands held by these communities, the most substantial tenure rights change in the region has not been in favour of communities at all, but has undermined their ability to manage communal forests over the long term. Even in the communities studied, their rights may be attenuated by other processes taking place at the same time. The remainder of this section draws on information obtained both from the community

studies and from a more general study of the Western Highlands.

Central Sources of Conflict. Communal forests in the Highlands are being subject to a variety of pressures emanating from internal and external actors. Conservation interests have been attempting to limit resource use and form protected areas. Municipal governments and national and foreign investors are also interested in developing mining, hydroelectric and infrastructure projects in the region. Land values are rising in part because of these investment opportunities, forest incentive programmes and the effect of remittances.

Given the importance of the region for the generation of water resources and the protection of important endemic species, conservation NGOs and CONAP have taken a particular interest in the remaining highland forests. Because firewood collection and sheep farming are blamed as the primary causes of forest degradation, conservationists have tried to restrict these activities, although the evidence underlying their claims has been questioned (Elías and Mendoza 2008). In 1997, the government developed a National Strategy for the Protection and Conservation of Pinabete, restricting the sale and use of *pinabete* (*Abies guatemalensis* Rehder), a highland pine species popular for Christmas trees, other ornamental uses and carpentry. Several protected areas have been declared or are in the process of being declared, and there is interest in creating a series of interconnecting corridors among them by including a number of municipal and communal forests, at least one of which is included in the case studies (Chichím).

Though Highland communities, especially indigenous communities, are often amenable to the idea of creating protected areas, in particular because of their concern for water resources, it is not always clear what this would mean in practice. In fact, restrictions on

pinabete, firewood use and sheep farming may affect the poorest rural families most, forcing them to bear the costs of protection without offering alternatives or compensation in return (Elías 1997). Projects are developed with ecological motivations that are not concerned with guaranteeing the long-term supply of firewood and timber. In Chichím, the declaration of a protected area has led to restrictions on use, divisions in the community, land grabbing and the fear that the community will lose control over the land. Mogotillos is considering a protected area declaration in its communal forest but is also concerned about the future. A protected area declaration in the northern municipality of Chajul led to violent protests.

There is concern that the creation of new, formal rules, through the declaration of protected areas, will undermine the community institutions that have been operating with informal or customary rules and that are responsible for the very low deforestation rate in the Western Highlands (net annual deforestation is 0.64%). This is particularly a concern in cases where advocates consult with the municipal government regarding new protected areas but not with communities, because they fail even to acknowledge community rights over those areas. It is significant that the remaining Highland forests are largely communal and municipal forests. Community identity and cohesion are decisive for conservation, hence, if these are being undermined rather than reinforced, resource protection in the long term may also be undermined.

Not only conservation organizations (NGOs and CONAP) but also municipal governments have increased their participation in forest management and the control of access. Decentralization of the Forestry Institute has led to the creation of Municipal Forest Offices in about a third of Guatemalan municipalities. In some cases, these offices have worked closely with communities and supported and

strengthened community forest management, such as through INAB's Communal and Municipal Forests (*Bosques Comunales* — Boscom) project, mentioned earlier. However, in others they compete with communities over control and, in particular, over the right to receive income from incentive programmes that have increased the value of forests and lands for reforestation; municipal governments are also beginning to promote the creation of protected areas. At the same time, they are developing programmes for the implementation of the cadastre. The increase in power of municipal governments combined with their current control over municipal and communal forests make this a very unequal competition.

In spite of obtaining recognition in the Cadastre Law, International Labour Organization (ILO) 169 and the Peace Accords, in practice communities are still clamouring for recognition. In addition, increasing 'formalization' — or the increased reach of the state — throughout the region is obligating communities to formalize their organizations, in order to be heard, or to have formal negotiating power in their relations with municipal authorities. Similarly, many of the projects working with communities, including those created for PINFOR, require the community to establish an entity with legal standing in order to participate. These institutional transformations may undermine traditional authorities and practices and change the terms of access and control. These issues are relevant not only among communities that consider themselves indigenous but also for non-indigenous communities.

Security of Tenure. The failure to take a strong government stand in the implementation of communal forest rights undermines the security of current customary tenure rights as well as the rights that some communities have gained in negotiations with municipal governments. In the face of

growing municipal power, communities are increasingly at a disadvantage in negotiations over communal forests. Conservation initiatives that fail to address livelihood conditions and recognize and build on local community institutions are likely to undermine forest conservation over the long term, as well as to cause additional hardships for poor rural families. Finally, outside interests are taking advantage of the lack of clear legal framework to obtain land for mining and other capital investments.

4.4 Guarayos, Bolivia

The indigenous territory (*Tierra Comunitaria de Origen* — TCO) in Guarayos demonstrates an increase in the rights over forest properties by indigenous families compared with the period before reform. In theory, communities gain exclusive rights to forest resources for subsistence use and can commercialize forest products with authorization from the state. However, in practice, a number of issues have made it difficult for residents to exercise their newly won rights. These include property demands contested by other stakeholders and complications in the demarcation of territories; difficulties enforcing exclusion, especially given weak support from the state; and bureaucratic obstacles to gaining authorization for commercial forest use.

The Current Process. The government's first step in establishing communal property rights is to determine and validate the territorial needs of the petitioning group. For TCOs this could be an individual community, an entire ethnic group in multiple settlements or even several ethnic groups together. For indigenous groups the Vice-ministry of Indigenous and Original People's Affairs (*Viceministerio de Asuntos Indígenas y Pueblos Originarios* — VAIPO) carries out a spatial needs assessment taking into account, among other things, the group's historical occupation of the region, livelihoods characteristics and potential population growth. Once the

proposed size and shape of the TCO have been presented, the Agrarian Reform Institute (*Instituto Nacional de Reforma Agraria* — INRA) ‘immobilizes’ the area, or prohibits the entrance of third parties establishing new claims.

The next step is to evaluate competing claims by others to the area through a process of clarification and regularization (*saneamiento*). This step requires INRA to consider not only any legitimate documentation held by competing claimants but also whether their use of the land is meeting a social and economic function, known by the Spanish acronym FES (for *función económico social*). FES is defined as ‘the sustainable use of the land for the development of agriculture, ranching, forestry or other productive activities, as well as conservation and protection of biodiversity, research and ecotourism based on the lands capacity for the benefit of society, the common good and that of the property’ (INRA Law, Article 2, II). It is based on the idea that land should not sit idle but instead be distributed to those who will work it, but this broad definition is open to subjective interpretation and manipulation. In fact, the process is biased against forest management as it encourages land clearing as a means of demonstrating ‘productive’ land use.

Guarayos, which is home to the Guarayo indigenous people and a rapidly changing forest frontier, is a province of Bolivia’s Santa Cruz department. The province covers an area of 29 433 km² and is composed of three municipalities: El Puente, Ascensión de Guarayos and Urubicha. The population in the province, measured at 31 577 in Bolivia’s last census, in 2001, is of mixed ethnic descent. The highest concentration of indigenous people was found in the least accessible municipality of Urubicha, where 93% of the 5960 inhabitants claimed indigenous ethnicity, and lower concentrations were found in Ascension de Guarayos and El Puente, where respectively 41% out of 16 984 inhabitants and 36% out of 8633 inhabitants self-

identify as indigenous (UDAPE 2003). The ethnically mixed municipalities are more accessible given that they are crossed by the inter-departmental highway linking Santa Cruz de la Sierra with Trinidad in the Beni department. The construction and later paving of this highway in recent decades opened the region to outsiders, leading to a creeping frontier from the south as timber industries, ranching and large-scale agricultural interests and smallholder colonists began entering the region. By the late 1990s there was growing tension in the province as indigenous people began to feel the pressure from land claims and resource extraction by other actors.

In 1996, the indigenous organization representing Guarayos, COPNAG (*Central de Organizaciones de Pueblos Nativos Guarayos*) presented a TCO demand for 2 194 433 ha to the government. The following year INRA immobilized 2 205 537 ha while VAIPO carried out a special needs study for the Guarayo people. Also in 1997, COPNAG filed a legal challenge to keep the Forest Superintendence from awarding timber concessions to the industries that previously had exclusive access to the region’s forests. Their contracts were for 20 years (set to expire in 2010), and COPNAG argued that the 40-year concession rights awarded under the new forestry law constituted new rights in immobilized areas (Vallejos 1998). Nevertheless, later that year the Forest Superintendence rejected COPNAG’s position and determined that the industrial rights were pre-existing. As a result 562 604 ha of production forest, most of it overlapping with the TCO demand, were granted as concessions to 11 timber industries.

INRA divided the immobilized area into five polygons and initiated the *saneamiento* in the most remote and least inhabited polygons in the far north of the TCO demand. In August 1999, VAIPO presented the results of its spatial needs study, which diminished

the Guarayo TCO demand to 1 349 882 ha (VAIPO 1999). By the end of 2003, 970 202 ha from the first two polygons had been titled. By late 2006 an additional 17 958 ha had been titled in the third polygon located in the far south of the demand (only 7% of the polygon's area). However, there has been even less progress in the fourth and fifth polygons, which surround the highway and main town where most of the population is concentrated. INRA has initiated the *saneamiento* in polygon 4, which encompasses the provincial capital, Ascension de Guarayos, and the southern segment of the highway, but has not issued any results. In polygon 5, which borders the northern segment of the highway, the *saneamiento* process has not begun.

By focusing the *saneamiento* and titling on remote areas with low population, INRA was able to avoid zones where land claims were contested and conflict was more prevalent, which allowed titling to advance more quickly. However, this meant that problem areas where the region's population is concentrated (in the south and in a band roughly 50 km on each side of the highway) were not addressed, leaving most Guarayo families without clear tenure and allowing third-party claimants time to consolidate their holdings.

As the *saneamiento* and titling progressed slowly, Guarayos's indigenous communities became interested in the establishment of timber management plans as a strategy for consolidating their hold on forest areas that were not occupied and thus viewed as available to outsiders. From 2000 to 2004, six indigenous groups gained approval for management plans in forests around their communities. The management plans of the three communities in the Urubicha Municipality (including the plan of the case study site, Cururú) fall within the second titled polygon, although much of the remainder of these communities' territories are in untitled areas. A seventh plan is currently being evaluated by

the Forest Superintendence. In total 211 178 ha of forest were placed under management plans by the Guarayos people, with individual plans ranging from 2433 ha to 60 000 ha. Due to the complexity, cost and requirement that activities be guided by a professional forester, all of these management plans were developed with outside assistance, mostly from NGOs.

New Tenure Rights. For most indigenous people in Guarayos, the tenure situation has not changed or has changed only marginally as few people live in the polygons titled to date. Where indigenous people live, with and without title, the organization of resource use is still largely based on customary practices through a mechanism called an 'agricultural zone'. These are communal areas designated for a few dozen families and approved by village-level indigenous organizations called *centrales*. These communal areas are led by a president appointed by the *central*, and each family has an individual plot for swidden agriculture. As long as families continue to use the cleared plots and secondary swidden fallows, they are considered the owner and can leave the area to their descendants. If a family leaves the community, the zone president can assign the area to other families. In some areas near the highway and capital, families have found that ownership of lands within their zones is contested by third parties that have registered their own claims with INRA. Forests around the settlements beyond the agricultural zones are considered common resources for use by community members for the most part, but in accessible areas it has proven difficult to exclude non-indigenous colonists and loggers.

Timber management plans have provided more control over forest resources for villages in the north of the TCO in the Urubicha municipality. However, in the south of the TCO demand each of the three areas under community management plans has been invaded by colonist groups or claimed by other land owners. For example, one of the first

indigenous areas in the region to have a management plan, Santa María, has been partially occupied by a colonist *sindicato* that has cleared plots in the forest for agriculture. The colonists entered the area because they believed the unoccupied forest was unclaimed. It appears that INRA is considering their claim instead of Santa María's forestry rights as valid; repeated requests by Santa María residents to have the colonists removed have gone unanswered.

Central Sources of Conflict. A continued source of conflict continues to be the competing claims on resources between indigenous people in the TCO and local logging interests, agro industries, ranchers and colonist smallholders. The ill-defined tenure status for most land near towns and the highway has created openings for local loggers to manipulate legal exceptions to sustainable management norms to gain access to forestlands claimed by individuals (Cronkleton and Albornoz 2003).

Weak institutional capacity in the indigenous movement has contributed to the lack of transparency and oversight of leadership by its members. COPNAG had been created as a representative organization to exert political pressure on the government to recognize their land claims, but once the TCO demand was accepted the organization was suddenly given authority and administrative responsibilities over the territory — roles for which COPNAG was not designed or prepared. Competing demands often result from fraudulent land transactions that have allowed outsiders to generate documents supporting ownership claims, sometimes through collaboration with indigenous leaders (López 2004). This involves certification from COPNAG that their property pre-dated the TCO demand and was accepted by the organization. Given the lack of transparency and ineffective internal controls within COPNAG, landowners learned that some indigenous leaders were susceptible to bribes in return for signed certificates (Moreno 2006). The

conflict generated by accusations of fraud has split COPNAG into two opposing camps, divided much along the contours of national political conflict between the central government and regional departmental governments.

Security of Tenure. Currently the Guarayos people lack a unified institutional structure capable of allowing dispersed indigenous settlements in a dynamic ethnically mixed region to administer and manage such an expansive territory effectively — particularly since most titled areas are distant from existing population centres. In the north, difficult physical access has allowed communities more time to consolidate their hold on lands around their villages, and timber management plans have contributed to this process. However, villages in the south, which are farther from the titled lands, have practically been overrun by competing interests advancing on multiple fronts and claiming resources in different ways.

To date, state agencies, with their small regional staffs and budgets, have manifested little capacity to defend the communally titled lands. While the INRA law was intended to prioritize indigenous interests (Kay and Urioste 2005), INRA's approach to implementing the TCO is indicative of a lack of political will to confront hard choices and opposition from politically and economically powerful stakeholders — positions needed to follow through on commitments to indigenous land rights.

4.5 Northern Amazon, Bolivia

The northern Amazon case studies examine two agro-extractive communities in a region that has been one of Bolivia's more remote frontiers — an area dominated by humid tropical forests with an economy historically dependent on the extraction of NTFPs. The region, composed of the department of Pando (63 827 km²) and the Vaca Díez province (22 434 km²) in the Beni department¹⁵ encompasses 86 261 km².

Forest products have been the basis of the region's economy, with occupation in the late nineteenth century driven initially by the rubber boom and later shifting to other NTFPs, especially Brazil nuts. In 1990 only 2.6% of the region's lands had been deforested (Llanque 2006), although rates of deforestation have increased over the last 15 years. The region was linked to the rest of the country by road only in the late 1980s, and today transportation infrastructure is still not well developed, consisting primarily of one road stretching from Guayaramerin on the far eastern border, through Riberalta (the capital of Vaca Diez) to Cobija (the capital of Pando), near the far western edge.

There are several stakeholder groups competing for forest resources in the region, the two primary groups being rural communities and forest estate owners called *barraqueros*, though timber industries, ranchers and colonists have arrived more recently. Rural communities began to form shortly after the collapse of the rubber boom in the first decades of the twentieth century, and their levels of forest dependence and organizations depend on their proximity to urban centres, difficulty of access and relations with former landlords (Stoian and Henkemans 2000). Further weakening in NTFP markets in the mid 1980s led *barraqueros* to exert less control over their holdings, thus allowing former workers to begin claiming forests and create even more communities. Bolivia's Popular Participation Law of 1994 created a mechanism for formally registered communities to take part in municipal governance processes. Later, in 1999, the *barraqueros* attempted to re-establish their control over the region's forests including lands that had become community-owned¹⁶, but the collective response from the region's indigenous and rural producer organizations swung the agrarian reform in the communities' favour. With the advances in agrarian reform since 2000, most of these communities have either received title as agro-extractive communities or are

located within one of three TCOs in the region.

The Current Process. INRA did not open an office in Riberalta until 1998 and in Cobija until 1999. The *saneamiento* began in 2000 but was hampered by the tense standoff between *barraqueros* and community producers and their representative organizations. As the *saneamiento* progressed, it became clear that there would be enough land in the region to accommodate the demands of all registered communities and still respond to the needs of the *barraqueros*. In 2004, during the administration of President Carlos Mesa, the government issued a final decree that confirmed the 500 ha per family measure for delineating community lands and determined that once all communities were titled the state could begin defining NTFP concessions for *barraqueros* on state land.

For agro-extractive communities, INRA has focused on all communities that have registered for legal standing (*personería jurídica*) and formed representative organizations known as OTBs (*Organizaciones Territoriales de Base*), which give them a voice in local government. INRA uses the list of resident families submitted by the community when applying for legal recognition to determine the approximate size of their territorial polygon based on the 500-ha rule. Boundary markers are placed based on the community's attempt to delineate their traditionally used forests but also taking into account the claims of other communities and private property owners. As the demarcation and *saneamiento* process in the north took several years, some communities received additional lands called 'compensation areas' to accommodate population growth and remedy errors in the original lists.

A review of unpublished INRA data from the end of 2007 shows impressive results in the titling of lands in favour of agro-extractive communities and TCOs

in the region. Out of 245 communities, 139 have been titled for a total of 1 807 320 ha, all in Pando. An additional 106 communities are having their claims processed (24 in Pando and all 82 in Vaca Diez), which will add another 567 638 ha to the total. Until INRA finalizes community titling it cannot begin formalizing NTFP concessions for *barraqueros*, but 237 demands (all in Pando) for a total area of 1 535 790 ha have been registered. Although *barraqueros* are generally assumed to be the owners of very large estates, 146 of the concession demands are for fewer than 5000 ha.

The titling of community lands has affected 5 out of 19 concessions granted to timber industries after the ratification of the new forestry law, because all or most of their forest area was titled in favour of communities. This leaves 14 concessions with a total area of 1 236 793 ha (from an original total of 1 568 281 ha).

New Tenure Rights. The new tenure rights in agro-extractive communities closely conform to the customary practices and use rights embedded in people's extractive livelihoods. Normally, access to forest resources is defined by a type of tree tenure (Fortmann *et al.* 1985) that allocates specific trees and related infrastructure to individual households or family groups (previously rubber trees and trails, and now more commonly Brazil nut trees and connecting trail networks). In these systems, emphasis is placed on ownership of specific forest resources, rather than defined surface areas. The polygon boundaries defined by INRA attempt to include the areas used by each household and give them the right to exclude outsiders. Properties cannot be divided, and community members are not allowed to sell their rights to others. Nevertheless, in practice families that wish to leave are able to sell their 'improvements' (i.e. their house, cleared fields, pasture) to others who then occupy and work in the forest area traditionally used by the original owner.

The new tenure rules also grant them the right to sell forest products, but this has not brought great changes. Households in established communities were already independently linked to markets for Brazil nuts, and for all practical purposes the Brazil nut sector was not a main focus of these reforms. Technically, households should have approval from the Forest Superintendence for selling NTFPs, but these traditional production systems and related market linkages are already well developed; hence, recent management norms are ignored and the state lacks the capacity to insist on their use. Communities did gain the right to commercialize timber but, as in Guarayos, they face significant obstacles in preparing management plans on their own. The government places greater emphasis on controlling logging. Until recently, however, there were few initiatives to assist communities in the northern Amazon to develop timber management plans, so permission was beyond the reach of most.

Central Sources of Conflict. Though tenure rights have been granted to agro-extractive communities in a much less conflictive environment than Guarayos, there are several sources of conflict. First, while boundary markers were usually placed with participation from community members, the results do not always create polygons that reflect the forest area that communities traditionally used. Sometimes families are unaware that their forest resources have been left outside the property, as they rely on natural boundaries for divisions rather than the imaginary lines created by the polygon (Cronkleton *et al.* in press). If the excluded area is not on state land and is instead granted to a neighbouring community, affected households quickly learn when confronted by the new 'owners' during the Brazil nut harvest. While in most areas communities had reached agreement on traditional boundaries that were seen as legitimate, the new boundaries have created conflict that did not exist previously. Depending how these conflicts are eventually

resolved, the legitimacy of the new legal boundaries could be undermined, for example if families with *de facto* rights refuse to acknowledge the new boundary.

There are also problems with the resident lists on some titles, with considerable differences between the list used for titling and the actual composition of the community. During the lag between registering the community as an OTB and the conclusion of the *saneamiento* and titling, communities can undergo significant change. The number of families can grow as the younger generation marries; others die, or leave the community, selling their rights to others. This situation complicates the definition of membership, as some residents believe they have legal rights but do not have, while others who are no longer associated with the community are legally members.

Another concern is that the process has introduced agrarian models of landholding into a system that had been based on tree tenure and forest extraction. In some communities, residents who have heard about the 500-ha measure expect that INRA will return and define the specific location of their plot. The problem is that reorganizing the community to provide uniform divisions would undercut the complex mosaic of traditional tree tenure, since resources are not distributed in regular patterns in the forest. This has generated debates that could undermine the confidence of some residents that they will be able to maintain control over the resources vital to their livelihoods.

Another source of conflict has stemmed, ironically, from the compensation areas provided to some communities. Although not all compensation areas were examined for this study, a clear pattern appeared to emerge suggesting that communities have been given title to areas that are not contiguous to their current holdings, as in the case study communities: not only do they

lack access to or previous knowledge of these new areas, but it is also likely that if the lands are productive they have already been claimed by others. In one case, a small community, together with three neighbouring communities, was granted rights to a large area several hours northeast of their current homes. After receiving the title, the community members learned that there were already families living in the area with customary claims over the Brazil nut groves. Initially they expected that the government would remove these families, but this has not happened. Even though they have title, some young families have begun purchasing rights from families occupying the land in order to gain access, although such options are not open to families with fewer resources. It is also not clear how resources would be distributed among the four communities that received rights in common to this area, since they did not have a tradition of working together.

Security of Tenure. In general the agro-extractive communities appear to have relatively secure tenure. To a large degree this is because the new tenure rights closely resemble the traditional system that was in place prior to the reform (with some exceptions). The properties belong to individual communities, and although the average size is approximately 13 000 ha they are much smaller than most TCOs and are organized around single communities with more cohesive membership focused on forest extraction.

As in other areas, the state has very limited capacity to enforce the rules, but because most communities already enjoyed customary access rights that were generally accepted as legitimate, they are able to defend their rights. Furthermore, because the boundaries closely match the spatial characteristics of NTFP-based livelihood institutions, recipients have a vested interest in respecting them. Where they live in close proximity to their forests, they

have significant control over access. However, exclusion has proven difficult in more accessible communities as Brazil nut prices have risen in recent years, providing greater incentive for outsiders to enter clandestinely to collect nuts during the harvest season.

4.6 Porto de Moz, Brazil

The municipality of Porto de Moz has an area of 19 104 km², and corresponds to the region of the Lower Xingu River, with the Xingu flowing north across the territory. About 15% of the municipality, in the north, is seasonally flooded forest, known as *varzea* (Rocha *et al.* 1996). Most of the ranches dedicated to raising water buffalo are in this northern region, while in the centre and south communities are settled in forested areas. Land in the municipality formally belongs in part to the federal government and in part to the state government of Pará. The federal government created an Extractive Reserve (*Reserva Extractivista* — RESEX) in Porto de Moz in 2004, covering about 12 887 km², or 74% of the land. The portion left outside the reserve includes six communities on the eastern riverbanks of the Xingu River and four on the Majari River, among others; the property rights of these communities have not yet been regularized but are in process. Only 42% of the total population of Porto de Moz is located inside the RESEX and is distributed in 58 communities, most of which are in the transition area between *varzea* and uplands (Nunes *et al.* 2008). The population is an ethnically mixed, traditional forest-dependent people.

In the municipality of Porto de Moz, in the Brazilian state of Pará, the occupation of the community lands by large-scale timber companies in the 1980s and 1990s led to an intense land conflict driven by local communities interested in expelling those companies from their lands (Moreira and Hébert 2003). A broad-based movement, in which resident communities allied with environmental NGOs, was successful in drawing

attention to the region, and in 2004 the Verde para Sempre RESEX was created by presidential decree. The RESEX forced out the timber companies working in the reserve and has shielded the inhabitants from expulsion by other stakeholders, but it has also brought mixed benefits, exacerbating some problems and creating others.

In particular, the formation of the RESEX has imposed substantial environmental restrictions on resident communities, while expected state support has been absent, and, more significantly, much of the pressure from external actors has shifted to areas around the reserve affecting communities on its margin. This includes a reconfiguration of timber markets, whereby local loggers, who have taken the place of the logging companies, have put pressure on the community lands just outside the reserve, where land rights have not been formally recognized. As a result, these communities have begun to demand recognition of their formal rights. Their claims have evolved at different paces, and those that have moved more quickly have been helped by external actors. Nevertheless, it is likely that land tenure recognition on the margin of the reserve will not repeat the RESEX experience, since communities are demanding land through other models that are less restrictive for the use of forest resources, such as *quilombos*, which recognize the traditional rights of descendants of former slaves, and agro-extractive settlements.

The Current Process. Initial attempts to secure community lands and halt pressure from timber companies led to the constitution of a Sustainable Development Committee that articulated most of the local social organizations, which in turn aligned their interests with external actors (such as Greenpeace) against the logging companies. The NGOs increased the visibility of local conflicts, and hence contributed to putting the communities' claims on the federal government's radar screen. After the creation of the RESEX, the

federal environmental agency (*Instituto Brasileiro de Meio Ambiente e dos Recursos Naturais Renováveis* — IBAMA) had to write the reserve's sustainable development plan to begin land registration and financial support for the recommended activities. However, as of 2008, the only studies undertaken had been an inventory of the families residing in the reserve and an emergency plan for natural resources use, which had not yet been approved. Another important activity that took place before the RESEX creation was the demarcation of six communities, as a strategy to secure their forest reserves from encroachment; a couple of these have since initiated timber management plans there with external support.

The communities outside the RESEX on the east bank of the Xingu have initiated a process to formalize their land rights. This decision was motivated by the creation of the reserve and the increased pressures on their lands from local loggers. The residents also recognized the possibility of legalizing their property claims at the community level. Yet the process is not easy. It depends not only on local agreements regarding the land tenure modality to be adopted from a growing menu of options, but also requires navigating cumbersome legal procedures of the state land administration agency (*Instituto de Terras do Pará* — ITERPA) in order to make these lands, which belong to the state of Pará, available for community titling. While some communities, mainly the four located along the Majari River, have made progress, others — particularly those located on the Xingu riverbanks — are lagging behind. The process depends on the intervention of external NGOs to fund the costs of negotiation and initial demarcation.

The most interesting implication of the land regularization resulting from the creation of the RESEX has been the restructuring of local timber markets. With the creation of the reserve and the expulsion of the large timber companies,

the space previously occupied by those companies, as well as their political influence at the municipal level, was slowly filled by local loggers who became more politically powerful. This shift, combined with new environmental restrictions inside the RESEX, led to the expansion of informal timber markets. The shadow networks that had existed previously continued to operate, but with different finance capitals. Furthermore, the new 'local loggers' moved logging pressures to the margins of the reserve, not only to the communities, but also to the national forests located there, such as the FLONA Caxiuanã (Caxiuanã National Forest).

New Tenure Rights. Prior to the creation of the RESEX, informal tenure relations included both individual and community rights. Individual rights corresponded to ranchlands located mostly in the northern portion of the reserve, where ranchers primarily breed water buffalo. This system coexisted with community-defined rights in the majority of the RESEX, although there is also a clear sense of individual tenure rights within communities. Now, all of these tenure systems have been absorbed into the RESEX. To administer the reserve, the communities have to create a democratically elected council, which should be responsible for approving the sustainable land-use and management plans. In practice, the communities have not acquired new rights but initiated a process to formalize existing ones within the boundaries of the RESEX; this process, however, is heavily bureaucratic.

Local people have acquired the right to make exclusive use of their individual and communal lands but with some forest and land-use constraints. The main constraints involve limitations on forest conversion (to a maximum 10% of the total RESEX area), on cattle breeding and on forest resource use. The latter involves not only complying with the forestry regulations that apply to others outside the reserve, but also with the condition of developing low-intensity forestry

operations and processing the harvested timber inside the reserve. Hence, while the RESEX recognizes land access and usufruct rights for larger ranchers and smallholders, it imposes a set of conditions that does not necessarily take into account local practices and sources of livelihoods. For example, IBAMA wants to reduce the population of water buffalo herds in the reserve. It is noteworthy that there are no limitations regarding the use of NTFPs, but these do not necessarily generate income for local people. At the same time, local rules for resource use that have been defined by a few communities are no longer relevant, since under the RESEX model every individual landholder has the same usufruct rights for resources, and community forests are not distinguished from the forests belonging to the whole RESEX.

The tenure rights of communities outside the reserve have not experienced any formal change, although this is increasingly a community demand. What is interesting is that they are not choosing a new form of extractive reserve but rather a community-based model. This would allow them to continue carrying out the activities upon which their livelihoods are based, without needing to comply with all the bureaucratic procedures involved in RESEX management. Nevertheless, they will not be exempted from developing community land-use plans or those required for forest management, though these are likely to be easier to negotiate and develop since they are not within a conservation area, and the plans will entail agreement within a single community rather than more complex arrangements over multiple communities. Finally, the six neighbouring communities located on the Xingu riverbanks are discussing the possibility of becoming recognized as *quilombos*, even though a large portion of their populations are not of *quilombola* origin; nevertheless, they believe this model will bring greater tenure security, in spite of the fact that their lands will be declared collective lands and they will lose rights to individual landholdings.

Central Sources of Conflict. Since they have been titled as part of a system that favours conservation, communities and individual landholders inside the reserve have to face land-use and forest regulations whose implementation is not always realistic. The main sources of conflict are linked to the difficulties that smallholders who depend on forest resources have in exercising their usufruct rights to commercialize forest products — resulting in their involvement in widespread networks financing illegal logging. For their part, medium-scale landholders depending on buffalo breeding as a source of income are expected to limit their cattle herds, though in practice this is unlikely. Communities located outside the RESEX do not face the same constraints on land and resources use but do have to comply with regulations and need to secure their property rights to protect their forests and avoid distorted relationships with local loggers. These communities, because they do not have formal land rights, cannot engage in formal systems of timber management and are dependent on informal networks to generate income.

Another source of conflict relates to the definition of the RESEX governance system. Communities have to elect a representative council that is responsible for decisions regarding long-term resource use within the RESEX. Nevertheless, communities do not have equal access to information, and not all participate in decision making. Instead, most important decisions tend to be monopolized by small groups of people who are better connected to government agencies and external projects, hampering the emergence of a more democratic system. At the same time, the communities outside the reserve have very weak organizations that limit their capacity to influence the land regularization process more effectively, or to build stronger regional movements.

Security of Tenure. Tenure rights in the RESEX are not at risk, but natural

resources may be threatened by a relatively complex system of illegal logging. Also, given the difficulty of establishing an effective governance system that responds to and reflects the interests of multiple communities — especially in a climate strongly influenced by IBAMA's top-down approach — self-governance capacities within the reserve will be inhibited. The communities on the margin of the reserve do not yet enjoy formal property rights. However, given the emphasis on community-scale properties, there is greater possibility of developing a system of governance more appropriate to their needs. Nonetheless, weak social organization may make that harder to achieve.

4.7 Transamazon, Brazil

The Transamazon is a region that has been dominated by the implementation of conventional colonization programmes in the past (Smith 1980; Moran 1981). Recently the government has been attempting to introduce new land tenure models that mix individual and collective land tenure, and hence individual agriculture with collective forest users, in order to encourage the maintenance of forest resources. Nevertheless, the new models have yet to prove their efficacy for sustaining smallholder livelihoods and promoting forest conservation. Market forces continue to drive forest use, with loggers often dictating practices, mainly through informal channels, and terms of sale that do not leave significant income for communities. As a result, rather than leading to sustainable forest use, the general trend is forest conversion for agricultural uses with heterogeneous impacts on the wellbeing of smallholders. In some areas, however, opportunities are emerging for the management of high value NTFPs, such as the *acai* (*Euterpe oleracea*) palm fruit in residual forests, in response to growing urban demand.

The Current Process. The smallholder frontier in the Transamazon presents colonization settlements in different stages of evolution, and hence in a

variety of land-use transitions. While older settlements closer to markets have almost exhausted their forest resources, having converted them to agriculture and pasture, the newest settlements, which are often distant from roads and markets, still have abundant forest resources but lack the capacity to use them in sustainable ways. Furthermore, while the National Institute for Colonization and Agrarian Reform (*Instituto Nacional de Colonização e Reforma Agrária* — INCRA) has formalized tenure rights in older settlements, newer settlements are still struggling with burdensome procedures to have their rights recognized, while facing increasing pressure from logging companies in search of new sources of cheap timber.

With the increasing demand of incoming settlers to obtain formal land tenure rights, combined with forest conservation policies, both smallholders and government are stimulating the creation of new settlements under the Sustainable Development Projects (*Projeto de Desenvolvimento Sustentável* — PDS) model. The PDS projects provide individual private plots for agricultural uses but also maintain a large forest reserve to be managed collectively. This model is being implemented extensively, and it is also being promoted by local loggers interested in taking advantage of the timber available in the new areas that will eventually be titled in favour of smallholders. Since these communities do not have the skills necessary to carry out forestry operations, logging companies are expecting to harvest the timber from communities as they are doing now, with or without management plans. An emerging problematic issue is that in some of the PDS titling processes, the authorities are not taking into account the pre-existing rights of communities that rely on agroextractive economies.

The creation of PDS settlements can accelerate the consolidation of community-level property rights, but they can also increase the competition over forest resources, often through

informal means. Informal timber markets thrive due to IBAMA's limited capacity to monitor logging operations. One interesting feature is that most of the forest areas, at the edges of the colonization frontier parallel to the Transamazon, were previously informally occupied by loggers, and are now contested by smallholders as a result of the expansion of colonization. This is increasing the competition for land and timber. In this context, land titling that appears formally as a mechanism for securing land for smallholders, and halting the advance of loggers, may in practice favour the formal access of loggers to timber. For instance, in the Pontal community, where fieldwork was undertaken for this study, the rights of local community members are being threatened due to the creation of a PDS project that will take over a portion of the community lands to which Pontal members will no longer have access. The creation of the PDS is instrumental to the needs of a timber company that is installed in the community and is taking advantage of the timber from community lands.

A disturbing pattern apparent after years of Amazon colonization efforts is that, on older frontiers, the recognition of land rights has fuelled informal land markets that benefit better capitalized farmers, thus favouring land concentration (Sawyer 1984; de Almeida 1992). The increasing land tenure security that the land titles brought to older settlements, combined with the better access of these settlements to urban centres, also encouraged land markets. In some cases, the wealthiest farmers have bought additional plots to expand their activities, mainly cattle ranching, but in others people from outside have taken advantage of land transactions. Nothing suggests that this process will not also be repeated in new settlements, in spite of regulations prohibiting land alienation. It is for this reason that the new land regulations will not grant individual title but only usufruct rights to the land.

New Tenure Rights. The titling process is aimed at formalizing smallholders' access to the land. As mentioned earlier, the new colonization settlements, claiming lands as PDS, are granting collective usufruct rights to the forestland, in the hope that this will lead to greater use of forests rather than their conversion to agriculture, in contrast to individual land titling in the past. Under this new model, the community must establish a formal community organization that is then responsible for organizing collective access, management and exclusion rights regarding forest resources. In both cases, of individual and collective titles, land tenure rights include the enforcement of existing land-use constraints, such as the prohibition of removing forest cover greater than the permitted maximum of 20% of the total titled area. In theory, this should favour forest land uses and promote the development of management plans for the remaining forest area, which is formally classified as a forest reserve. Hence, new tenure rights facilitate community access to forestlands, but in the context of a chronic lack of access to capital and limited skills for undertaking timber management, this in practice simply facilitates the formal use of forests in smallholders' individual and collective lands by local loggers.

Central Sources of Conflict. There are few sources of conflict in the plots demarcated individually since landowners are easily able to exclude others from these lands, though the removal of forest tends also to reduce the level of conflict. The main sources of conflict in the region emerge in the new lands allocated to smallholders in areas that still have forest cover. In these areas it is more difficult to prevent encroachment from local loggers, or to suspend the informal agreements between smallholders and loggers that tend to undervalue the forest resources smallholders have gained, and deplete the communities' natural capital, hence limiting their possibility of pursuing sustainable timber management in

the future. Currently, in response to accusations by an environmental organization that local loggers were stimulating the creation of new PDS settlements in order to illegally harvest timber, INCRA has stopped PDS formation and is investigating the legitimacy of existing land claims.

Security of Tenure. The main risk is that new settlements will not have the necessary conditions for undertaking sustainable timber management, and will have to sell their timber progressively to local loggers, sawmills and timber companies. At the same time, they may also build the capacities for undertaking partnerships with these actors as a way to secure their forest resources. Otherwise they will simply reproduce the previous dynamics of colonization, whereby local livelihoods relied on agriculture rather than forest-based activities. Tenure security tends to stimulate an active land market, opening the door for land sales and a slow trend toward land concentration. Also, the superimposition of colonization projects on traditional agroextractive communities may threaten the tenure security of earlier inhabitants.

4.8 Summary of the Cases

The implementation of the statutory changes demonstrates not only the vast variety of specific situations and contexts but also a common set of challenges on the ground. In many cases the tenure change has clearly resulted in more secure access to land and forests, at least to some degree or for certain groups. At the same time, numerous obstacles have impeded the full enjoyment of new rights. The improvements and threats to access and tenure security across the research sites are summarized in Table 4. The central challenges, which will be taken up again in the Discussion (Section 6) of this report, include multiple competing demands for land and forest resources, the failure of some state institutions to act decisively in support of the tenure changes, the role of local authorities and community organizations, and contradictions

between traditional and formalized rights, including the imposition of use restrictions.

These challenges in the implementation of the statutory right shape the definition of the rules of the game, or new property rights, for the future; they are thus central in determining resource access on the ground. The new rules define the area over which communities actually have rights, the legitimacy and security of those rights and their nature and extent. How they are perceived depends in part on what was there prior to the reform; what is gained is shaped by the capacity of communities and their organizations and allies to fight for their rights, and by decisions made by official titling agencies, their responsiveness to local contexts and ultimately the political will of governments to enforce and defend the new tenure frameworks.

As discussed previously, rights holders are not necessarily decision makers, though there is often some realm of decision making granted to communities. Several spheres or layers of decision makers, or authorities at various levels of the state and the community or territory, determine the parameters of land and forest access. The role of these authorities in tenure rights allocation and enforcement in the cases is summarized in Table 5, which details who allocates the tenure right, who receives the right or represents the 'community', who controls and monitors the internal allocation of resource rights, and who enforces and defends the right, or the perimeter of the 'tenure shell'.

In all cases the state allocates the rights, though this may involve recognizing pre-existing rights as in Nicaragua's indigenous territories, agroextractive communities and reserves in Bolivia and Brazil, and even forest concession rights received by communities previously involved in NTFP extraction or logging. Recognition of pre-existing rights is often a response to grassroots pressure (Cronkleton *et al.* 2008) forcing

Table 4. Improvements and threats to access in the research sites

Case study	Model	Improvements to access/ tenure security	Threats to access/tenure security
Nicaragua: RAAN	Indigenous territory	Lands being demarcated; clear rules for negotiations with neighbours and third parties; clear new limits to state's rights	<ul style="list-style-type: none"> - Long slow process for demarcation and titling with certain lack of political will and institutional weaknesses - Ongoing conflicts with neighbours, third parties - Conflicts with political leaders regarding the scale of the territory and concerns over the nature and powers of authority representing the territory - Weak community organization
Guatemala: Petén	Community concession	Secure contracts with clearly defined rights	<ul style="list-style-type: none"> - Competing demands from powerful tourism interests - Encroachment of agricultural frontier - Land markets in concessions bordering frontier - Drug trafficking influence on land markets - Internal organizational conflicts
Guatemala: Highlands	Communal forest	Some communities have reached agreements with municipal governments granting more secure rights	<ul style="list-style-type: none"> - Most communal lands still formally owned by municipal governments and little political will to change this - Municipal governments strengthened by decentralization - Community traditions weakened by imposition of formal organizations and regulations - Use restrictions being imposed for protected areas and conservation
Bolivia: Guarayos	Indigenous territory	Increased clarity of access to already occupied indigenous lands in some areas, especially more remote areas	<ul style="list-style-type: none"> - Titling process prompts land speculation - Pressure from third parties to expand agro-business - Weak governance mechanisms at the territorial level - No control in areas titled to indigenous people but not physically occupied by them - Lack of political will to defend indigenous rights
Bolivia: Northern Amazon	Agro-extractive community	Titling ensures formal access to community members; communities can enforce their property rights and exclude third parties in most areas	<ul style="list-style-type: none"> - Compensation areas may be difficult to access and manage due to distance and presence of prior occupants - Potential boundary conflicts where formal titling did not reflect traditional boundaries
Brazil: Porto de Moz	Agroextractive Settlement Project (PAE)	Communities in the process of negotiating land tenure rights and initial demarcation	<ul style="list-style-type: none"> - Unclear definition of third parties' rights - Encroachment on collective lands by cattle ranchers and loggers - Before lands are granted to communities, they need to be declared as property of the state government
Brazil: Transamazon	Sustainable Development Project (PDS)	Provides individual plots for agriculture plus collective forest reserves	<ul style="list-style-type: none"> - Logging groups promote the creation of PDS as a way to benefit from timber - PDS may infringe on traditional rights of community members where these overlap - Weak community organization
	Settlement Project (PA)	Clear tenure rights, and an ongoing process of titling colonists' lands	<ul style="list-style-type: none"> - Emerging land markets tend to concentrate land ownership

Table 5. The role of authorities in tenure-rights allocation and enforcement

Model or site/ Country	Who allocates the tenure right	Who receives the right/ who represents the community	Who controls internal allocation of rights to land and resources	Who enforces the right and defends the perimeter
Petén/ Guatemala	The state (National Council for Protected Areas – CONAP signs concession contracts)	Corporate entity (may be cooperative, corporation, etc.)	<ul style="list-style-type: none"> - The state designs management plans and rules and responsibilities of concessionaires - The state can give permits for NTFPs to other users; concession organizations monitor/control to varying degrees 	<ul style="list-style-type: none"> - In practice, communities - The state does not enforce exclusion right or sufficiently support communities with complicated competing demands; CONAP has limited budget and power but has been key supporter in past
RAAN/ Nicaragua	<ul style="list-style-type: none"> - The state, but on the basis of historic traditional right (prior to the state); key role of international court - National Commission for Demarcation and Titling (CONADETI)/ Regional government resolve conflicts among communities 	Communities or groups of communities organized into territories, represented by traditional (elected) communal authorities; territorial authorities are new, but are based on traditional structure	The community, through traditional structures, decides land and forest allocation; sale of timber requires management plans	<ul style="list-style-type: none"> - The state should enforce but plays little role with regard to colonization, which is seen as the greatest threat by communities - Communities have defended their perimeters, sometimes using violence
Guarayos TCO/ Bolivia	National Agrarian Reform Institute (INRA), commercial forest rights are authorized by the Forest Superintendence	<ul style="list-style-type: none"> - The titles (one for each polygon) are issued to indigenous organization COPNAG in the name of the Guarayo people. - Communities (and others) who prove occupation and need; representative is COPNAG 	Village organizations, through traditional structures, decide land and forest allocation; sale of forest products requires management plans. Forest management organizations are required by the Forest Superintendence (FS)	Technically INRA and FS call on support of government department that holds police power. In practice rarely used and villages defend their own areas, though initiatives are weak
Agroextractive communities/ Bolivia	INRA	Formally registered Community Organizations (OTBs) in established communities	Residents, by community and by family	In practice residents defend their rights. The state has failed to address the issue of people living in allocated compensation areas
RESEX/ Brazil	The state (Brazilian Institute for Environment and Natural Resources – IBAMA, or Instituto Chico Mendes)	Local landholders and communities receive the rights through a local council which is a formal elected body for the reserve administration	<ul style="list-style-type: none"> - In theory the state designs the rules for forest resources use and forestland conversion - In practice allocation remains in the hands of communities because of the delay in the formulation of plans 	Land and environmental agencies should enforce the rights, but little success in practice since traditional forest and agricultural activities in allocated areas continue evolving
Highland Communal Forests/ Guatemala	The state, specifically municipal governments and presumably the Office of Cadastre*	<ul style="list-style-type: none"> - The community, based on its existing (often traditional) authority structure - In many cases, however, communal forests are co-managed with municipal governments to varying degrees 	<ul style="list-style-type: none"> - In three case studies, the community decides internal allocation and management - In one case study and many other Highland communities, the municipal government plays a substantial role in rule making - The state requires permits for all wood use 	Communal forests under the control of communities are defended by residents

* The land registration process has not reached the Western Highlands and it is not yet clear to what extent it has influenced, in other regions of the country, the re-allocation of what are currently municipal-communal forests to communities.

governmental decisions and frequently involves international alliances between forest-dependent communities and international stakeholders interested in conservation or human rights. For example, this can be seen in the role of the Inter-American Court for Human Rights in forcing the Government of Nicaragua to respect the autonomy of indigenous territories.

In the formal allocation of the right, the state empowers a particular group or authority in the name of the community or collective. The case studies suggest that this is a central challenge of the reforms (see also Stocks 2005). Entities representing communities include traditional community authorities, elected territorial organizations (indigenous territories and RESEX) and other elected community authorities. According to the categories proposed by Fitzpatrick (2005), discussed earlier, all of the cases except the Guatemalan Highlands involve formal incorporated entities rather than ‘agents’ representing the community¹⁷. Nevertheless, some authorities could be seen as more of a hybrid: Nicaragua’s customary authorities, for example, which automatically have legal standing by law but do not have the formal internal rules of practice that Fitzpatrick argues make this option more accountable. In practice, the case studies demonstrate the limitations even of such corporate structures. In some of the studies, small groups dominate decision making; in others, authorities are prone to corruption. Some new authority structures are also simply ineffective, such that decisions continue to be made as they were previously, by communities, families or individuals.

With regard to the granting and defence of *rights*, an additional set of distinctions may be useful. In the cases studied, some of the institutions receiving new tenure rights existed previously, and in others they were created for the purpose of managing the area authorized. Some are broader governance institutions, with

political-legal authority, and some are management institutions. At one end of the spectrum are political-legal authorities with broad self-governance rights, as in Nicaragua’s indigenous communities; at the other are management organizations like those of the Petén concessions that have received only use rights to the land. The majority, however, appear to fall in the middle, as more limited political-legal authorities. Where management institutions receive rights, this may generate tensions or contradictions with the political-legal authority — this issue will also be pursued further in the following section. At the same time, organizations created for one purpose may need to adapt to new roles. As the case of COPNAG illustrates, organizations created for political representation and to pressure government may find they are ill suited to taking responsibility for managing resources.

One of the central differences between the models is the degree to which the state intervenes in internal resource allocation and monitoring. To a certain degree, this also correlates with the nature of the authority receiving rights, as is seen clearly in the two extreme cases, again, of Nicaragua and the Petén. Very high levels of state regulation appear to be driven by conservation goals. At least in theory, state control over decision making is particularly strong in the concession models and in the RESEX, though in practice state control varies widely. The level of state intervention may be related more to these driving forces than to the nature of the authority receiving the new tenure right, but these issues are highly interconnected and require further research.

At the same time, in none of the cases has the state played a particularly effective role in defence of community rights or the perimeter of the territory. That is, the state appears generally more attentive to enforcing responsibilities than to defending rights.

5

Access to Forest Benefits

Communities may benefit from forests in a number of ways. These include access to subsistence goods (fuelwood, building materials, medicines, leaves, roots etc.), goods for sale (timber, NTFPs, reforestation incentives and payments for environmental services), income from employment in both formal and informal sectors, and indirect benefits such as spiritual sites, territorial identity and environmental services (FAO/DFID 2001). Obtaining rights to land and forests can also have other important intangible benefits such as empowerment. Though the study identified a number of these benefits at a variety of sites, this section primarily analyzes the degree to which new tenure rights have translated into an increase in income from forests. It focuses on the forest regulatory framework and access to credit and markets, primarily for timber. The income benefits that smallholders obtain from the forests depend strongly on the capacities to manage forests and forestry organizations, the quality and nature of available commercial resources and how they engage with the market. Market engagement is shaped by conditions that define the playing field upon which market transactions take place, such as regulatory frameworks and asymmetrical relations of power or networks for transmitting information.

5.1 Forest Regulatory Frameworks

Forest regulations have a decisive influence on how resources are used by smallholders and communities, in some cases promoting sustainable management practices, and in others discouraging forest management efforts or encouraging illegal or unsustainable practices due to high transaction costs related to compliance with the law. Whereas regulations for other products may be minimal, requirements associated with logging are often prohibitive for communities and smallholders (Kaimowitz 2003). This may be due to specific biases against communities, such as logging quotas, specific technology requirements or additional paperwork not required of logging companies, such as social investment plans. Mexico's forest communities initially received only stumpage fees under a concession system (Bray *et al.* 2006), and throughout the 1990s policies still favoured plantation projects and transnational capital over communities (Klooster 1999). Even without specific policies or additional requirements for communities or smallholders, forestry office personnel may simply favour logging companies in the implementation and approval of licences, partly because the way the system is set up tends to favour the private sector, and, even when all else

is equal, the structural inequities (e.g. information, capital, credit) faced by smallholders and communities often make forest management for commercial timber prohibitive (Larson and Ribot 2007).

The main requirements for logging in selected areas in the four countries studied are summarized in Table 6. All of the cases require some kind of land title, concession contract or document guaranteeing possession, a forest management plan signed by a professional forester, and an annual operational plan, also signed by a professional forester. The Petén concessions also require Forest Stewardship Council (FSC) certification, which adds a substantial burden in terms of additional requirements and costs. Logging in areas over 500 ha in Nicaragua requires an additional environmental impact assessment. In both Guatemala and Bolivia, collective management plans in community forests require the establishment of new organizations that take legal responsibility for the management plan. This is not a requirement in Nicaragua, since communal authorities were granted legal standing with the Communal Lands Law, but the non-governmental organization (NGO) projects working with community forestry have also sought to form separate organizations to manage forests. To guarantee community approval of logging on communal lands, Nicaraguan law states that the community assembly (usually understood as all adult community members) should grant approval, but, in practice, regulations require the signature of the legal representative only. In Bolivia, community groups in *Tierras Comunitarias de Origen* (TCOs) are required to document the consultation process and resulting consensus to invest in forest management as part of the community's management plan.

In the Petén, the requirements for community concessions are the same as for industrial concessions. In Bolivia,

regulations for TCOs are similar to those used by industry and private landholders but have additional requirements to prove that there is consensus among residents, that there is a defined organizational framework for implementing the plan and reporting to the government, and that there is a strategy for distributing benefits derived from the plan to residents. While Bolivian regulations emphasized large-scale general forest management plans, in practice there are several other legal mechanisms that allow timber sales, including sale of timber cut during land clearing for agriculture (see Cronkleton and Albornoz 2003). In Brazil, in 1998 Decree 2788 created simplified norms for community forestry management (known as PMFSimples), and in 2002 a scheme establishing three different permitting mechanisms was established, but communities still face significant bureaucratic hurdles to gain approval for management plans from the Brazilian Institute for Environment and Natural Resources (IBAMA) or state environmental agencies. In Nicaragua, implementation has favoured logging companies until recently, with the development of a Community Forestry Strategy both in the North Atlantic Autonomous Region (*Región Autónoma Atlántico Norte* — RAAN) and nationally¹⁸.

The primary obstacles to community participation in timber markets, in all of the countries, are structural barriers. These include the costs of complying with regulations, including the labour and upfront costs associated with gathering required information on the forest resources to be managed, the costs of technical support, as well as the time, travel costs and fees needed to navigate the bureaucracy. Obstacles also include the lack of information, knowledge and capacity to form the required organizations and understand and meet all the associated rules for developing and implementing management plans. These are daunting challenges for most communities. Timber management

Table 6. Requirements for logging in selected sites

Logging requirements	Guatemala (Petén concessions)	Nicaragua (indigenous territories)	Bolivia (indigenous territories)*	Brazil (various models)
Land title	Concession contract	Certificate of possession is acceptable in indigenous areas	Yes	Yes
Legal standing of organization	Yes, must establish legal entity to sign contract	Yes, legal standing is conferred to customary authorities by law; no separate organization is required	Yes, must create management organization	Yes, a productive organization is required for timber management
Formal organizational approval	No	Signature of representative (<i>síndico</i>) should represent approval of community	Yes, 2 resolutions: (1) signed by TCO organization (2) signed after community assembly guaranteeing consensus, and notarized	Depends on the land tenure model, but most require the approval of the organization
General forest management plan	Yes, by professional forester and approved by the state forestry agency (costs assumed by donors)	Yes, signed by professional forester and approved by Regional Council and Forestry Institute (municipal government also approves but decision not binding by law)	Yes, signed by professional forester and approved by the Forest Superintendence; includes creation of management organization, with statutes, operating manual, etc.	Yes, signed by a professional forester and approved by the state forestry agency
Plan for income distribution	Not required for approval	Not required for approval	Yes, required as part of the management plan	Not required for approval
Environmental impact assessment	Yes	Yes, for areas over 500 ha	No, but management plan requires the demarcation of environmentally sensitive areas and conservation areas	Most cases require a sustainable development plan (including a zoning plan) and an environmental licence
FSC certification	Yes	Not required by government but by NGO (WWF)	Not required but encouraged by NGOs and Bolivia's voluntary certification organization	Not required
Annual operating plan	Yes	Yes	Yes	Yes
Reports required	Every semester	Forester must file reports monthly	Annually	Annually

* Simplified procedures are available for areas under 200 ha, if communities choose to make their management plans individually instead of collectively.

Source: Elaborated by the authors based on Albornoz *et al.* (2008); Lewis Mendoza *et al.* (2008); Monterroso (2008); Nunes *et al.* (2008), Vieira *et al.* (2008); Wilson (2008).

norms not only complicate the life of community members through high transactions costs, but problems are also caused by prolonged delays waiting for official authorization (sometimes months or years). The bureaucratic process for obtaining logging permits in forestry agencies is notoriously difficult to navigate through normal channels. This is even the case for actors with the capacity and resources to prepare the required documentation. For example, one study in Honduras found that obtaining a logging permit involved 20 actors, 53 procedures and 71 different steps, which took an average of 3–4 months; in Costa Rica, the process involved 11 actors, 31 procedures and 34 steps, and could take up to 1.5 years (Navarro *et al.* 2007). A related study in Nicaragua's autonomous regions identified c. 30 steps for areas over 500 ha (Navarro 2008). In the Bolivian site Cururú, over two years passed between the initiation of the management plan and the final approval from the Forest Superintendence.

In Nicaragua, the cost of the general management plan was about US\$ 2/ha and the environmental impact assessment about US\$ 1/ha; both of these cover the total management area (Arguello 2008). Annual operating plans (over the annual extraction area) range from US\$ 9–12/ha in broadleaf forests. The initial investment for these studies in Layasiksa was more than US\$ 50 000, because the area included in these studies included a larger part of the territory than just the area managed for logging. In the Petén, the direct costs of creating organizations are estimated at US\$ 2000, but this does not take into account the time and money and travel invested in researching options and organizing meetings to discuss, make decisions, formulate statutes and so on. Communities are often remote and lack transportation and communication infrastructure, complicated by the demand on their time away from work. Start-up costs are often difficult to calculate since NGOs and projects usually assume substantial costs for training and equipment. In the Petén, annual

operating plans account for 5–8% of operating costs.

In the end, the overall time from initiation until approval of permits often takes at least a year and at times can take a couple of years or more. The combination of the high upfront costs in time and money, the lack of credit and the risk-associated markets with prices that are outside investor control present major disincentives for community investment in formal management plans. Under such conditions it is very unlikely that communities will undertake community-based operations without significant outside support or other incentives.

Current legal frameworks have two salient, related characteristics. On the one hand, policies are designed 'with large, formal industry in mind'; on the other hand, community forestry models, as proposed by many donors and NGOs, impose numerous governance rules regarding administration and decision making, 'regardless of whether these rules are practical' (Molnar *et al.* 2007). According to Kozak (2007), rather than recognizing their affinity to small and medium-sized forest enterprises, community forestry initiatives have been 'upheld as the panacea to more industrial forestry approaches.' The result is a homogenization of forest management models that reduces the chances for local forest users to rely on their own forest-use systems, which are adapted to their needs and interests (Pacheco 2005). Typically, the assumptions underpinning forest norms conceive a model suited for large-scale commercial logging, which is highly dependent on external inputs such as capital and technology, and reliant on relatively well-developed timber markets that facilitate the interactions among forest actors and contribute to the flows of capital and products (Pokorny and Johnson 2008). Hence while forest regulations tend to neglect local systems of forest use, they also shift decision-making power over forest resource use from the organizations of smallholders and communities to

external actors belonging to either the private or the public sector. Frequently, in regions where economic and production decisions and activities take place at the household level, timber management models that require new collective operations force rural producers into steep learning curves to develop functioning management institutions (Pacheco *et al.* 2008).

The result of this policy framework for forest management is a strong incentive pushing community stakeholders towards informality and the perpetuation of illegal practices (Pacheco 2007; Nunes *et al.* 2008). Typically, communities that cannot formalize their forestry operations can either risk continued reliance on illegal logging, or they can enter into agreement with loggers who finance the management plan in return for access to the community's forests. Often the terms of such agreements are not favourable to communities, given their lack of experience and power to oversee logging operations on their land, but there are also cases where loggers simply use permits gained through community management plans to mask illegal logging taking place elsewhere (Medina 2004; Vieira *et al.* 2008). In the end, these practices tend to deplete the natural capital of communities without providing important benefits in return. Also, the availability of cheap wood harvested illegally or at least unsustainably brings down prices and limits market opportunities for those communities that have attempted to implement communal timber management plans.

The problems with regulations are not related only to commercial logging. In the Guatemalan Highlands, there are numerous interrelated spheres of regulation: these include commercial permits, as well as domestic permits and the Forestry Incentive Programme (*Programa de Incentivos Forestales* — PINFOR). Guatemalan law requires licences for domestic wood consumption. As with commercial logging elsewhere, the cost and time associated with this —

as well as the low risk of being caught — means that few people comply with the rules. But those who receive incentives through PINFOR are regulated more closely: not only are incentive payments for reforestation based on taking care of the trees planted, but also beneficiaries are expected to comply with the law in all their forest-based activities. In one of the communities studied, the estimated cost of a licence for a domestic-use permit came to about US\$ 43 for a single tree. This includes time and cost spent obtaining the necessary documents and approvals. The petition is made first to the community organization ASILVO, which writes a technical opinion that is then approved by the president of the community directorate; this is passed to the Municipal Forestry Office (OFM) of the Mayor, which in turn passes its authorization to the subregional office of the Forestry Institute for the final authorization. The process takes about two weeks. The only direct payment is about US\$ 1.60 per tree to the OFM; however, additional costs include: US\$ 11 for transportation costs, US\$ 22 for an estimated 4.25 days invested in labour time, and US\$ 8 for four meals during times spent away from the farm on this paperwork. For obvious reasons, even PINFOR beneficiaries will avoid this process if at all possible.

Attempts to simplify regulations have not been encouraging. Ecuador and Brazil have taken steps to do this, mainly for low-intensity timber harvests by smallholders and communities. However, smallholders prefer to continue developing their activities as accustomed, rather than using simplified plans, and have found the approval process still overly bureaucratic. In Brazil, although simplified plans are easier to develop, their approval is still quite difficult, and nothing suggests that this is going to change dramatically in the near future (Carvalho 2008). In Nicaragua, simplified plans have been developed to salvage timber affected by Hurricane Felix in September 2007, but six months later, as the wood rotted and the rainy season

approached, communities were still awaiting formal approval; also, even these plans require the signature of a forester (hence entailing a financial investment).

Furthermore, simplifying procedures for timber extraction has been found to reduce the price of timber supplied to the industrial enterprises and middlemen, rather than improving the sale price for smallholders and communities (Ibarra 2008). In several cases, forestry law simplification has favoured elite capture. It is argued that elite capture emerges by the availability of high-value resources and weak institutional control mechanisms that create opportunities for local elites to obtain substantial shares of the benefits generated by valuable local forests (Iversen *et al.* 2006). In Bolivia, for example, allowing harvesting through 3-ha permits tended to favour local loggers, who understood the regulations and could navigate the process, instead of smallholders, whom these plans were intended to benefit (Cronkleton and Albornoz 2003).

It is important to stress that tenure models more oriented to timber management (e.g. community and social concessions) compel social groups to implement commercial logging as the only way to make a living. It is also likely that they are doing better business than others since, through their organizations, they have found the ways to obtain both investment and operational capital (Junkin 2007). The people residing on lands registered under different legal entities (such as an Extractive Reserve, agroextractive settlements and indigenous territories, among others) still draw their livelihoods from more diversified portfolios, one activity of which could be commercial logging. Nonetheless, there are still not enough clear legal mechanisms to support this diversity. The challenge for regulatory frameworks should be to set up a system whereby these distinct forms can be empowered to succeed.

5.2 Access to Markets

In spite of substantial obstacles, some community-level groups have been able to overcome challenging regulatory frameworks and participate in wood-product markets more formally, in some cases with important local benefits. Producing NTFPs appears substantially easier, since these markets tend to be less regulated but also generally less lucrative. Nevertheless, moving further up the value chain, in both timber and NTFP markets, is likely to require external support.

Research on the participation of smallholders and communities in forest product markets is still relatively new and is complicated by the fact that most of this participation is in informal rather than formal markets (see Pacheco *et al.* in press). It is clear, however, that (1) forest product markets are important to livelihoods, and (2) most often communities are limited to the provision of raw materials. These two points suggest that there is substantial room for improvement. The central issue of debate, therefore, is how to go about improving the market insertion of communities in ways that improve livelihoods, while protecting resource sustainability. One key issue is the nature of the markets themselves, or the rules of the game for market engagement; another is the nature of the community-level organization that is engaged with markets, and in particular the process through which these organizations emerge.

Changes in forest tenure have clearly improved opportunities for participation in formal timber markets in several of our case studies, such as in the Petén and in the community of Layasiksa, Nicaragua. The kinds of investments made by donors in these sites would not have occurred without secure tenure rights. In Northern Bolivia, even though communities producing Brazil nuts are supplying only raw materials, their new tenure rights, combined with increased Brazil nut prices, have given community-level producers a much

stronger position for negotiating the terms of sale. Supplying raw materials can be substantially more beneficial when the operation is community owned. One Mexican community saw its share of timber profits rise 600% after becoming independent from the concessionaires, even after doubling wages (Klooster 1999). Nevertheless, it is also apparent that, even with new tenure rights, market participation may remain limited or may not change substantially.

Current trends in international timber markets work against the interests of low-income producers: 'The structure of the global wood trade and industry is changing, marked by a perceptible shift in favour of intensive plantation forests over natural forests, concentration and consolidation of the paper and pulp industry, dominance of transnational companies in industrial roundwood processing and international forest trade, and declining or stable prices of most forest raw materials and products'; community forestry enterprises, for their part, are more likely to operate at low efficiency, small scale and with insufficient financing and technology (Molnar *et al.* 2007). Competing in international markets thus constitutes an enormous challenge. Nevertheless, the expansion of domestic markets for timber, as well as other forest products, is seen as an important opportunity for smallholders (Angelsen and Wunder 2003; Sunderlin *et al.* 2005).

Commodity chains for timber are shaped by a variety of other actors with whom smallholders and communities have to either compete or collaborate. This interaction includes formal and informal transactions with service providers, intermediaries, sawmill owners, logging companies and other buyers. These relations can be for financing management plans, obtaining operational capital, buying required services and selling products. Timber markets are also characterized by several imperfections such as high barriers to entry, buyer

monopolies that often set low prices for round wood in the production zones and asymmetric information between providers and buyers. Most often, in order to move beyond selling standing trees, communities rely on external support from government extension agencies, donor projects and NGOs to manoeuvre through the bureaucracy and overcome other barriers. Where communities lack such support, their relation to the timber market is less likely to change, and they continue to sell standing trees or wood milled with a chainsaw in informal markets.

External support, however, has often been provided through the imposition of large-scale entrepreneurial management models that require substantial funding. Though it is difficult to sort out the funding level of donor efforts in the Petén, it is known that over US\$ 100 million helped to create the Mayan Biosphere Reserve, train and staff the government agencies and create the enabling infrastructure, of which somewhere near US\$ 10 million was directed at creating the start-up conditions for community forest enterprises and introducing and subsidizing the certification scheme (Gómez and Méndez 2005; Barry and Monterosso 2008). The World Wildlife Fund (WWF)'s projects in Nicaraguan indigenous communities such as Layasiksa have also involved several years of training and accompaniment. In both sites the costs of management plans and other requirements such as FSC certification were all subsidized. All of these operations now operate at a profit, though, being a newer operation, some of Layasiksa's costs (those related to certification, for example) were still covered by donors in 2007. These operations are vertically integrated. Some of the Petén concessions, such as Arbol Verde, are capable of competing aggressively in open markets and of adopting an entrepreneurial model of timber harvesting, complying with specific quality standards; it is one of

the most 'successful' of the community concessions in economic terms. As a whole, timber from the concessions is sold 70% as sawn wood, 20% as round wood and 10% as standing timber (Monterroso 2008).

It is clear that there are several key variables that are important in the comparison of community forestry operations (see Table 7 below). One of these is the value and condition of the natural capital granted to communities. This varies based on the type of forest as well as on prior logging activities. These can be limiting factors not only with regard to the commercial value and volume available, but also to the costs of recovering natural capital and the sophistication of silvicultural methods required for sustainable management. These variables also have implications for technical assistance and capital requirements needed by communities and are particularly relevant for the management of increasingly rare species such as mahogany (*Swietenia macrophylla*) and cedar (*Cedrela odorata*) (Segura personal communication)¹⁹. Mahogany accounts for 50% of the wood sold by Arbol Verde and 61% by Carmelita, and these are the only two operations in this study that compete in international markets. In Guarayos, Bolivia, the forests controlled by communities had already been logged over by timber industries that had removed much of the high-value timber; the previous logging episodes not only leave the communities with lower-value timber species but also mean that their forests had experienced high levels of intervention that could influence forest regeneration and other processes. The volume harvested per hectare in Layasiksa is much higher than in the other operations. The Guatemalan and Nicaraguan operations all sell sawn wood and deliver it either to the mill or the buyer (or the port for export).

Income data²⁰, including total income, income per hectare and income per cubic metre, vary accordingly, with the

highest total incomes and income per cubic metre for Arbol Verde, and the highest income per hectare for Layasiksa. The two Bolivian sites have the lowest numbers for all three (but are also the smallest community groups). Though Cururú does have project support, it does not have the capital that is available in the communities of the Petén, or the kind of support provided by projects during the start-up years in the Petén or currently in Nicaragua. Hence it is selling logs. The other communities analyzed here are much better connected to markets that tend to pay better for the timber than do local loggers and timber companies in Bolivia; some also have lower transportation costs for access to international markets. It is notable, however, between the Bolivian cases, that Santa María receives a much lower average price per cubic metre (US\$ 7.60) than Cururú does (US\$ 36.40), although it transports the logs to the road, whereas Cururú sells felled round wood at the stump. Santa María has not had the support of an NGO and is working only with a logging company. Data on profits depend largely on the expenses incurred by the community, based on their level of engagement in the market chain. Carmelita²¹ appears to have much higher operational costs than Arbol Verde and Layasiksa have. Profits per cubic metre for Carmelita, Layasiksa and Cururú are fairly comparable, as are overall profits, ranging from about US\$ 28 000 for Carmelita, to US\$ 30 000 for Layasiksa and US\$ 34 000 for Cururú²².

The Cururú case shows that the sale of round wood can be almost as profitable as the sale of sawn wood, while requiring much less capital investment and lower risk. This concurs with others' findings suggesting that making progress in the vertical integration of the value chain does not ensure greater profits in spite of higher prices for the final product, since production costs tend also to increase, and technical, organizational and financial management posit more challenges for communities (Bray *et al.* 2005). Nevertheless, it is notable that

Table 7. Comparison of selected community forestry initiatives

	Petén, Guatemala (a)		Nicaragua (b)	Guarayos, Bolivia (c)	
	Arbol Verde (2006)	Carmelita (2002–05)	Layasiksa (2007)	Santa María (2004)	Cururú (2007)
First year of operations	2001	1997	2004	1999	2002
Total managed area (ha)	64 973	53 797	4 665	2 433	26 420
Harvested area in reference year (ha)	900	450	155	121	861
No. of years harvested	7	11	4	9	6
Volume harvested (m ³)	1 029	1 365	1 363	500	2 119
No. of families involved	344	88	169	35	34
Total annual income (US\$)	559 530	325 616	201 513	3 808	77 205
Remuneration to community labour force (US\$)	39 290	27 723	21 962	3 069	43 123
Other transfers to communities (US\$) (d)	32 800	33 409	6 053	1 823	no data
Total annual profit (US\$)	226 315	27 745	30 264	(3 221)	34 486
Certified operation	Yes	Yes	Yes	No	Yes
Volume (m ³)/ha	1.1	3.0	8.8	4.1	2.5
Income (US\$)/ha	621.7	723.6	1 300.1	31.5	89.7
Income (US\$)/No. families	1 626.5	3 700.2	1 192.4	108.8	2 270.7
Income (US\$)/Volume (m ³)	543.6	238.5	147.8	7.6	36.4
Profits (US\$)/ha	251.5	61.5	195.3	(26.6)	40.1
Profits (US\$)/No. families	657.9	315.2	179.1	(92.0)	1 014.3
Profit (US\$)/Volume (m ³)	219.9	20.3	22.2	(6.4)	16.3
Main species harvested (e)	Mahogany, cedar, manchiche, santa maría	Mahogany, cedar, manchiche, santa maría and pucte	Cedro macho, guayabo, mora, comenegro, santa maría	Ochoo, yesquero, colorado, paquio, tajibo	Cerebo, yesquero blanco, yesquero negro, sujo, paquio, bibosi
Type of operations	Sawn wood, placed at mill	Sawn wood, placed at port	Sawn wood, and some round wood, transported to buyer	Sale of round wood, placed at road	Sale of felled logs at stump
Main markets	80% to USA, Mexico and Germany; the rest to local markets	90% to USA; the rest to local markets	Round wood to local mill, and sawn wood to furniture companies in the capital	Mainly to local loggers and saw mills	Timber company operating in the area

Notes: (a) Data for Arbol Verde is based on CONAP (unpublished); NPV (1999); ProPetén and C. Carmelita (undated); Stoian and Rodas (2006); and authors' calculations. Data for Carmelita was obtained from analysis of financial flows between 2002 and 2005; b) elaborated by authors based on Masangni/WWF/IFC (2007); data varies between reports, however, and accounting methods; Arguello (2008) found profits of only US\$ 17 000; c) elaborated by authors based on Alborno et al. (2008), and financial reports from the Indigenous Forestry Association of Guarayos (AFIG), and the BOLFOR Project; d) social benefits include scholarships, investments in community water systems and other donations (included in total profits); e) cedar (*Cedrela odorata*), cerebo (*Schizolobium amazonicum*), mahogany (*Swietenia macrophylla*), manchiche (*Lonchocarpus castillonii*), ochoo (*Hura* sp.), paquio (*Hymenea courbaril*), pucte (*Bucida buceras*), santa maría (*Callophyllum brasiliense*), tajibo (*Tabebuia impetiginosa*), yesquero colorado (*Cariniana domestica*), yesquero blanco (*Cariniana ianeirensis*), yesquero negro (*Cariniana estrellensis*), sujo (*Imperata contracta*).

data from Layasiksa, which sells both logs and sawn wood, demonstrates that, based on the operation's price structure, selling logs alone actually generates a deficit. The primary reason is the cost of renting all the machinery used for logging (two skidders, three tractors and two forklifts), which came to US\$ 41/m³ (net), and the cost of transportation to the mill (US\$ 40/m³); this alone adds to US\$ 81 without taking labour or any other costs into account (Arguello 2008). The price paid at the mill — considered a good price in the region — averages US\$ 69/m³. Layasiksa continues to sell logs, however, because its relationship with the mill facilitates access to fuel, and the sale of logs generates cash throughout the operation, thus avoiding the need for additional credit. For operating capital, it still used a short-term, no-interest loan (revolving fund) from WWF in 2006 and 2007. In 2008, operations were being funded with profits from 2007.

The Layasiksa case makes it possible to examine some of the problems that community forestry operations face in market integration. Layasiksa has two management plans, one in concession to the company Prada, which has a sawmill in the neighbouring municipality, and one managed by Kiwatingni, the community cooperative enterprise. Both management plans operate in broadleaf forest and sell non-precious species (see partial list in Table 7). The contract with Prada is for 10 years for the sale of standing wood, which is sold at US\$ 6/m³; the community signed the contract without any provision for renegotiating the price over the 10-year term, but finally managed to negotiate an increase to US\$ 7/m³ in 2008 (Ramirez personal communication). The community does not participate in any of the decisions associated with logging, choice of species or location of logging operations; a few community members are hired as wage labourers.

Kiwatingni has a diversified operation that sells round wood to Prada, sawn wood to order and trunks and pieces of

wood that would normally be thrown away. It owns little of its own equipment and therefore contracts service providers for various aspects of the operation. Only two service providers in the region have sufficient machinery for extraction, and one is located at a substantial distance; the other is a company associated with Prada. The community fells the wood, and the company hauls it. Kiwatingni decides which wood to sell as logs and which to mill, and community members have been trained to work in all of these phases, from logging to milling to final marketing and sale. Community members thus earn wages in a variety of tasks and also oversee the operations of service providers. WWF's technical staff, now in their own company, called Masangni, still play an important role in contracting, oversight and community training and accompaniment. Kiwatingni contracts Masangni to provide the services of a forester for the development and oversight of the annual operating plan, but this is still subsidized.

As mentioned above, the sale of round wood results in a net financial loss, mainly due to the high cost of equipment rental by the service provider. Marketing of sawn wood has been carried out directly with clients rather than intermediaries, and Masangni plays a central role. Masangni, WWF and other donors that support Layasiksa have also played an important role in negotiating prices, promoting the use of lesser known species and lobbying for the use of certified wood. Buyers are mostly located in the capital city of Managua, far from the community. Masangni as well as these other donors have offices in Managua. The community's *sindico* — the formal representative for forestry issues — lives mainly in the regional capital of Bilwi (Puerto Cabezas), where he is able to lobby on behalf of the community as well as participate in numerous national and international promotional and informational events.

In 2007, Kiwatingni had an overall profitability of only 9% (Arguello 2008).

This case demonstrates, among other things, a lack of competition for some aspects of service provision that result in high production costs; problems of access to capital, hence the dependence on unfavourable relationships such as the sale of logs to Prada; low overall profitability in spite of high income, thus high financial risk; information difficulties in a remote community; and the need for substantial, ongoing outside support, particularly with regard to marketing. At the same time, the community earned almost US\$ 22 000 in wages; US\$ 0.43 on every dollar generated along the chain from planning to sale went back to the community (Arguello 2008) compared to what is much more common in the region: US\$ 0.014 from the sale only of standing trees (Flores and Mendoza 2006). The benefits in terms of increased local capacity and empowerment cannot be quantified.

Problems with community forestry operations are not only limited to overcoming market barriers, financial risk and the development of local capacity to manage all of this. Blaikie (2006) argues that ‘the bureaucratic necessity... for ‘blueprints’ and replicability...denies the complexity, diversity, and internal differentiation of local communities’. Community forestry is generally being promoted according to a model created outside the community and a set of rules that fails to distinguish ‘enterprise’ from ‘community enterprise’ (see Antinori and Bray 2005) or to recognize the central importance of grounded local institutions to long-term sustainability. Rather, in many cases, models are based on production of a limited number of timber species focused on the export market, training is focused on highly regulated technical timber management standards and success is based on profits.

However, community forestry enterprises appear to have more in common with small and medium-sized forest enterprises than with large-scale industrial forestry and should be understood as such. Kozak (2007) details

some of the positive characteristics of community forestry enterprises that distinguish them from the latter: they are labour-intensive and thus make a long-term contribution to employment and development; they thrive if provided with the right kind of policy and market environment; they tend to cater to growing local and domestic markets; and ‘they rely on the empowerment of local entrepreneurs who have vested interests in making their businesses successful’. MacQueen (2008) highlights their social advantages, arguing that these forest enterprises are better placed to address poverty in forest-dependent communities ‘by accruing wealth locally, securing resource rights and access for local communities, empowering local entrepreneurship, helping to build social capital through local business associations, engendering greater local environmental accountability and responding to cultural niches, thereby preserving cultural identity’. They also contribute to a more holistic view of forest management that recognizes the importance of cultural connections to the forest and the diversity of uses communities typically recognize; this is likely to contribute to their ecological resilience (Colfer personal communication).

Forestry Organizations

One of the central issues then becomes the nature of the organization that is established in the community to engage with market production, since community forestry projects almost always set up new community organizations. The cases studied here raise concerns about the relationship between these organizations and the community at large and the effect of the initiative on traditional ways of operating. Carmelita created a cooperative, Arbol Verde is an enterprise, Layasiksa set up the Kiwatingni cooperative, Cururú has an indigenous forestry association, and so on. Each of these entities creates parallel structures in the community, creates a new power base and raises issues

about representation, accountability and participation. In indigenous communities, in particular, it also raises questions about cultural change. The underlying question is the meaning of 'community' in community forestry.

The Carmelita cooperative, which initially had far fewer members, created new conflicts in the community and shifted power from the community development (*pro-mejoramiento*) committee to the cooperative. It also changed the mandate of the community organization to focus on enterprise development, specifically for timber, as opposed to the larger concerns of community governance over their land. In particular, as mentioned earlier, it laid a whole new layer of institutions — the cooperative itself and forest management for timber — on top of a deeply rooted set of informal institutions that had built up over decades of forest management for non-timber products. It is likely that the construction of a more endogenous model could have avoided some of the difficulties encountered in this substantial institutional shift. Though there has been an effort to integrate *xate* palm production, which now has its own management plan, community divisions have grown as the pressures on the external community have increased and residents have been encouraged by outside interests to take sides, particularly in relation to the expansion of the Mirador project, discussed earlier.

Arbol Verde is a very different operation. First, it is an enterprise, and second, its members do not live in the concession area or come from any single community. Rather, the membership is made up of individuals from nine different communities, comprising between 10% and 28% of the families in eight of the communities and 65% in one. None of these communities are resident in the concession area. The central tension with regard to Arbol Verde is that it resembles a logging enterprise more than a community forestry enterprise, having chosen, under a new leadership,

to abandon a number of NTFP ventures because they were not as profitable, to focus only on logging and, to a lesser degree, tourism. In this case, mechanisms of accountability between organizations and their constituents are weak, and community-level participation is significantly lower, given that only individuals from each of the nine communities form part of the enterprise.

The contrast can be seen between the Management Plan and the reformed statutes in 2003. The Management Plan states as a general objective, 'the improvement in the living conditions of its associates and the communities in which they live, through the development and implementation of productive projects based on the rational and sustainable use of timber and non-timber resources and services' of the concession. The new statutes state that the goal of the enterprise is 'to co-administer the forest concession area [and] sell goods and services derived from the concession' (Monterroso 2008). These changes can be traced to the role of the US Agency for International Development (USAID)'s Biodiversity and Sustainable Forestry (BIOFOR) project, which supported the modification of Arbol Verde's statutes. BIOFOR's priority was the development of viable enterprises based on a logic of profitability.

In Nicaragua, WWF generated substantial controversy in the RAAN when it convinced the Layasiksa community that a separate organization needed to be formed to manage the forestry operation. It took community leaders to the Petén as observers. A particular consideration in this case is that Layasiksa is an indigenous community, governed by a traditional authority structure that also has cultural implications. The decision was justified due to the nature of timber management and the skills required for market competition. At the time, WWF's emphasis was almost entirely technical; a former director reports that the staff hired to work on social aspects of the project received lower salaries,

and none were trained in the social sciences (Eke personal communication). Nevertheless, it was this professional staff of technical assistants that recognized that technical support alone was insufficient, and community relations and organizational issues later also became a central emphasis (Ramirez personal communication).

When the forestry organization was formed, however, as in the Petén, there were only a few models available for the formation of an organization with legal standing. Like Carmelita, Layasiksa chose to form a cooperative. In this case, since legally there is no way to make an entire community a cooperative, only a few people formally formed the cooperative, and an internal agreement was made that guarantees equal status to all adult members of Layasiksa. It is not clear whether this would hold up in a court of law, however, if this were ever required. The traditional leaders of the community also form an integral part of the overall structure. In spite of some of the problems with the way in which the cooperative was formed, it is apparent that leadership accountability has improved substantially over the past.

The community of Cururú, in Guarayos, Bolivia, formed the Cururú Indigenous Timber Association (AIMCU), based on an organizational strategy and hierarchy introduced by the Sustainable Forest Management Project (BOLFOR) and other NGOs supporting development of the management plan. Cururú benefits from having been a small homogenous community free of levels of internal conflict and factionalism found in larger towns, which has eased its adaptation of the externally imposed organizational framework to maintain forestry operations, although this required significant support. The influx of timber income to the community has brought about substantial changes to households that existed practically outside the cash economy prior to the experience and has allowed young men to remain in the area rather than migrating seasonally to

work on ranches (Cronkleton *et al.* 2007). However, tension and differences have increased over the distribution of benefits from the management plan. Income is sporadic, with cash payments often only available in the months following the annual harvests, sometimes after substantial delay and difficulty in assuring payments from timber buyers. Also, at times, tensions have appeared between families of leaders that have invested more and earn more from the project and their neighbours; nevertheless, it is difficult to separate these disputes from the broader land conflicts that are creating factions within Guarayos.

Some Guarayo families, who were dissatisfied with the slow course and periodic payments from the general management plan for their communal forests, have begun negotiating with loggers to harvest wood out of their plots in the community's agricultural zone, taking advantage of smaller and simpler management plans. Such sales were not originally contemplated by the community, generating conflict between a faction that believes that all timber should be commercialized communally and others that feel that the benefits should go to the family assigned to the plot. Further complicating the issue, one traditional leader has attempted to displace young families cultivating plots that contain some of the community's remaining stock of mahogany trees. Such disputes threaten to undermine the community's collective forestry operation.

What is apparent in all of these cases is that the roots of the organization matter; they shape the way in which it grows as well as its potential for growth, and they affect its stability over the long term. It is not always a problem that a new organization is formed, but existing capacities and organizational structures should be established as points of departure. These issues should be studied on a case-by-case basis and not assumed. And the reasons for the organization's formation should be clear, with a social and cultural, and not just economic,

basis. The nature of the organization and its relation to the existing community institutions and leadership structures should be carefully analyzed by all. Also, new formal models could be created such that, rather than requiring adherence to current guidelines for cooperatives, associations and so on, they provide a better 'fit' with the structures and logic of resident-based communities.

The problem with imposed models may be best described by community leaders themselves. A critical interchange of experiences among WWF's Latin American forestry projects and WWF officials led to the conclusion that the success and failure of community forestry in indigenous communities is inextricably tied 'to identification with the culture, idiosyncrasies and ways of being of indigenous communities and ethnic peoples' and that this 'should be the basis for undertaking any sustainable forest management initiative' (Martinez *et al.* 2006). Participants emphasized this point, criticizing the emphasis on technical aspects without sufficient attention being paid to the social issues that motivate community empowerment. They stated that one of 'the most common errors' was the belief that 'social, environmental and economic sustainability' would arise from 'the simple fact of equipping the CFE [Community Forestry Enterprise] with machinery and equipment' (Martinez *et al.* 2006).

These issues have implications not only at the community scale but also with regard to scaling up to another stage of operations, such as for market relations. One example is the Community Enterprise for Forest Services, SA (*Empresa Comunitaria de Servicios del Bosque* — FORESCOM), in the Petén. FORESCOM was created to better position the concessions in the market for forest products, after a decline in technical assistance from NGOs for marketing. The organization is comprised of shareholders made up of all the members of the participating concession organizations. Initially, nine

out of twelve concessions participated. It is governed by specific regulations (the mercantile registry) for such entities, which do not correspond with the timelines established in the region for the concession organizations, such as for periodic elections. Its formation went through several stages but was strongly influenced by donor requirements, and according to several people interviewed, 'FORESCOM became USAID's exit strategy' (Monterroso 2008). It has a variety of functions and substantial assets, mainly from donations as USAID's projects closed down. For example, it has machinery for road repairs, manages certification as a group for five concessions, negotiates the sale of lesser-known timber species and provides forester services for management plans, among others. However, because it was formed from above and has very weak ties to local groups, the communities do not see it as 'their' company but rather more or less as another NGO.

This does not mean that there is no place for entrepreneurial models, larger-scale operations and/or international market engagement. It means that in locations where the resource base justifies one or more of these options, such models should emerge from firmly grounded local processes, in order to guarantee greater success and sustainability over the long term. It means developing a clear understanding of existing local processes, both with regard to market engagement and local organization.

Informal Markets

It is important to remember, with regard to these local processes, that many communities in forested landscapes are engaged with informal timber markets, which are probably providing smaller but more direct and immediate benefits to the communities than those originating from formal market transactions. Empirical evidence gathered in the indigenous territories of the RAAN in Nicaragua, in Bolivia's Guarayos Province and Pando Department, and in the extractive

communities of Porto de Moz, Brazil, suggests that local communities are engaged with local markets for timber, and that most of this engagement is informal. These relationships work mostly through local intermediaries that articulate with more complex value chains that link informal and formal channels, sometimes hiding illegal logging.

In the Extractive Reserve (*Reserva Extractivista* - RESEX) of Porto de Moz, the creation of the RESEX led to the eviction of large-scale timber companies. However, this has led to a shift in pressure to the communities located on the borders of the reserve and to a restructuring of the actors in timber markets. Local intermediaries, who mostly operate informally, have tended to replace the timber companies, and have successfully recreated a complex value chain that links communities from within and outside the reserve with brokers and wholesalers. In most cases, there are chainsaw operators residing in the communities who organize the local market networks efficiently at that level (Nunes *et al.* 2008). The ubiquitous presence of these informal markets suggests that there may be other ways to support communities for forestry.

NTFPs

Another important issue is the emphasis on timber in many community forestry models. One of the most notable aspects of the Northern Bolivia study is the difference between forest regulation, the commodity chain and market access for Brazil nuts in comparison with timber. Brazil nut production still takes place at the margins of the formal regulatory framework in spite of being an important and lucrative export commodity. It is a relatively benign activity for forests that has been taking place for decades. Local markets for Brazil nuts are governed by a complex network of highly developed informal institutions. Entry into the commodity chain is relatively easy, with household-scale production and low capital inputs.

The change in tenure that was eventually formalized by the agrarian reform played a decisive role in securing access to the commodity chain for Brazil nut harvesters, a process that entailed the weakening of stakeholders such as *barraqueros* who had previously controlled production. Independent communities now coexist alongside the properties of *barraqueros*, who continue to organize production in enclaves with wage labourers. Eventually the *barraqueros*' production areas will be transformed into NTFP concessions. The rise of Bolivia's processing industry has been crucial for the growth and importance of the Brazil nut sector. Although initially allied with *barraqueros* to secure access to raw materials for their plants, the companies running these industries reached out to independent communities to assure that they can secure sufficient nuts to work at capacity. Communities have greater negotiating capacity and are receiving higher prices, in part due to increasing international prices.

One important development has been the creation of producer cooperatives, which have increased the influence of small producers in the commodity chain, as well as their participation further along the chain. For example, the COINACAPA forest cooperative formed in 2000, with 41 members, to sell their produce jointly. In 2006 they had 391 members from 40 northern Amazon communities. The cooperative collects Brazil nuts from its members, contracts a processing plant for shelling (rather than exporting them with shells), and then exports to Fair Trade and organic brokers. One of the largest benefits to producers is the price. They are paid the local market price at the time of harvest; later, COINACAPA distributes profits after processing and sale. This has usually meant an additional payment of about 50% of the original market price, and the second payment arrives several months later — a particularly important time for household economies, as cash income generated during the harvest is

usually exhausted by then. In addition, COINACAPA offers health insurance and study grants for its members' children. Members are not required to sell all their produce to the cooperative, and many also sell some to local intermediaries, to spread the risk and maintain traditional trade relationships.

The contrast with the timber commodity chain in the same region is notable. Though land titles represent the first step toward obtaining a permit, the additional requirements for permits are seen as daunting. Logging companies have taken advantage of this situation to offer their support to communities in order to gain their approval for timber management, but communities have no experience in timber markets, and thus fail to negotiate favourable prices or monitor logging.

5.3 Livelihood Benefits

There is no question that, in some of the cases studied, the tenure change has produced important benefits for participating community members. This is far more apparent in the communities that have been able to engage with markets, usually with the support of NGOs or projects, at least in the case of timber. Hence benefits in Tasba Raya, the Guatemalan Highlands and the Brazilian sites have been more limited. In Tasba Raya and the Highlands cases, benefits have mainly included the ability to exclude outsiders.

In Brazil's RESEX, some communities have seen new limits placed on their livelihoods strategies due to conservation regulations. Though some individuals and communities have gained rights to exclusive access, others have seen their efforts to establish rules for communal forest use overridden by new restrictions. In the settlement areas of the Transamazon, new tenure rights for smallholders appear to have increased benefits to loggers rather than to new landowners.

In the sites with community forestry enterprises, the most apparent benefit is income, which may be distributed to individuals as dividends or wages, or to communities as investments or social funds. In all of the cases presented in Table 7, remuneration to the community labour force is clearly a priority. In fact, the importance of income from jobs and profit sharing, rather than profit maximizing, has been pointed out as a distinguishing feature of community forestry enterprises (Antinori and Bray 2005). All of the enterprises spent from US\$ 22 000 to US\$ 43 000 on wages to community members, with the exception of the smaller operation in Santa María. Even Santa María, which apparently lost money overall, invested almost US\$ 2000 in other benefits to the community; Layasiksa has a set amount (20% of profits) to donate to community projects each year, amounting to US\$ 6000 for 2007; both Arbol Verde and Carmelita invested US\$ 33 000. These funds are used for projects such as community water systems as well as social funds such as school scholarships.

The tenure change may be a necessary first step for the other changes that came about to improve livelihoods or income. For example, the tenure change in Northern Bolivia largely confirmed *de facto* rights already asserted by extractivist communities, but the more secure access to livelihoods resources (Brazil nut trees) for communities makes them the stakeholder group with the clearest control over the forest resources crucial to the region's economy. In Nicaragua, it is unlikely that WWF would have invested in Layasiksa if tenure had not been relatively secure, and certainly the same is true in the Petén because of the nature of the concessions.

In the Guatemalan Highlands, incentives for reforestation and for the protection of natural forests are an important new source of income for smallholders and communities. Since the Chancol Farm joined the PINFOR programme in

1998, incentives have provided some US\$ 800 000 (at the current exchange rate) in income as of 2007. About 80% of this went to 546 male and 65 female beneficiaries (Elías and Mendoza 2008), mostly for reforestation programmes, on a total of 850 ha. In one Chancol community, income came to an average of US\$ 366 per family per year.

Benefits do not always accrue to all community members equally. In Mexico, Klooster (1999) found much better outcomes in communities with robust internal social institutions, in contrast to unaccountable leadership in a stratified community where a corrupt elite captured the majority of the income from logging; the history of social organization and action was important to the solidification of community enterprises in the former. In addition, those who are inside and outside the forestry organization may not have similar rights. Though community-scale investments may benefit all, social support funds may only be available for members. Similarly, the rights to labour in the enterprise may be limited to members. Nevertheless, the Petén concessions, as a whole, provide 60 000 person-days of work per year to non-members, often for skilled labourers not available from the membership. Dividends, where these are available, accrue only to shareholders. Community-based cooperatives, like Layasiksa and Carmelita, may make an effort to include

everyone. Carmelita's membership is open, though some community members have chosen not to join. All Layasiksa residents are automatically members, and the cooperative goes to considerable lengths to assure that jobs are available equally for all (responsible) community members who want them.

These benefits do not fully include women, however, as women are not often the beneficiaries of wages for labour in community enterprises related to logging (see Bolaños and Schmink 2005). In Layasiksa, the only women hired by the cooperative have worked as cooks. There is one woman on the board of directors of the cooperative, and women played a role in deciding the use of income to be reinvested in the community. In the community of Carmelita, Petén, women also have limited labour opportunities, though because of the diversity of activities such opportunities are greater than in Layasiksa. Women work little in timber activities but participate in both tourism and the classification of *xate* palm for export; nevertheless, these tend to be temporary jobs and insufficient for the number of women who would like to participate. Women's participation overall has increased substantially over the years, however: their membership in the cooperative has increased from 14% when it was formed to almost 50% in 2007, and the vice president at the time of the case study was a woman.



6

Discussion

The case studies demonstrate that a number of communities have, in fact, gained important new tenure rights and that some of them have also been able to increase livelihood benefits derived from forest resources. In a few cases, the experiences with community enterprises demonstrate pioneering, cutting-edge efforts at promoting sustainable development alternatives and new opportunities for communities, particularly in remote areas often seen as ungovernable and entrenched in poverty and conflict.

Nevertheless, the process of turning statutory rights into property rights in practice and, then, property rights into benefits confronts a series of obstacles that often attenuate these new rights. Virtually all of the cases studied encountered substantial challenges: conflicts with other resource claimants; problems related to failures of the state to define the tenure right appropriately or defend it effectively, including difficulties enforcing exclusion rights; problems with local authorities and governance institutions; the superposition of new models over existing institutions; community engagement with markets; and the lack of systems to support forest resource management. Understanding the way in which these experiences have played out in a number of different settings presents an opportunity to challenge underlying assumptions and promote more effective policies and

processes in the future. This section explores each of the aforementioned challenges in turn.

6.1 Multiple Demands on Forests

Forest reforms constitute highly political processes that face challenges different from those faced by past agrarian reforms. This is due to the multiple demands on forests and forest resources for their varied economic, cultural and ecological values. These demands are likely to intensify as larger macro processes drive up land values and remote forest frontiers become more accessible. For example, active land markets are shaping dynamics on the border of the concessions in the Petén and in the indigenous territory (*Tierra Comunitaria de Origen* — TCO) in Guarayos. Local loggers have formed extensive informal networks to access timber in Porto de Moz and the Transamazon region in Brazil, often as a vanguard of frontier change. Forests are multi-stakeholder resources subject to competing or parallel demands: conservation interests seek to control deforestation and preserve tropical forests, people displaced from one region become colonists attempting to obtain new agricultural lands and human rights groups offer assistance to indigenous peoples trying to defend their historic rights and ways of life. As a result, forest reform takes place in a complex milieu in which policy makers and

interested stakeholders interact, negotiate, collaborate and compete in ways that determine the fate of forest resources.

The macro processes at play in each region are similar, but how they play out in each context is distinct. In Guatemala, although the state has set aside much of the northern portion of the Petén in conservation areas, the region is marked by a complex mix of conflicts among concessionaires, agriculturalists, biofuels producers, archaeological interests, tourism operators, drug traffickers, petroleum interests and conservationists. Anecdotal information suggests that drug traffickers use remote forested areas for landing strips by establishing new social relationships with smallholders, whom they encourage to open forest patches. In Guarayos, although the less-inhabited margins of the indigenous land claim has been titled, long delays in the *saneamiento* process have left the accessible areas where the population is located undefined and contested, as loggers, ranchers, agro-industries, indigenous communities and colonist smallholders struggle to exert rights and defend claims. This has opened the doors to what appears to be rampant land grabbing and may be creating a debilitating open access environment, as prior informal institutional arrangements break down and forest resources are degraded. In Brazil, intensifying conflict between forest communities and loggers, which involved regional politicians and environmental non-governmental organizations (NGOs), apparently came to an end with the establishment of an extractive reserve in the contested area. However, at the same time, while it removed logging companies, the reserve brought new restrictions on resident family livelihoods and had the unintended consequence of shifting illegal logging to surrounding areas. The context at each of the sites is further complicated by additional factors, such as potential changes associated with payments for environmental services under new Reducing Emissions from Deforestation and Ecosystem Degradation (REDD) schemes and the

booming interest in biofuels. Such issues now on the horizon will play a major role in shaping demands on forest landscapes and are aspects of the research that require further study.

On the ground, power relations determine who comes out ahead in these struggles. Hence it is no wonder that gaining the statutory right is barely the beginning of the process of change. The collective action of community organizations, networks and alliances has been essential in gaining and maintaining tenure rights and access to forest resources. One example is the role of the Association of Forest Communities of Petén (*Asociación de Comunidades Forestales de Petén* — ACOFOP), both in obtaining the concessions initially as well as in the fight against the expansion of the Mirador Basin project in 2002. Another is the indigenous community Awás Tingni's international court case against the Government of Nicaragua, which established the key legal precedent for the enactment of the Communal Lands Law. The outcomes in northern Bolivia also demonstrate the value of community organization and effective alliances, though solutions were clearly facilitated by the expanses of available land as well. The coalition of peasant and indigenous groups fought for and won land rights, such that community rights were given precedence over the politically and economically powerful *barraqueros*, and, in addition, assigned areas were increased to 500 ha per family based on livelihood demands.

Nevertheless, communities are not homogenous, and when grassroots organizations form networks to work for specific goals such as property rights they usually face the common struggle of maintaining cohesion in the face of differing or evolving interests within participating factions. For example, while the indigenous organization of Guarayos, *Central de Organizaciones de Pueblos Nativos Guarayos* (COPNAG), successfully allied with a broader movement to gain recognition of

indigenous property demands, during the subsequent implementation period certain factions in the organization's leadership used their position of power for personal gain, promoting illegal land transactions. The organization has become increasingly factionalized as local political conflict mirrors national conflicts between the Morales government and the Santa Cruz department, which has been demanding autonomy.

6.2 The Role of the State

The state plays a central role in the institutional framework that establishes rights over land and forests by passing the legislation defining rights, demarcating and titling properties and guaranteeing those rights over time. Nevertheless, the effectiveness and internal logic of state actions are variable and may also be contradictory, as different groups or entities within the state play diverse roles and have different priorities with regard to communities and resources. In the cases studied here, states have often failed to protect community rights both during the implementation of property rules and in their ongoing defence against competing interests and outside incursions.

State institutions have clearly often dragged their feet on the implementation of tenure rights. Nicaragua's Constitution granted indigenous territorial rights in 1987, but the Communal Lands Law establishing institutions for demarcation and titling was only enacted 15 years later, after a prolonged legal battle. Even then, the demarcation commission failed to operate for several additional years. Similarly, in Bolivia, *saneamiento* for land titling in some regions has taken over a decade and is still not resolved. In Guatemala, the Peace Accords and International Labour Organization (ILO) Convention 169 were signed in the mid 1990s, but mechanisms have only barely begun to be put in place for the recognition of indigenous communal lands.

In the demarcation process, state institutions have demonstrated weaknesses with regard to administrative procedures, largely due to bureaucratic inertia but also due to vague or contradictory mandates opening the door for external influence. Brazilian agencies responsible for producing development and management plans for Extractive Reserves (*Reserva Extractivista* — RESEX) and other settlements often move slowly, blocking residents from developing initiatives or investing on their own. In Northern Bolivia, demarcation resulted in property polygons that did not always match traditionally used forests, creating conflicts and leaving communities to negotiate informal changes to boundaries. Additional lands offered to these communities as compensation areas were apparently granted in remote areas with minimal information about existing conditions, current inhabitants or consideration for how the new owners would access the forest. Similarly, the assignment of a compensation area to a group of communities without taking into account how those communities would negotiate their individual rights was also irresponsible.

The state, however, is often characterized not only by institutional weaknesses but also by conflicts of interest. This can lead to simple acts of corruption — such as in Guarayos, where state authorities were implicated in illegal land transactions while the territory was supposedly 'immobilized'. It can also lead to political support for competing claimants and failure to act decisively in favour of the intended beneficiaries, for example where timber concessions were given priority over TCO demands in Bolivia. In Guatemala, the state has historically failed to take indigenous interests into account, let alone to guarantee communal land rights; with a few exceptions, policies in the Highlands in general continue to undermine communal forest rights and community organizations.

When state institutions play a decisive role in favour of communities, however, the difference is apparent. The regional office of the National Council for Protected Areas (*Consejo Nacional de Áreas Protegidas* — CONAP) has been an important supporter of the community concessions in the Petén. In Northern Bolivia, in spite of logistical weaknesses, the National Agrarian Reform Institute (*Instituto Nacional de Reforma Agraria* — INRA) office in charge of demarcation and titling has helped assure that communities and smallholders are the clear — and priority — beneficiaries, with their claims being taken into account prior to all others, including those of the formerly powerful *barraqueros* and of timber concessions, in contrast to the situation in Guarayos. Good relationships with municipal governments have been decisive for the few Guatemalan Highland communities that have won greater rights over communal forests.

More often, however, the state plays a weak, ambiguous and even contradictory role with regard to community forest rights. Though property title — or a concession contract — should guarantee exclusion rights backed by the state, it has often failed to help communities defend their borders from threats and incursions. As mentioned above, even though INRA titled substantial lands in favour of communities, the state has failed to guarantee the removal of people living inside compensation areas newly granted to communities. Similarly, in Nicaragua, the state failed to act for several years to negotiate the removal of colonists from the indigenous community of Layasiksa — finally leading to their violent eviction by community members themselves. In the Petén, the Protected Areas authority grants licences to *chicle* extractors, based on the Law of Chicle Gum, inside the community concession areas, without providing any further monitoring of their activities. The government also initially supported the expansion of the Mirador Basin Reserve, in spite of the fact it impinged on the rights of five community concessions. High-level officials and

relatives of former President Berger were tied both to the groups interested in major tourism investments in that area and — at certain times — to the defence of the concessions.

6.3 The Role of Local Authorities

In addition to the state, which is one of the most important authorities, or set of authorities, with regard to land and resources, there are a number of other relevant authorities that must be taken into account in the process of implementing and exercising tenure rights. At the community or territorial level, there may now be three sets of authorities with important powers over people and natural resources: the community's traditional (elected or not) authority structure, the tenure authority and the forestry authority. These institutions, which are partially imposed from outside, create a web of governance relations that shape the nature of authority over land and resource rights and are, therefore, central for understanding conflict and outcomes.

A key question with regard to authority in communal tenure arrangements relates to the nature of the authority that represents the collective. These institutions must be constructed rather than assumed, even in some cases when rights are granted to existing political-legal authorities. For example, in only a few cases, such as some of Guatemala's communal forests and the agro-extractive communities in Bolivia, do existing authorities, chosen at the community level, also represent the collective with regard to communal land and forest (and in the latter case, this is because non-timber forest product (NTFP) management largely falls outside of legal frameworks and is left up to communities). This is in part a question of scale. For example, indigenous territories and RESEX operate at much larger scales than usually dwarf customary organizations operating at the village and community levels; these are likely to require new organizations

or territorial-scale authorities or oblige existing organizations to take on new roles. Concession organizations and agro-extractive and forestry settlements are also likely to have created new organizations to make their claim and, in the case of the former, to sign legal contracts. In many cases, collective titles or concession contracts are issued to organizations created to represent their members, but they often lack sufficient experience or clarity about their responsibilities.

The authority representing the collective is likely to play a role in enforcing tenure rights externally and internally, giving it substantial powers. In Nicaragua, one of the central issues in the formation of indigenous territories is the scale at which decisions will be made. The communities in the case study had organized into territories that were smaller and better grounded in local history and institutions than the larger territories being proposed by regional indigenous political leaders. Territorial authorities represent the communities on issues related to demarcation and to natural resource contracts, and they also have access to tax income designated for the territory. Hence the nature of this authority has direct livelihood repercussions for communities. Community leaders fear the failure not only of accountable representation but also of higher-level political structures that have manipulated such authorities in the past. In general, if authorities are not grounded locally, their potential for effective representation at higher levels is limited, as is the ability of communities or members to control and monitor their behaviour.

Returning to the example of COPNAG, this Guarayo organization played a key role in representing Guarayo interests in the struggle for land when it formed. But later, once granted responsibility over the TCO, it was ill prepared for these new powers, lacking strong mechanisms for consultation with its constituency or their oversight to hold leaders accountable.

In other cases, however, the powers granted may be insufficient. In Northern Bolivia, agroextractive communities were granted rights to additional 'compensation' lands but without any means to assert control over distant land or remove occupants. In the case of San Jorge, in particular, they have neither the powers nor an authority structure for proportioning rights and responsibilities among the three neighbouring communities also included on the same title.

The authorities in charge of collective forest management are particularly likely to be newly created organizations, as discussed in Section 5. This authority may or may not be the same one representing the collective with regard to tenure. With regard to concessions, for example, this refers to the same organization, because it was created specifically to be eligible for the forest concession right. In other cases, however, such as indigenous territories, the territorial organization may play a role in the authorization of management areas (such as authorizing village-level access in Bolivia's TCOs) but not be directly involved in the forest management organization. Forestry organizations can create new sources of power within the community and, if not created and designed appropriately, are also likely to generate new sources of tension and conflict.

6.4 Superposition of Institutions

In forest reforms, new tenure arrangements and the new authorities and organizations that govern them are not often created in a vacuum, but rather involve laying a new set of institutional arrangements over existing ones. This situation can create conflict and insecurity in numerous ways. It could divide or change previous patterns of access and governance institutions, sometimes leading to the breakdown of the former and open access dynamics. The new arrangements may infringe on

existing rights or exclude smallholders or extractivists who previously had access.

In Carmelita, the concession model, which required a formal organization and new institutional arrangements for timber production, was superimposed on existing community institutions that included an extensive informal network for the management of NTFPs. Though the community has been at the forefront of forest management innovations, it is possible that conflicts could have been avoided by paying greater attention to these kinds of issues. The creation of the Arbol Verde concession, in an area far from the benefiting communities, granted rights to the new management organization but infringed on the rights of others who had previously used that area for non-timber resource extraction.

The Porto de Moz RESEX established a framework that excluded external forest users but, at the same time, placed new restrictions on resource rights due to environmental regulations. Such restrictions are also common in the Guatemalan Highlands due to growing interest in creating protected areas in remaining communal forests. The problems generated in the RESEX in Porto de Moz have encouraged communities on the edge of the RESEX to seek other land tenure models that will allow them to continue practising their current livelihood activities. Highlands communities in Guatemala sometimes see protected areas as compatible with their own interests, but in some regions restrictions have led to serious conflict and had clear livelihood implications.

In the Northern Amazon of Bolivia, Brazil nut harvesting is customarily based on a system of tree tenure, and the large areas demarcated by the property polygons are, with some exceptions at their margins, effective at encompassing most of the resources used in local livelihood systems. Nevertheless, the process has also introduced agrarian models of landholding, as some families

expect to demarcate 'their' 500 ha. This could potentially undercut the complex mosaic of tree tenure on communal lands, replacing it with a grid-like pattern of plots likely to separate some families from the trees that support them.

In Nicaragua, conflicts regarding institutional models are more internal to the indigenous organizations of the Coast regions, as mentioned earlier with regard to the scale of the territory and the definition and role of territorial authorities. This involves less the superposition of one model over another and more the *formalization* of existing practices and institutions (though multi-community territories and governance structures usually did not exist previously, these are based on existing community-level organizational structures). Formalization, however, has also encountered problems. In this case, the problem is at the level of the regional government, which has to register community and territory authorities on an annual basis and has sometimes failed to do so in a timely fashion and/or been involved in related acts of corruption. The problems with the formalization of the Guarayos TCO have been far more serious, leading to the loss of traditional control mechanisms and open access conditions, as discussed previously.

6.5 Community Engagement with Markets

Community access to forest product markets is often limited to informal engagement due to the difficulties of obtaining formal permits where these are required. In addition to being considered illegal, and thus subject to greater risk, informal transactions are likely to be less transparent and generally less favourable to communities. Even with new tenure rights, communities often fail to engage in timber markets beyond the sale of standing trees and have limited capacity to strengthen their negotiation positions, because they also depend on service providers that are allied to buyers in

local markets. Conversely, new tenure rights have sometimes forced external actors to negotiate with communities and/or to offer higher prices; they have also provided what is often a necessary condition for legal logging.

Timber markets in particular have a number of characteristics that make community participation difficult, such as technological requirements, capital and skill, as well as economies of scale and specialized needs of demanding markets (Angelsen and Wunder 2003). The high entry costs that normally operate as a barrier to formal community forestry operations may be overcome with the support of donor projects. The challenge is how to facilitate market participation such that communities obtain greater benefits from forest products, without forcing them into long-term dependency relations or imposing external models that generate conflict or are not sustainable.

It appears that a number of aspects require attention. Predetermined models of community forest management should be abandoned in favour of a deep understanding of local practice, including both social and cultural organization and existing market engagement. It should not be assumed that timber is the best market alternative or that profitability is the most important criterion of success. The rules of the game for the market of interest should be explored with regard to price formation, monopolies and the competitive advantages of the community.

Another important challenge is how to simplify regulations in such a way that facilitates community participation without simply creating loopholes

for industrial logging companies or intermediaries, thus transferring the benefits to these actors. Pokorny and Johnson (2008) argue for regulatory systems based on 'simpler, more locally applicable practices' that make it possible for community forestry to be integrated into local production systems.

6.6 Support for Forest Resource Management

The likelihood that the new tenure models will succeed depends very much on the benefits residents are able to obtain from forest resources, by enhancing their income or providing other sources of livelihoods. Though it is difficult for communities to participate in formal timber markets, participation in informal timber markets is widespread. Nevertheless, these often offer low prices and few substantial benefits to communities. These findings suggest that there is still a great deal of room for governments and forestry projects to improve in their attempts to enhance the contribution of community forestry to the wellbeing of smallholders and communities.

In particular, governments have invested few resources to accompany the forest tenure reform with aggressive policies for promoting community forestry through improved financial and technical services. This gap has been covered by informal credit suppliers and local service providers who often take advantage of distorted markets. Lessons should be learned from the land reforms of the past, where the distribution of land titles alone resulted in little change in livelihood options for smallholders. It was the agrarian reform packages, which offered credit, services and technical assistance, that were much more likely to get results.



7

Conclusions

The case studies demonstrate that important new tenure rights have been granted to forest-based communities and that, in some cases, improvements have been substantial with regard to tenure security over land and forest resources and to livelihoods benefits from those resources. At the same time, these new rights are shaped by a variety of conflicts and demands on forest resources, and their full potential is attenuated by the loss of rights incurred in the process of putting statutory rights into practice, or constructing the property rules, and by the difficulties associated with regulatory frameworks, credit and markets for forest products.

It is important to understand these processes more fully and to support them more resolutely. First, in many cases, these tenure changes represent the recognition of traditional or historic rights to land and resources for populations that have been marginalized or excluded, and in others, they represent new opportunities for similarly marginalized poor populations. Second, there is a clear correlation between forests and poor populations in Latin America (Taylor *et al.* 2007), and secure access to forests and forest resources offers an opportunity, under the right circumstances, to alleviate poverty (Sunderlin *et al.* 2005). Finally, there is evidence that communities are more likely to take into account long-term sustainability concerns and that they can

be important agents for conservation (Kozak 2007; Molnar *et al.* 2007)²³.

What rights have been won? The turn to rights-based approaches represents an attempt to bring values and politics — or justice and power — back into the debates and practice of development (Nyamu-Musembi and Cornwall 2004). It is in this way that Colchester (2004) refers to the shift from stakeholders to rights holders, mentioned in Section 2, with regard to indigenous people in forests. Human rights concerns shape the forest reform specifically in relation to demands for indigenous ancestral rights but also to issues of equity and land rights for the poor more generally. However, just because the reforms are about tenure *rights* does not mean that they all embrace the rights-based approach, which involves shifting power relations such that ‘those whose lives are affected the most [are able] to articulate their priorities and claim genuine accountability...’ (Nyamu-Musembi and Cornwall 2004). Furthermore, new statutory rights do not automatically translate into actual rights.

The role of the state, the capacity of communities and their organizations and allies to fight for their rights, and the construction of accountable authority among all of these actors are essential, not only in the formulation of the statutory right but also in its implementation. The case studies

demonstrate that the new tenure rights can be highly circumscribed by limits to the 'bundle' transferred and associated rules and institutional arrangements. With regard to the former, in many of the cases the state has granted rights but also substantial responsibilities. In some cases, particularly where the burden of responsibility — or use restrictions — is high, the state actually appears less to be granting rights and more to be granting privileges. With regard to the latter, the central question is how decisions will be made regarding natural resources for livelihoods and who decides how those decisions will be made, or how authority will be distributed and exercised between state and community or territorial actors.

At one end of the spectrum, communities may be entities holding temporary use rights under a newly incorporated organization created specifically for that purpose; at the other end, they may be autonomous institutions with long experience in self-governance that have won recognition of permanent rights to territories already under customary control. Most cases appear on the continuum between these two extremes. How this is perceived — that is, the legitimacy of the reform — depends in part on previously existing rights and practices, which shape the nature of demands, including the basis upon which these are formulated (e.g. ancestral rights, livelihoods and so on). It would appear that a temporary use right granted to a management organization — a right that can be withdrawn if regulations are violated — is essentially a privilege (as in the case of the Petén, Guatemala), whereas the granting of permanent control rights to political-legal authorities is more likely to represent a substantial recognition of rights (as in the case of the RAAN, Nicaragua). In the latter, the granting of control rights over resources provides the material basis for the exercise of human rights.

This raises two other issues, however. First, not all rules and regulations are

inappropriate, of course, and not all communities gaining rights should necessarily have the same right to decision making and control over resources. Nevertheless, of particular concern are responsibilities that significantly constrain livelihoods, the failure to address or even recognize on-the-ground, pre-existing practices, and rules that are unenforceable. Second, in the granting or recognition of substantial decision-making power to communities or territories, not all authorities are representative or accountable, hence these relations should be constructed and not assumed.

The role of the state, in the granting, implementation and protection of rights, is decisive in shaping outcomes. In Mexico's community forest sector, 'government efforts to promote CFEs [Community Forest Enterprises], with varying motives and at varying periods, as well as efforts to support second- and third-level organizations, were instrumental in creating the organizational and institutional forms of social capital which undergird the CFE sector' (Bray 2005). Nyamu-Musembi and Cornwall (2004) argue that rights-based approaches necessarily demand duties and accountability — particularly (though not only) the duty of the state to protect human rights and to be accountable for the implementation of policy. In the cases studied here, however, as mentioned earlier, in no case has the state played a particularly effective role in fulfilling its duty to defend community rights or the perimeter of the territory — at least not consistently. Greater attention is paid to establishing management regulations, though in the end weak state institutions may fail to enforce even these, rather than defending community rights.

The process of constituting rights in practice encounters competing interests over the lands and resources claimed — or 'won' — by communities. Exclusion rights that are weak, weakly enforced or constantly challenged by powerful

outside interests force communities and their organizations to waste substantial resources fighting for or defending their rights, rather than focusing on strengthening the local organizations and capacities needed to improve livelihoods through the integral and innovative management of community forests.

Policy frameworks, to date, have generally failed to establish an enabling environment for the development of these management opportunities. One of the problems with the forest reform is that it has not yet been understood as a reform in its own right, but rather has 'borrowed' its policies and procedures from agriculture and other sectors, failing to build its own set of assumptions, policies and institutions (Pacheco *et al.* 2008). It has not been accompanied by institutional reforms that demonstrate an understanding of forest-based peoples, cultures or livelihoods; nor has it led to a shift in priorities regarding the forest management model or to a redefinition of which actors should be the primary beneficiaries from forests. Community forest enterprises have been promoted based on blueprints for organizations and resource extraction that require heavy external support and fail to build on the self-governance capabilities of

smallholders and communities. Models, assumptions and regulatory frameworks are based on industrial-scale logging for international markets. Forest enterprises are established from outside with little understanding of deeper cultural issues such as ancestral rights to cultural reproduction.

Forest regulations and development models geared toward industrial logging constitute substantial obstacles and challenges for community foresters. Though clearly these can largely be overcome, at least in some cases, with sufficient and appropriate external support, other more accessible and endogenous forms of engagement should also be empowered — models that facilitate communities becoming the agents of their own projects and enterprises. More often, projects and policies working to promote enterprises lose sight of 'community' in community enterprises. Yet 'community' is precisely what makes them different. In the search for market solutions and the development of viable enterprises, it is important to put the social and cultural considerations of local governance institutions at centre stage, for, in the end, these constitute the foundations of future sustainability.

Endnotes

1 There are, of course, numerous other kinds of benefits to be gained from forest access besides income, including subsistence uses, spiritual sites, environmental services and empowerment, to name a few. The research focused primarily on income benefits due to their greater poverty-alleviation potential and to an interest in identifying policy-relevant interventions in this regard.

2 This is also the most important arena for gender analysis, which is discussed very little in this report. Though women's role in leadership and benefits was addressed in many of the research sites, the subject warrants substantial further research.

3 This is part of a larger study that also includes cases in Asia (Nepal, Philippines and India) and Africa (Cameroon, Burkina Faso and Ghana).

4 It is worth mentioning here the importance of the notion of the 'social function of land', where uncleared forest was a statement of idle land, without an owner. Clearing in and of itself, as in other areas of the world, could be the basis for staking claims to the land, demonstrating it had an 'owner' waiting to be recognized, who would use it for the purpose of settlement, agriculture or cattle ranching.

5 For example, self-government is more clearly part of the model in Nicaragua. In Bolivia, on the one hand,

the idea of the TCOs was tied to the notion of indigenous municipalities, but this did not work well in practice; on the other hand, in Spanish, the 'T' of TCO stands specifically for Land rather than Territory, in part to try to avoid pressures for autonomy and self-government. In Brazil, indigenous people have territories but legally they are treated as wards of the state.

6 Numerous authors have pointed out that not all customary practices, institutions or authorities should necessarily be considered good (see Sierra 1997; Yashar 1999; Ntsebeza 2004; Ribot 2004). With regard to resource management practices, however, enough evidence suggests that these *may* be good, or are at least adapted to local conditions. In any case customary management institutions should be taken into account when considering new policies or regulations that will affect resource management practices, because, whether they are appropriate or not, they are likely to influence reactions to, and the implementation of, alternative practices. Local practices should therefore provide a point of departure for building on working systems.

7 See Ellsworth 2002 for a discussion of tenure security with an emphasis on forests, from the point of view of four different schools of thought on property.

8 Abbreviated from: the Law for the Communal Property Regime of the Indigenous Peoples and Ethnic

Communities of the Autonomous Regions of the Atlantic Coast of Nicaragua and the Bocay, Coco, Indio and Maíz Rivers.

9 The autonomous regions are referred to by residents as the Caribbean Coast of Nicaragua, though only part of the region is actually coastal. Hence the term 'Coast' is capitalized to refer to the area as a whole.

10 This data applies to six provinces: Sololá, Totonicapán, Quetzaltenango, San Marcos, Huehuetenango and Quiché (UVG/INAB/CONAP 2006).

11 International Labour Organization (ILO) Convention 169 protects the rights of indigenous and tribal peoples and states, 'Governments shall take steps as necessary to identify the lands which the peoples concerned traditionally occupy, and to guarantee effective protection of their rights of ownership and possession' (Art. 14).

12 Sometimes large landowners encouraged invasions so they could be bought out by the government (Schmink and Wood 1992).

13 The law does not explicitly state that the communities must approve subsoil concessions, but if a community objects it does establish a procedure whereby an agreement must be signed. It is not clear what would happen if the community simply refused.

14 Leaders say that they would allow Arbol Verde members to extract *xate* or *chicle*, but few members are involved in these activities.

15 Some authors include the La Paz department's province of Ixiamas in northern La Paz as part of Bolivia's northern Amazon, but for the purposes of this paper Ixiamas is treated as part of another frontier.

16 For this, they used personal connections in the capital to have a favourable decree issued.

17 Fitzpatrick's categories refer specifically to the legal recognition of customary tenure; the authors found them to be a useful starting point to examine a broader variety of cases.

18 A draft national strategy from 2007 has not yet been approved. In the RAAN, implementation was incipient when Hurricane Félix hit in September 2007. Some aspects of the strategy were being taken up in post-hurricane planning.

19 In some cases, such as in some of Mexico's community forests, the sustainable management of these species has proven not to be economically feasible (Segura personal communication).

20 Comparing economic data on the distinct community forestry projects requires several caveats. As this information was collected for different purposes and by individuals with different capacities, it is not always clear how it was gathered, what information was included or the level of accuracy. Also, contextual issues related to group size, local economic conditions and infrastructure mean that income figures have strikingly different relevance depending on the site. In at least one case, income may have been generated that is not accounted for. Nonetheless, lacking other sources, it is believed that the information presented provides a relatively good overview.

21 It is also notable that Carmelita sells a higher portion of mahogany, yet its overall income per cubic metre is less than half that of Arbol Verde.

22 It should be noted that the data here and in the table is presented as found in the documents cited. Community reports do not often include more detailed financial analyses that take into account depreciation on infrastructure or interest cost deductions, etc.

23 Although this, of course, is not always true and should not be assumed (see, for example, Tacconi 2007).

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