

Forests for People

Community Rights and Forest Tenure Reform

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Outcomes of Reform for Livelihoods, Forest Condition and Equity

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Are tenure reforms improving local people's livelihoods and conserving the forest? To what extent is it possible for tenure reform to achieve the two goals simultaneously? What are the implications of these reforms for equity? This chapter provides insights into these questions by assessing the outcomes of the reforms in our case studies and discussing why and under what conditions they have resulted in improvements or deterioration.

Livelihoods, forest condition and equity are also affected by other changes, broadly associated with increasing urbanization, agricultural development, industrialization and technological transformation. Tenure reform is only one of several processes shaping outcomes. In this chapter, however, we try to isolate the effects of the reforms, based on the assumption that the nature of tenure rights – e.g. tenure security and the specific locally relevant components of the 'bundle of rights' – shapes the decisions people make concerning forest resource use. The reforms, therefore, are likely to have significant implications for the livelihoods of people who depend on forest resources and for the ways in which forest resources are used.

There is substantial literature, only briefly alluded to here, on the associations between security of tenure and improvements in livelihoods and incomes. But much of this literature (e.g. Deininger and Binswanger, 2001) is based on situations regarding private, individual titles – not the norm in forest tenure reform. More relevant for forests is the common property literature, which has consistently demonstrated that livelihood benefits are more likely to result from secure common property rights (Pagdee et al, 2006). Still, there remains uncertainty about the actual benefits, for both communities and forests, which

derive from greater tenure security. Indeed, this uncertainty has been one of the stimuli for our research.

In theory, tenure reforms with conservation goals will achieve better impacts for forest conservation but weaker livelihood outcomes and, conversely, reforms aimed at enhancing livelihoods should have better livelihood outcomes but perhaps weaker or even detrimental effects on forests. But actual outcomes are mediated by several other factors. The first is the extent to which the reform has been effectively implemented and the political and economic context in which it takes place. The second, which depends in part on implementation, is the extent to which tenure reform increases rights in practice.

New rights that are not secure result in little change in rights or may increase insecurity under certain circumstances, such as with the imposition of statutory over customary rights (Mwangi and Dohrn, 2008; see Chapter 4) or with state interference in areas where communities had previously managed their own lives (Edmunds and Wollenberg, 2003). Hence the nature, goals and implementation of the reform affect the extent to which rights have increased and been secured in practice. Outcomes for livelihoods and forests should then be assessed in this light.

We seek to assess the results, on the ground, of tenure reform in more than 30 sites around the world with due humility. We recognize that even when reforms increase rights and tenure security, numerous other variables mediate outcomes. In fact, the study was designed to identify and understand some of those mediating variables and this book attempts to examine them more closely.

Throughout this research, we have first tried to ensure that our results are appropriate to local contexts. Then, in an iterative manner, we have developed methods that assess changes in livelihoods, forest condition and equity across the sites. This has involved ongoing iterations and communication among the field teams, throughout the two-year process, to maximize comparability. The field teams themselves are composed of people with long experience in their regions. The methods have included formal surveys, participatory rural appraisal tools, use of secondary data, interviews, maps and in some cases remote sensing data. The diversity of field situations required the teams to be creative and the results must be acknowledged to be qualitative. Most importantly, however, they are firmly grounded in local realities and the result of regular communications and adaptation among the authors and other researchers.

In general, we found that in many cases where communities have won substantial new rights, either forest conditions or livelihoods (and sometimes both) have improved. Most of the reforms have resulted in livelihood improvements, at least to some degree. Forest conditions were much more likely to improve when the reform included conservation goals. Though the data available do not make it possible to quantify the relative magnitude of forest and livelihood changes, and despite some cases with positive results for both, trade-offs between the two are evident. For example, in several cases, there were severe livelihood restrictions early in the reforms to favour improvements in forest condition, though these were partially lifted over time.

Where regulations and conservation restrictions were more severe, livelihood contributions have been more limited. Livelihood improvements are also limited because the forest resources being transferred to communities often do not include high-value resources, like the *terai* of Nepal or the high-quality commercial forests of Cameroon. There are also cases where forest conditions declined but livelihoods improved. Most importantly, the complexity of variables demonstrates the importance of understanding each case in context.

With regard to equity, the research found that at times, some of the poorest social groups suffered from new restrictions on resource access, but also, in a few cases, the participation of women and disadvantaged groups had increased. At a few sites, the poor were getting special consideration in forest products distribution, though these practices remain incipient.

Spheres of analysis

The rest of this introduction briefly presents each sphere of analysis (livelihoods, forest condition and equity) and the methods used. This is followed by discussions of findings across the sites and a short conclusion.

Livelihoods and income

Forests contribute to rural households through subsistence, with ‘food, energy, medicine, fodder, housing, furniture, baskets, mats, dyes, agricultural implements’, as well as for erosion control, inputs for soil fertility, pollination, weed and pest control and maintenance of water quality (Kaimowitz, 2003b, p46). Forests also contribute through small-scale sales of timber and non-timber forest products (NTFPs), community-based enterprises for forest products, wage labour and payments for environmental services (Scherr et al, 2002; Angelsen and Wunder, 2003; Sunderlin et al, 2005; Kozak, 2007; Molnar et al, 2007). Sunderlin et al (2005) identify four ways in which forest-based poverty alleviation can occur: through forest conversion, access to forest resources (by protecting current benefits or redistributing access and benefits to rural people), payments for environment services and increased value of forest products. Some authors argue, however, that forest conversion is more likely to overcome poverty.

In this research, simple qualitative parameters were used to assess livelihood outcomes. These include the assessment of the increased availability, as a result of the reform, of forest resources for the following basic elements of subsistence: place (*asentamiento*), shelter (house or home), food (subsistence agricultural production, hunting, gathering, fishing) and water (for all basic purposes).

Income was taken as one of the elements of livelihoods and measured in terms of relative shifts in income from forests over time, perceived shifts in total and relative forest income and specific, new forest-related income at the time of the study (with some attempt to determine whether any income losses were also associated with the tenure change). Incomes, as well as other livelihood

changes, were generally measured at the community, not the household, level, since the community was the basic unit of analysis (see Chapter 1).

In most cases, researchers used focus group discussions, key informant interviews and the review of available documents to assess livelihoods and income changes. In all the cases, researchers had extensive previous experience in the sites studied, which improved both the quality of information gathered and their ability to analyse it in context and over time.

Forest condition

Forest condition may improve or decline with reforms. There are numerous examples of situations in which local people conserve or destroy local forests. For example, common property researchers have repeatedly demonstrated how local people organize and create effective local institutions to manage and conserve common forests, whereas Tacconi (2007a) and others have pointed out that sometimes forests may better contribute to livelihoods through clearing and conversion. As Agrawal and Chhatre (2006, p164) argue in the conclusion to their statistical analysis of 95 cases in India, examining causal factors related to forest condition, 'It may be impossible to identify a set of necessary and sufficient conditions' for effective local resource governance.

Forest condition was measured using three main variables. These include changes in forest cover over time, such as from digital maps at two points in time or, when these were not available, through a variety of interviews; changes in forest quality, through indicators of the increase or decrease in forest resource availability (e.g. specific plants or animals), and frequency of forest fires, also from official data or interviews.

Equity

If communities are benefiting in new ways from forest resources, how are these benefits being distributed? Communities are internally differentiated (Agrawal and Gibson, 1999) and access to resources may not be equitable (Ribot and Peluso, 2003). Research on equity in devolution or decentralization policies has often demonstrated problems with elite capture and the failure to include women, minorities and the very poor. Edmunds et al (2003) found that new management institutions created through state policies often opened up new income opportunities for elites and closed them for the poor. In Indonesia, ethnic conflict increased under forest decentralization policies as certain groups with connections rushed to take advantage of new opportunities at others' expense (Barr et al, 2001). Sarin et al (2003) argue that disadvantaged groups need 'explicit recognition of unequal gender and power relations, and firm provisions to ensure that livelihood interests and the rights of the poorest are given priority and protection'.

Equity was examined along two principal dimensions. The first involved determining who was considered 'in' the community of beneficiaries and who was considered 'out'. In some cases, the recognition of one group's rights led to restrictions in another's access. The second dimension refers to differentiation

inside the beneficiary community. Gender equity was captured and assessed in different ways, including membership in forestry organizations, participation in leadership institutions, rules of inheritance and so on. In many cases, equity was also assessed along other dimensions, such as distribution of jobs and income and participation of ethnic minorities, the poor, migrants and youth.

Case studies

Our cases have been grouped such that they refer to a type of reform or a region, and most often both. This means that information from several community studies is being aggregated in some cases, and each case is, of course, embedded in its national institutional, economic and policy contexts, only some aspects of which will be discussed in relation to livelihood and forest outcomes.

Table 9.1 classifies the cases along two dimensions: the effectiveness of the implementation of the reforms and the relative weight of conservation and livelihood goals. By effective implementation, we refer not only to the establishment of a policy but also to associated laws and regulations and demonstrated progress through identifiable steps towards meeting the reform's goals. Clearly, a poorly implemented reform focused on forest dwellers would be expected to lead to fewer changes in rights, and possibly even increase tenure insecurity. Hence this should be taken into account in the assessment of outcomes.

Most of the reforms have been or are being fairly effectively implemented, though this does not mean they are problem free. For example, in the North Atlantic Autonomous Region (RAAN) of Nicaragua, demarcation and titling of indigenous lands made almost no progress for several years, but a new government administration is taking it much more seriously. The reform process at the Trans-Amazon site in Brazil has also been mixed, with implementation in older settlements more effective but with less progress in newer settlements. Reforms in Burkina Faso have involved ongoing tensions between statutory and customary rights, and the implementation of management plans at the scale of the concession is highly varied. Some of the most effectively implemented reforms are older projects, such as the community forestry sites in Nepal, the ancestral domain site in the Philippines, the Petén community concessions in Guatemala and the tree grower cooperatives in India.

Some sites have had serious problems in implementation or have simply never gotten off the ground. The community forest management model cases in the Philippines have suffered numerous stops and starts, with licences periodically cancelled; the programme itself has been suspended four times. Recognition of communal lands in the highlands of Guatemala has seen little progress, though two of the four sites studied are important exceptions. In Cameroon, community forests have been extremely difficult to establish without substantial outside support; in practice, private individuals have put up the funding and then also usurped the benefits intended for the community. The extractive reserve (RESEX) in Porto de Moz, Brazil, was established but then the development of the required management norms stagnated in the central

Table 9.1 *Case studies, by implementation and goal of tenure reform*

Implementation	Tenure reform goal		
	Conservation, environment	Conservation, livelihoods	Livelihoods, rights
More effective	CBFM, Nepal	KEF, Philippines Petén, Guatemala TGCS, India Concessions, Burkina Faso	Pando, Bolivia RAAN, Nicaragua Trans-Amazon, Brazil
Less effective or ineffective	Highlands, Guatemala	CBFM, Philippines Porto de Moz, Brazil Tree planting, Ghana	Guarayos, Bolivia Income sharing, Ghana CF, Cameroon

Source: Elaborated from country and site reports and discussions with researchers

bureaucracy. In Ghana, both types of reforms have implementation problems. The Modified Taungya System, presented here simply as ‘tree planting’, has no significant legal framework to give institutional validity to the reform; the other reform refers to community benefit sharing from logging contracts, but who receives the benefits or how these funds should be spent has not been clarified. In Guarayos, Bolivia, the slow progress of the reform, including delays of more than a decade, has increased competing demands on the most populated lands in the Guarayos indigenous territorial claim.

The second dimension in Table 9.1 is the primary goal of the reform, whether it aims to solve conservation and environmental problems or improve livelihoods or resolve rights demands, or a combination of these. Conservation clearly overshadows livelihoods or rights in two cases, at least in the goals and initial implementation of the reform: those include community forestry in Nepal and the communal forests of the Guatemalan Highlands. Community forestry in Nepal was primarily aimed at forest protection and initially included important restrictions on resource use. In the Guatemalan Highlands, many communities as well as governmental and non-governmental environmental agencies have prioritized resource protection over all other forest uses, particularly for the protection of water supplies.

Livelihood goals and rights are the primary driving forces in the two Bolivia cases, the Trans-Amazon of Brazil, Nicaragua’s RAAN and the benefit-sharing arrangement in Ghana. This does not mean conservation concerns are irrelevant – in every case, certain regulations apply. Only in Guarayos and Pando, Bolivia, and in Nicaragua are reforms virtually unencumbered by conservation-based regulations, aside from requirements to have an approved management plan for logging. The remaining cases represent a combination of both priorities.

Several sites are located in official conservation or protected areas. The community forest concessions in the Petén are in the Maya Biosphere Reserve and were incorporated as a model to promote conservation in the face of traditional logging concessions, demands for petroleum exploration and an

advancing agricultural frontier. Two of the communities studied in highlands Guatemala were in protected areas: one had established its own (informal) community reserve, the other was in a recently declared protected area; there are substantial pressures to establish protected areas in the remaining highland communal forests (Elías et al, 2009). The RESEX in Porto de Moz, Brazil, is a type of conservation unit managed by the state environmental agency. The Kalahan Education Foundation site in the Philippines is in the Kalahan Reserve. All but the Guatemalan Highlands sites have mixed conservation and livelihood goals.

Table 9.2 presents the changes in rights in practice across the cases. The cases are again grouped by the degree to which implementation was effective, and as expected, more effective implementation is associated with greater changes in rights. The table classifies changes in the bundle of rights for each reform. *Access* refers to access to the land and forest area and is classified as ‘no change’, ‘increased’ or ‘consolidated’. *Consolidated* indicates more significant and secure long-term changes in rights. *Use* or *withdrawal rights* refers to forest resource rights, rated along the same continuum.

Management is more difficult to categorize because the state tends to control different resources to varying degrees and may set broad parameters while allowing a certain degree of local rule-making (see Chapter 3). In only two cases do local rules dominate, with almost no government interference; in Pando the state controls logging, but the primary livelihood activity is Brazil nut harvesting. The rest of the cases vary, with greater room for local rule-making in the cases that have both local rules and external control, and less in those classified as under external control alone. Exclusion rights are either weak or strong. In no case have alienation rights, which permit the sale or transfer of rights outside the group, been granted, although in most cases transfers within the group are permitted.

In general, all the cases with better implementation have strong exclusion rights and are much more likely to have not only increased, but also consolidated, use and withdrawal rights. Exclusion rights are often explicitly granted by the reforms, but if implementation is weak, as in Guarayos, exclusion in practice may be weak as well. Access is only seen as consolidated in three cases where land titles have been granted, in the Philippines ancestral domain case, the Trans-Amazon of Brazil and Pando in Bolivia, as well as in the community forests of Nepal (Guarayos presents a fourth case of land titling but with less effective implementation). In Nepal, forest lands have not been titled to communities but have been granted in perpetuity; the Forest Department can dismiss the Executive Committee of the Forest User Group on defined charges, but the forest cannot be taken back (Paudel, personal communication). Use rights are consolidated in most cases with consolidated access rights and several additional cases as well. Though the increase in rights in the Petén has been very significant in some ways, they are not noted as consolidated because of ongoing competing interests in the region.

With regard to management rights, it is difficult to find an identifiable pattern, in part because of the difficulties explained above and in Chapter 3.

Table 9.2 *Changes in rights in practice*

	<i>Reform</i>	<i>Access</i>	<i>Use or withdrawal</i>	<i>Management</i>	<i>Exclusion</i>	<i>Alienation</i>
More effective implementation						
Nepal	CBFM	Consolidated	Consolidated	External control	Strong	Not granted
Petén, Guatemala	Community concessions	Increased	Increased	External control	Strong	Not granted
Philippines (1)	Indigenous rights	Consolidated	Consolidated	Local rules and External control	Strong	Not granted
Rajasthan, India	Tree planting	Increased	Consolidated	Local rules	Strong	Not granted
Pando, Bolivia	Agroextractive community	Consolidated	Consolidated	Local rules+	Strong	Not granted
RAAN, Nicaragua	Indigenous rights	Increased	Consolidated	Local rules and External control	Strong	Not granted
Trans-Amazon, Brazil	Colonization communities	Consolidated**	No change	External control	Strong	Not granted
Burkina Faso	Concessions,* communal forest	No change	Consolidated	Local rules and External control	Strong	Not granted
Less effective implementation						
Cameroon	Community forests	No change	Increased	Local rules and External control	Strong	Not granted
Highlands, Guatemala	Communal forests	No change	No change	Local rules and External control	Weak	Not granted
Philippines (2)	CBFM	Increased	Increased	External control	Strong	Not granted
Porto de Moz, Brazil	RESEX	No change	Consolidated	Local rules and External control	Weak	Not granted
Ghana (1)	Benefit sharing	—	—	—	—	—
Ghana (2)	Tree planting	Increased	Increased	External control	Strong	Not granted
Guarayos, Bolivia	Indigenous lands	Consolidated**	No change	Local rules and External control	Weak	Not granted

* One concession experienced only an increase in usufruct rights and weak exclusion rights.

** Access rights were consolidated for communities that have received title, but many others have not.

+ External control applies to logging, but the main livelihood activity in this region is Brazil nut extraction, which is not currently controlled.

Source: Elaborated based on country and site reports and discussions with researchers

It is important to note, however, that local rules may exist because the reform explicitly or implicitly supports them, or they may prevail simply because external control is too weak to suppress them. In all cases with effective implementation, local rules are explicitly permitted.

It is notable that some of the cases of poor implementation still demonstrate increases in some rights in practice. In the Philippines CBFM cases, rights have clearly increased even though the programme has moved forward in fits and starts. Communities in Cameroon have increased formal rights over a certain area of forest, although income benefits are often usurped by elites. In Porto de Moz, partial implementation has consolidated local use rights through expulsion of timber companies, but ongoing implementation has moved very slowly. Tree planting in Ghana has also increased rights but not particularly securely. In Guarayos, Bolivia, communities that have received titles have consolidated access rights, but many others are in a state of insecurity because of slow implementation and competition for the land and forests. Both the Philippines CBFM and tree planting in Ghana have strong exclusion rights. Because of the nature of the benefit-sharing scheme in Ghana, land-based tenure rights were not part of the reforms; hence, though this case potentially provides increased income from resource rents, the changes are not applicable to the table. With regard to management, local rules persist in the case of the highlands in Guatemala and the extractive reserve in Porto de Moz to some extent because the external controls are not effective; local rules are permitted in Guarayos for all activities except commercial logging.

In Table 9.3, the cases have been classified into three groups: those with little or no change in tenure rights, those with moderate changes and those with significant and secure changes.² This information is combined with the goal of the reform from Table 9.1, livelihoods or forest conservation and the outcomes. Unfortunately, it is not possible to assess quantitatively the comparative magnitude of changes across the cases; nevertheless, this will be discussed in qualitative terms when it contributes to the analysis.

It is now possible to analyse the outcomes with a greater understanding of the reforms and their implementation. To summarize, it is clear that the reforms so far have mainly focused on changes in access and use rights and that management rights are almost always subject to external control. Exclusion rights are important for effective implementation. Alienation rights have not been granted in any of the reforms (except rights internal to the community or group). Several cases have not been implemented effectively and this affects the extent to which rights increase in practice.

Tenure reform and change in livelihoods and income

As mentioned in the introduction, sources of livelihoods are changing throughout developing countries and many of the drivers are unrelated to forest resources. Nevertheless, forests remain important for livelihoods and incomes. Tenure reforms have sometimes made new forest resources available to communities; in other cases, however, communities may have had access that was informal or even illegal. In most cases, new rights were combined

Table 9.3 *Livelihood (L) and forest condition (F) outcomes, by goals of reform and changes in rights*

Change in rights	Case	Reform goal	Change in livelihoods	Change in forest condition
Significant increase	Pando, Bolivia	L	Improved income from Brazil nuts in titled lands	+L Maintenance of forest areas with limited pressures for conversion =F
	CBFM, Nepal	F	Consolidated access to timber and NTFPs	+L Increased forest cover, species diversity, fire control +F
	Kalahan, Philippines	L, F	Some improvements from NTFPs and projects, but also use rights restrictions	+L 400 ha reforested, control of fires, sanctuaries established, rich biodiversity +F
	TGCS, India	L, F	Small contribution to fodder and fuel wood	=L Tree planting on highly degraded land, improved condition and diversity +F
	RAAN, Nicaragua	L	Growing income from commercial logging only in some cases	+L Selective logging but no internal pressures for forest conversion* =F
	Concession, Burkina Faso	L, F	Increased use of NTFPs, regulated use of fuel wood and fauna	+L Deforestation due to market demand, population growth; other sites show recovery =F
Moderate increase	Petén, Guatemala	L, F	Growing income from timber and NTFPs	+L Selective logging but few internal pressures for forest conversion =F
	CF, Cameroon	L	Growing community income derived from sale of forest products	+L Degradation, deforestation and conversion to agriculture -F
	Trans-Amazon, Brazil	L	More assets but little changes in cash income	=L Converted and degraded because larger pressure from agriculture -F
	CBFM, Philippines	L, F	Increased income from logging, agroforestry and coop enterprises, projects	+L Reforestation, fire control, biodiversity improvements in most sites +F
	Porto de Moz, Brazil	L, F	Consolidated access to NTFP but constraints to timber use	=L Less logging, limited pressures for conversion but little change =F
	Tree planting, Ghana	L, F	Promised future income from timber	=L Increased tree cover +F
Little to no increase	Highlands, Guatemala	F	No change	=L No change =F
	Benefit sharing, Ghana	L	Income to chiefs but not to communities	=L n.d. n,a
	Guarayos, Bolivia	L	Growing income from commercial logging	+L Selective logging and pressures for forest conversion -F

+ Improvement; – deterioration; = no change; += small changes or changes explained in text

* The RAAN forest was badly damaged by Hurricane Felix in September 2007; this decline in forest condition is not taken into account here.

Note: The order of the cases within the three main categories is arbitrary.

Source: Elaborated based on country and site reports and discussions with researchers

with new responsibilities – and hence the reform may actually have placed new limits on access. This section discusses the results regarding livelihoods and income, identifying patterns.

In many of the cases, tenure reform has opened up new sources of goods for subsistence or income. For example, in the Petén, Guatemala and Cameroon, communities had no legal rights to timber or logging income prior to the creation of the community concessions or community forests. In India, communities were granted wasteland areas to grow trees for fuel and fodder. In Ghana, the Modified Taungya System for tree planting, unlike previous taungya programmes, allows farmers a share of income from the trees they plant.

In other cases, the reforms involved new restrictions on the use of resources previously available to the community. At times, open-access dynamics governed resource use, as in the Nepal cases and Kalahan, in the Philippines. But in the Petén, strong informal institutions governed access to some NTFPs. The new legal rights, then, both expanded and restricted access in some ways, with prior practices being brought under greater state control, monitoring and regulation. The most common restrictions cover grazing, logging and the use of fuel wood and fodder. Curiously, however, no cases present declines in livelihoods, for any of several reasons: the restrictions

- 1 were eased or forgotten with the passage of time;
- 2 affected only some members of the community or only outsiders;
- 3 were counterbalanced or outweighed by other benefits;³ or
- 4 covered resources that the community had never used and had no interest in exploiting.

This last reason is the case of commercial timber, for example, in Kalahan and in many communal forests in the Guatemalan Highlands.

Some of the unexpected benefits of the reform are apparent at one site in Nepal:

The decade long violent conflict, economic stagnation, population growth and increased trend of going for overseas employment have significant impacts on the vulnerability of local poor. Although most of these trends negatively affected the poor, those who highly rely on forest resources have been less affected. The Community Forest User Group (CFUG) was the only functioning local institution during the political conflict and the states of emergency. The members continued to engage in managing, harvesting and sharing the benefits. Consequently, the benefits of forest management provided more stability during difficult times. (Paudel and Banjade, 2008b, p41)

In that case, forest resources provided greater stability from outside shocks and the members of the user group, established by the tenure reform, were less vulnerable during a conflict. For other communities, the ability to exclude outsiders or choose whether to permit logging are important benefits of reform, even if this brings no direct livelihood improvement. This is true, for example, for some indigenous communities that find their territories the target of invasions by non-indigenous colonists and, of course, for communities that have long suffered from state logging concessions in their forests.

Table 9.3 suggests a possible pattern in the outcomes for livelihoods: reforms with significant increases in tenure rights generated positive livelihood outcomes in almost all the cases; in contrast, reforms with only moderate rights increases demonstrate no change in half the cases. The cases with the least rights changes more often resulted in no livelihood change, with the exception of Guarayos, where only a small minority experienced improvements, because they now engage in commercial logging.

Tenure security is expected to increase a community's long-term investment and provide an incentive for making and enforcing new internal rules (Gibson et al, 2000). In the case studies, it helped communities obtain project support, made it possible for them to sign contracts with outside parties (Larson and Mendoza-Lewis, 2009) and increased their bargaining power (Cronkleton and Pacheco, 2008b). For example, in Pando, Bolivia, some communities' rights were already relatively secure through customary institutions, but they were further strengthened against competing claims for access to Brazil nut trees. This increased the negotiating power of these communities and at least in some cases contributed to higher incomes. Guatemalan Highlands communities that had secure tenure (or were able to negotiate agreements with municipal governments for secure rights) could participate in a national incentive programme for natural forest protection and reforestation; for example, one study community in Chancol is earning an average annual income of US\$366 per family from reforestation incentives (Larson et al, 2008).

Table 9.3 also suggests that the goals of the reform may affect livelihood outcomes. Of the cases that had moderate and significant changes in rights and a goal of improving livelihoods, all except one experienced livelihood improvements; half of the cases with combined goals did. There are too few cases with primarily conservation goals to be able to draw any real conclusions, but in the Nepal cases it is worth noting that livelihood improvements only emerged after grassroots organizations fought for this outcome. Other studies have shown that access to forests was reduced after launching community forestry, badly affecting those who were more forest dependent (Colfer et al, 2008a; Adhikari et al, 2004; Malla, 2000). But forest user groups and their federation (see Chapter 6) fought for policy changes. All the Nepal cases studies here enjoyed some level of livelihood benefits. The sites inside protected or conservation areas also show no definitive pattern, with no change in livelihoods in Porto de Moz, Brazil, and the highlands of Guatemala, but improvements in Kalahan, the Philippines, and the Petén, Guatemala.

The livelihood benefits must be put in perspective, however. Whereas some communities have benefited enormously from reforms, others in the same policy context may have fared less well because so many variables influence outcomes in every case. These include the forest management model, the quality of resources transferred to communities, the presence of project support, regulations and market conditions, local organization and the internal distribution of benefits.

The first variable, the forest management model associated with the tenure reform, can be better understood by looking at the magnitude of livelihood outcomes, specifically income: for example, a few communities began receiving large new sources of income after the tenure reform. Though the cases represent a range of different situations, two principal models of reform stand out. One is the community forest enterprise model, common to some Latin American cases, Cameroon and one site in the Philippines, whereby substantial external support, usually from donors and projects, helps establish a community-based logging operation. The other model is based primarily on support for subsistence needs or small-scale trade in NTFPs. Both may be driven by conservation objectives, though the former necessarily has significant livelihood goals. What the communities with substantially higher incomes have in common is the establishment of community logging enterprises.

Table 9.4 summarizes the collective profits, ranging from US\$10,000 to more than US\$200,000, in several of the communities studied. These profits represent the collective net income to the enterprise after costs, which are often substantial, and can be spent in different ways, such as for community projects or distributed as dividends among members. But these projects also provide employment and wage income. There is often a trade-off among these options. In the two Petén concessions, for example, Arbol Verde regularly distributed more than US\$500 in annual dividends, but the community of Carmelita distributed only US\$150 to US\$250, investing the rest in creating jobs and hence increasing its operating costs (Monterosso and Barry, 2009). A comparison of the four enterprises in the Latin American sites (Carmelita and Arbol Verde in the Petén, Layasiksa in Nicaragua, Cururú in Guarayos, Bolivia) demonstrates investments of US\$22,000 to US\$43,000 in wages and US\$6000 to US\$33,000 in the community – in school scholarships, community

Table 9.4 *Profits from community forestry enterprises*

<i>Site</i>	<i>Net community income US\$</i>
Layasiksa, Nicaragua	30,264
Arbol Verde, Petén, Guatemala	226,315
Carmelita, Petén, Guatemala	27,745
Compostela, Philippines	23,400
Cururú, Guarayos, Bolivia	34,486
Lomié-Dja, Cameroon	10,002

Sources: 2006 and 2007 data from Pulhin and Ramirez (2008), Larson et al (2008) and Oyono et al (2008)

water systems, the construction of housing for the poorest members and so on (Larson et al, 2008).

These enterprises, however, operate in only some of the sites studied. The outcomes were significantly different from those of neighbouring communities under the same tenure reform but without enterprises. For example, the second site studied in the RAAN, Nicaragua, demonstrated no measurable livelihood or income improvements directly associated with the tenure reform; the same is true in other Philippines sites without this enterprise model. In both Guarayos and Cameroon, other communities had enterprises as well but with much more modest profits of about US\$3200 in Guarayos (Larson et al, 2008) and from US\$3750 to US\$6040 in four other sites in Cameroon (Oyono et al, 2008).

Data demonstrating high incomes, however, do not mean that these models are necessarily better. Many enterprise models involve substantial donor or project support and outside investments; they often result in significant community upheaval and the transformation of local traditions and institutions, for better or worse; they involve high financial costs and risks, may create permanent external dependency and are difficult to replicate (see Larson et al, 2008; Pacheco et al, 2008b). In Cameroon, funding often comes from members of the local elite, who then confiscate all financial benefits (Oyono et al, 2008). However, the outcomes do suggest what can be achieved in some cases – though this also depends on the quantity and quality of forests, as discussed below.

The second model – a collective traditional model for domestic use or small-scale trade – has dominated reforms in Nepal and Burkina Faso and is similar to the tree growing reform in India. Though most of these have resulted in livelihood improvements, the magnitude tends to be much smaller and may not include income at all. One factor is the dramatic difference in scale

Table 9.5 *Changes in livelihoods, by management model*

<i>Change in livelihoods</i>	<i>Collective traditional</i>	<i>Collective entrepreneurial</i>	<i>Individual</i>
Relatively larger +L		Petén, Guatemala CF, Cameroon CBFM, Philippines RAAN, Nicaragua* Guarayos, Bolivia*	
Relatively smaller +L	CBFM, Nepal KEF, Philippines Burkina Faso		Pando, Bolivia
=L	India Highlands, Guatemala		Ghana Porto de Moz, Brazil Trans-Amazon, Brazil

* Communities with entrepreneurial models only

+ Improvement; – deterioration; = no change

between the newly tenured forest areas in Asia and Africa, on the one hand, and Latin America on the other. One community forest user group in Nepal reported an income of US\$3350 for the collective and a total household income contribution of US\$2960 (Banjade and Paudel, 2008). This is considered quite high among community forestry sites in Nepal.

Again, smaller income benefits do not mean the reform is necessarily less desirable. Strengthening and supporting appropriate and sustainable agriculture or small-scale NTFP trade can still improve livelihoods and may be particularly important for promoting women's opportunities and family health as well as cultural diversity (Colfer et al, 2008b; Colfer and Byron, 2001). Nevertheless, there is good reason to believe that, in some cases and when desired by the community, the traditional collective reform model has greater potential to contribute to people's livelihoods and incomes than it does now. For example, in Nepal, environmental concerns have been dominant because this model of community forestry was originally promoted to halt rapid deforestation and protect and conserve forests (Kanel, 2004; Kanel et al, 2005; Sunderlin et al, 2005). Livelihood and poverty alleviation objectives emerged as second-generation issues over the years because of grassroots demands.

Conservation priorities can have repercussions regardless of the model. In the Philippines, for example, community-based forest management policies consider livelihoods and conservation of equal importance, but this commitment has not been demonstrated in practice. Rather, conservation 'fears' have led to constant policy reversals and the periodic cancellation of all resource use permits; because of this, in 2003, the enterprise in Compostela was left with almost US\$56,000 in debts. The problems with regulation have been discussed in Chapters 3 and 7.

A third set of cases are grouped as 'individual models' in Table 9.5. Among them, only Pando experienced livelihood improvements. In Ghana, the benefits from tree planting will not be forthcoming until the trees have matured and no provisions have been made for farmers to borrow against future income. In Porto de Moz, although communities have been able to exclude timber companies, the benefits that they obtain from the forests have not improved significantly. In the Trans-Amazon, the reform only formalized the access that communities already enjoyed and so it did not have any significant implications for livelihoods.

Another central issue shaping the livelihood potential of forests is the quantity and quality of the forestland assigned to communities, which also influences the choice of model. Community forests are rarely located in high-quality forests. Community forests in Cameroon are granted from the lower-quality forests of the non-permanent estate, equivalent to the agroforestry zone near villages (Oyono et al, 2008). Very few high-quality *terai* forests have been granted to user groups in Nepal (see Ojha et al, 2008). Rather, the forests handed over to communities for protection and management have been degraded, sometimes heavily, particularly in Asia. These forests provide little prospect of generating income until they are replanted and fully regenerated.

The community concessions of the Petén – though the quality varies – appear to be an exception. In addition, the size of the forests granted to communities in the Petén and many other Latin American sites is orders of magnitude larger than in Asia, in particular. In Nepal, for example, the sites range from 100 to 635 hectares, sometimes less than 1ha per member, whereas in the Petén, one of the concessions studied covers 65,000ha, or 190ha per member; titling in Pando granted 500ha to each family to promote sustainable Brazil nut extraction.

Another factor affecting livelihoods across the cases is the extent to which the reform includes some kind of project support. In all but one of the cases demonstrating improvements in Table 9.3, the reform did not simply change tenure rights but also provided economic, technical and organizational support. Though this is essential in all of the sites with logging enterprises, mentioned above, it also includes the community forest user groups in Nepal, the ancestral domain site in the Philippines and the concessions in Burkina Faso. Sites that received project support but did not demonstrate significant livelihood or income changes were the two involving tree planting (India and Ghana). The only site that demonstrated income improvements but did not have project support is Pando, Bolivia, where the cooperative federation has received support to organize and gain access to fair trade markets (see Chapter 6). Such support has proved important for building community capacity, navigating the national bureaucracy and accessing markets, all of which affect outcomes. These issues (community organization, regulations and markets) have been addressed in other chapters and will not be repeated here.

Tenure reform and change in forest condition

Patterns in forest outcomes are even more difficult to discern than patterns in livelihoods. The results (see Table 9.3, above) demonstrate only slightly better outcomes in the cases with significant increases in rights than those with moderate increases. The 12 cases with significant or moderate increases in rights show more forest improvement than the two cases with little or no increase in rights. Forest condition improved in half the cases with significant gains in rights and saw no change in the other half. Of the cases with a moderate increase in rights, outcomes were evenly divided between improvement, deterioration and no change. The two cases with little or no increase in rights resulted in no change or a decline in forest condition.

As with livelihood outcomes, changes in forest condition appear to be related to multiple variables, making it difficult to isolate the effect of the tenure reform. Nevertheless, we have discerned some patterns and a closer look at outcomes by case offers insights into the other variables likely to be relevant.

The explicitness of conservation goals does not appear to make a difference in outcomes (see Table 9.6). Though not all of the cases with forest conservation goals had positive outcomes for forests, none experienced declines in forest condition. On the other hand, since these indicators summarize several sites,

Table 9.6 *Forest outcomes based on forest and livelihood goals*

Reform goal	Outcomes for forests		
	+F	=F	-F
Livelihoods		Pando, Bolivia RAAN, Nicaragua	CF, Cameroon Trans-Amazon, Brazil Guarayos, Bolivia*
Livelihoods and forest conservation	CBFM, Philippines TGCS, India Kalahan, Philippines (C) Tree planting, Ghana	Porto de Moz, Brazil (C) Petén, Guatemala (C) Concessions, Burkina Faso	
Forest conservation	CBFM, Nepal	Highlands, Guatemala* (C)	

+ Improvement; – deterioration; = no change; += small changes or changes explained in text
 C: Formal conservation areas; this applies to the Guatemalan Highlands only in some communities
 * Sites with little to no increase in rights

interpretation is not always straightforward. Of the four sites in Burkina Faso, for example, two experienced declines and two experienced improvements; the differences between these sites are discussed below.

In the five cases in which forest condition improved, the results are not particularly surprising. Two involve tree planting initiatives, which would result in negative outcomes only if no trees were actually planted. The community forestry projects in both Nepal and the Philippines have been faulted for an overemphasis on forest condition and insufficient concern for local people’s livelihoods. The Kalahan site was an open-access area until the communities won formal rights and control.

Declines in forest condition are seen only in sites where livelihoods or user rights were significantly more important in the reforms than conservation goals; nevertheless, conservation goals were not ignored in these sites. For example, community forests in Cameroon and communities undertaking logging in Guarayos, Bolivia, all operate with approved forest management plans.

The establishment of conservation or protected areas does not have a direct relation to positive outcomes for forest condition. Those sites are noted (C) in the table; only one has resulted in improvements; three have seen no change. Again, the results suggest that other variables may be more important.

World region provides one of the most notable patterns in outcomes. Results were much more likely to be positive for forests in Asia, be mixed in Africa and result in no change in Latin America (see Table 9.7). Each region is examined in turn to identify the underlying variables behind these differences.

Forest condition clearly improved in almost all sites in Nepal, India and the Philippines. Under reformed tenure, forest cover has increased, natural regeneration has been protected, landslides have been reduced and some of the endangered flora and fauna have been safeguarded. A significant reason is that

most of these forests were highly degraded when handed over to communities. In the midhills of Nepal, the condition of forest cover dramatically improved, particularly in terms of increased canopy cover and basal area. In the forests of Sundari forest user group in Nawalparasi (in the high-value lowland *terai* forests), there was significant regeneration, even with relatively high levels of timber extraction.

All sites in Nepal experienced increased availability of fodder, fuel wood, leaves, NTFPs and timber. Seasonal availability expanded, time required to collect these products decreased and the net quantity collected increased. These general observations were confirmed by more rigorous technical assessments from user groups' operational plans. For example, fuel wood biomass (kg) per ha in the Patle user group rose from 75 to 103 cubic metres from 2002 to 2007. In Nawalparasi, biomass increased from 61 to 115 cubic metres in the same period. Nepal appears to be an exception in this regard and, as noted previously, is one of the only cases in which forest conservation was clearly a priority over livelihood goals; it was not until forests had substantially regenerated that community access and withdrawal rights increased. Nepal was also one of the first countries to develop community forestry policies and thus its programmes have a longer history and greater maturity.

In the Philippines, one factor leading to improved forest condition was the effort made both by the state and the communities to reforest denuded areas. For example, the Kalahan community reforested more than 400ha in its own forest reserve, protecting the watershed and biodiversity and reducing wildfires. In the community-based forest management sites, the results have been more mixed, with two sites experiencing reforestation, control of wildfires and overall improvements, but one declining in overall condition despite reforestation, because of illegal poaching and logging. This site, Compostela, generated significant income from forest enterprises (mentioned above), experienced the effects of permit suspensions most strongly and is subject to overlapping claims between indigenous communities and more recent migrants; all of these factors affect tenure security. Worsening forest condition appears to be associated

Table 9.7 *Outcomes for forests, by world region*

<i>Change in forest condition</i>	<i>Africa</i>	<i>Asia</i>	<i>Latin America</i>
+F	Ghana	Nepal Kalahan, Philippines CBFM, Philippines India	
=F	Burkina Faso		Petén, Guatemala RAAN, Nicaragua Pando, Bolivia Porto de Moz, Brazil
-F	Cameroon		Trans-Amazon, Brazil

+ Improvement; – deterioration; = no change

not with logging conducted under the resource use permit but rather with the failure to exclude illegal loggers and poachers.

In India, all three sites have seen a positive local ecological impact from the tree growers' cooperative societies. Each cooperative has raised plantations on approximately 40ha of leased land. In all three cases, the cooperatives were able to control illegal encroachments before planting. Considerable effort and funds (through project assistance) were invested in preparing the site, building soil and moisture conservation infrastructure, establishing the plantation, watering tree saplings with water tankers and protecting the site against illicit grazing and removal of tree products. Ten years since external support ended, plantations in all three sites are still present.

In contrast with the Asia sites, all the sites in Cameroon suffered from some degree of forest degradation, though in one site, Oku, overall conditions were improving. In Burkina Faso, conditions were declining in two sites and improving in two others. Variation across the sites provides important insights.

In Cameroon, deteriorating forest conditions may be partially a result of the reforms. Though degradation was already occurring, there is a lack of environmental concern at the local level and failure to implement management plans appropriately, combined with a lack of monitoring from the Ministry of Environment and Forests. At the same time, the nature of the reform itself has been highly problematic. The process, which requires extensive and expensive bureaucratic procedures for obtaining community forests and for the periodic approval of management plans, has been fraught with corruption and captured by the elites who provide the funds. These include local and external elites, business people, top military officials and town-based politicians, whose primary goal after the long approval process is to recover their investment and make a profit (Oyono, personal communication).

The only site in Cameroon that demonstrates improved forest condition (Oku) is the one that is more traditional and hierarchical, where customary rules for conservation and resource use, as well as the 'mystique of social order', have been maintained under the influence of powerful chiefs (Oyono et al, 2008). The three other community forests demonstrate not robust collective action but the usurpation of the forest management committee by a small, unaccountable group of elites. To some extent, the involvement of these elites in the management of community forests is leading to the degradation of forests (Oyono, 2005a). Also, some community members believe that the community forest programme, while increasing rights to a small area, in some ways reduces their rights as a whole by recognizing formal rights only to an area much smaller than the one they have customarily claimed. For example, in Oku, 'farmers feel that their forest, which had measured about 17,000 hectares 10 years ago, has officially been reduced to 2800 hectares today' (Oyono et al, 2008).

The issues in Burkina Faso are more complicated. Two sites show improvements. One is a communal forest subject to overuse and degradation, and the neighbouring communities sought project support specifically for forest

regeneration for future exploitation. The other is a wildlife reserve that generates hunting (safari) royalties; conservation is a priority here because wildlife habitat represents income. In both cases, the communities are well organized, customary authorities are fully involved in implementation and exclusion rights are exercised. Burkina Faso also has two cases of increased degradation that involve concessions for fuel wood exploitation. Although forest management plans exist, the provisions protecting forest resources are not implemented. In addition, customary authorities sometimes take actions to undermine the concessions, such as granting farmland to migrants inside the forest management area. Hence exclusion rights are not fully exercised.

There is a fundamental contradiction between the state's claims to own and manage land and forest resources and customary rights and practices. Policies have undergone significant changes several times since the 1980s (see Chapter 4). The communities that have received forest rights through concessions have not always been granted the rights that they have customarily claimed. Village commissions established by the government to manage natural resources initially excluded customary authorities and new village development councils, elected by communities through consensus or election, have been instated only since late 2007. The overall classification of forest regimes (zoning) by the state creates overlapping rights between central government and local government, industry, traders and local communities, encouraging exploitation by traders and elites at the cost of the social good. Official state-managed areas may undermine forest protection by customary institutions (Kante, 2008).

The two sites in the third African country, Ghana, demonstrate improvements in forest condition. The Adwenase forest, historically managed under exclusive control of the people of Akropong community as a sacred grove and royal burial ground, was being threatened by migrant settlers and by conversion to other uses by the community itself. The community sought the support of the Forestry Commission to save it and it is now managed as a 'dedicated community forest reserve'. The other site is located in a protected area and involves tree planting in agricultural fields under the Modified Taungya System, mentioned earlier, whereby farmers will then have a right to the income generated from their sale. Planted areas over the past three years have exceeded goals in two of those, resulting in about 3000ha planted from 2006 to 2008.

The Latin American sites generally saw no change in forest conditions, for various reasons. To begin with, compared with the Asia cases, the forests were in reasonably good condition when granted to communities. This is particularly true in Pando, Bolivia, where Brazil nut collection is the primary source of livelihoods, thus creating an economic incentive for forest conservation. Forests are, therefore, at less risk from degradation, since there is no evidence suggesting overexploitation of Brazil nuts. Tenure reform, the titling of community lands, had little impact on forest condition in part because forests are already fairly well protected.

In many of the other sites – in Brazil; in Guarayos, Bolivia; in the Petén, Guatemala; in Nicaragua – pressures from logging are increasing and the

demand for land by colonists is high. Communities near roads and populated areas are more vulnerable and in general are suffering greater deforestation and degradation than more remote communities, which tend to have better-preserved forests and fewer people. It is likely that secure tenure alone in vulnerable areas – places where livelihoods depend on agriculture and population growth rates and colonization pressures are high – will be insufficient.

A comparison of Porto de Moz (Brazil), Guarayos (Bolivia) and the RAAN (Nicaragua) also offers some insights into pressures on forests under tenure reform. All three sites have suffered from serious delays in the implementation of rights due to foot dragging or bureaucratic weaknesses. In the first case, this involves the development of the management plan for the reserve, the first step before further implementation can advance, including the definition of resource use rights; in the other two cases, this involves demarcation and titling of indigenous territories. Yet deforestation does not appear to be related as much to tenure rights as to the location of multiple actors who are making demands on forests and forest resources. Forest conditions in Porto de Moz have remained the same. In large parts of the RAAN, they have also remained the same, though more vulnerable areas subject to colonization by *mestizo* farmers have been systematically deforested (Intelsig, 2008). Similarly, deforestation in Guarayos has occurred in areas exposed to pressures from large landholders to convert forest to mechanized agriculture; also, forests are being degraded in communities engaging in informal logging and agriculture. At the same time, one of the first few certified community forests is in Guarayos.

Forest condition in the Petén sites is good, with SmartWood studies showing more than 150 species of mammals and 300 species of birds. Both sites cut only large trees, more than 55 to 60cm in diameter, and often log far less than the permitted three cubic metres volume per hectare. Deforestation data from three management models – the buffer zone, the multiple-use zone, which is home to the community concessions, and the national park nucleus zones – show lower rates every year for the multiple-use zone from the period 1990–1993 to 2004–2005 (Monterroso and Barry, 2009). That is, the community forest concessions have much lower deforestation rates than unmanaged portions of the Maya Biosphere Reserve and other national parks, which are being invaded and converted to other uses. At the same time, the four small, vulnerable concessions on the edge of colonization areas have higher deforestation rates than the others.

In summary, the primary variables affecting forest condition outcomes across the sites are the nature and priorities of the reform (such as strict conservation rules and reforms primarily involving tree planting), the resulting security of rights, the maintenance or breakdown of customary or traditional management institutions, elite capture of benefits, dependence on agro-extractive activities, proximity to colonization areas or other competing interests in forests and the capacity of community forest management organizations.

Tenure reform and issues of equity

In some of the reforms, the granting of rights to a certain group of people excluded, failed to take into account or altered the rights of other groups. This problem most commonly affects people who use resources on a temporary or seasonal basis. In Nepal, for example, transhumant pastoralists in high mountain areas have traditionally used certain pastures seasonally. Some of those pastures have now been granted to communities under the community forestry programme and since grazing is seen as environmentally 'bad', many user groups, which have exclusion rights, have banned it.⁴ After several years of conflict in the study community of Suspa-Dolakha, an agreement was finally reached with *chuari* herders to permit grazing at higher elevations. This has forced more herders into smaller areas, however, thus increasing pressure on natural resources; the population of herders in this area has dropped, from 35 to 40 prior to the establishment of the community forest to 16 today. Transhumant pastoralism contributes to the economy of Nepal and is common to the high-hill ethnic groups like the Sherpa, Bhote and Tamang. The problems these pastoralists face are poorly understood and generally ignored by policy-makers (Banjade and Paudel, 2008).

A similar problem is found in Cameroon with the Pygmy population. In villages composed of two ethnic groups, the dominant Bantu population denies the Pygmies' historical customary rights to forests, leading to their *de facto* exclusion. A Pygmy from Mintoum stated, 'The Bantu say that we are nomads, without fixed residence and village. They say that it is they who created the village, without us, and that the forest therefore belongs to them' (Oyono et al, 2008). Similarly, in the case of Adwenase, Ghana, only the rights of native community members were respected, while the rights of migrants, though recognized in the forest management plan, were prohibited in practice (Marfo, 2009). Land claims based on indigenous rights may deny the claims of non-indigenous people, as in the Philippines.

Within the communities benefiting from reforms, equity refers to participation in decision-making and in the distribution and sharing of material benefits and burdens associated with the tenure reform. Two issues stand out: first, tenure reforms sometimes place new restrictions on resource use that affect the poor most; second, power and benefits tend to be concentrated among certain community groups, even when there is not elite capture, unless specific measures are taken to reduce inequities or address the needs of poorer groups. Some communities have begun to implement such measures.

Several cases demonstrate restrictions on resource use that affect the poor. In Nepal, for example, forest use was highly restricted in the early years after the forest user groups were created. This included restrictions on the use of fodder, regulations and even prohibitions on grazing, and severe restrictions on gathering firewood or producing charcoal. These rules affected the poorest, most forest-dependent groups most, though in some sites these restrictions have been reduced with forest regeneration. Nevertheless, in Nepal, access of the poor often decreased as the commercial value of the products increased. For example, forest user groups began to restrict individual appropriation

of NTFPs (*lotka* and *argeli* in Suspa, and *harro*, *barro*, *amala* and *kurilo* in Sundari) as their market prices rose. Instead, villagers were permitted to collect these on a wage basis for the user group to then sell in the market. The same has happened for fuel wood in Sundari: free collection is restricted to two seasons and during the rest of the year fuel wood must now be purchased.

In the Guatemalan Highlands, the state and conservation NGOs have promoted several resource use rules that have affected the livelihood options of poor people. For example, prohibitions and limits on sheep grazing, which has been blamed for the destruction of highland forests, have mostly affected women, who are the primary herders. Similarly, rules requiring permits for the use of firewood have hurt the rural poor. Though the permits themselves are not expensive, the time and effort spent obtaining them can be substantial (Elías et al, 2009).

Elite capture and problems with representatives who are not downwardly accountable promote the concentration of benefits in the hands of a few community members (see Chapter 5). In Cameroon, income can be traced to improvements in basic community infrastructure and social services in only one site. But even without specific accountability problems, power and benefits are likely to be concentrated, to some degree, among the male, better-educated, higher-caste or wealthier residents. From the start, rules for group membership may allow only one member per household, thus often excluding women. In Layasiksa, a change in the rules increased the number of women cooperative members from 14 per cent to 50 per cent. Nevertheless, there is only one woman on the board of directors and women's employment as wage labourers in the community enterprises is very low. This is a common problem across all the cases where timber is the primary product. In Layasiksa, for example, in all of the jobs created in the logging enterprise throughout the year, only two women participate, as cooks.⁵

Non-timber forest products can create opportunities for women. In the Petén, Guatemala, the expansion of the concession organizations into NTFPs has opened more spaces for women, where they are more engaged in tourism and export of *xate* palm. This has also opened up leadership possibilities and a woman held the position of cooperative vice president in Carmelita at the time of this study.

Finding fair ways to distribute limited new opportunities is a challenge for communities but helps prevent divisions and conflict. The logging project in Layasiksa has a rotational labour system whereby every willing and able male can participate for a certain number of days, as long as his work performance is acceptable. Skilled jobs are limited, but people can ask to be considered and trained.

Nepal's forest user groups are dominated by well-off members of the community who have generally benefited more than the poor. Women's participation is often token. At the same time, forest user groups in all four sites have taken some pro-poor initiatives, such as preferential prices and jobs, special income-generating projects and land allocation, as described in Table 9.8.

Table 9.8 *Pro-poor initiatives under community forest management in Nepal*

<i>Initiative</i>	<i>Description</i>
Pro-poor income generation programme	Poor households received financial and technical support to run small enterprises (goat raising, Kurilo farming, beekeeping, Machino farming). Hundreds of poor are benefiting.
Land allocation to poor households	Small pieces of land adjacent to forest have been allocated to poor farmers to grow commercial fodder, fruits and NTFPs (Baglung and Nawalparasi).
House construction for the landless	Sundari has built small houses for some poor who did not have permanent shelter. Six houses have been constructed and others are planned.
Differential prices for rich and poor	In some groups, timber is given free to poor during emergencies. Sundari has differential price system, with poor people paying less for timber, despite strong resistance from better-off members. One cubic foot of good-quality timber costs 325 rupees for rich, 275 for middle class and 225 for poor.
Priority for forest management jobs	More than 30% of user group's income goes to forest management and timber-harvesting activities. Poor members often get priority in these jobs.

In the Philippines, community forest management was introduced to redress inequities arising from previous concessionary regimes whereby outsiders benefited from forests and the rights of forest dwellers were denied. Because of this, tenure reform is seen as an example of social justice and a way to promote equity. With their new forest rights, the Banila community crafted new policies to reduce existing inequities by developing special provisions for the poor and disadvantaged members in the community; in Barobbob and Kalahan, the community forest committee established norms to ensure equal participation of women and men, rich and poor. Across the study sites, villagers were asked to assess changes regarding distribution of rights among members, participation in decision-making and community forestry activities, access to livelihood opportunities, sharing of income and benefits, sharing of costs and responsibilities and access to leadership roles. In general, equity was perceived to have improved across all these dimensions as a result of tenure reforms.

In the case of the tree grower cooperatives in India, protecting common lands from outside encroachers is considered important for equity, since poor people often depend on common lands for their survival. Nevertheless, many households in the community had not joined the cooperative and thus were not formally entitled to claim benefits or dividends from its activities. Only Khumariya gave special consideration for non-members who were unable to pay their share to join. At the same time, many people could not remember whether they were members, and all families in the community were actually given equal rights regardless of formal membership. All the cooperatives were dominated by men (with no women members registered) and by higher-caste groups.

In the Africa cases, men are dominant as well. In Cameroon, women are excluded completely from some management committees but are increasingly active in others. Interestingly, given the sharp intergenerational conflict common in Cameroon, the representation of youth in local organizations and forest management committees has increased over the years, to the point that in some cases they are the dominant members, respected by the elders. In Burkina Faso, women are actively participating in forest management activities, but they are ignored in the selection of representatives for local committees. The situation is similar in Afram Headwaters in Ghana, where women are involved as family heads in the Modified Taungya System only when men are absent, primarily because of the male bias in family matters. For example, even among matrilineal groups, husbands are considered the family head and representative (Marfo, personal communication).

In conclusion, equity is a complex issue with multiple dimensions, but there is little indication that increased tenure rights alone have had a positive effect. In several cases, securing rights to one group involved ignoring the rights of others and in other cases community members themselves defined the community to exclude certain groups. Rights associated with substantial responsibilities or resource use restrictions may adversely affect poor populations, the groups that depend most on forest resources for livelihoods. It is notable that the most significant attempts to take poor people's interests into account were in Nepal, a country undergoing massive political upheaval and a place where a powerful discourse of inclusion and overcoming traditional inequities has taken hold. Efforts to include women show only very slow progress.

Conclusion

A significant improvement in legal tenure rights does not automatically result in improvements in livelihoods, forest condition or equity. At the same time, in our cases, results for both livelihoods and forest condition were better for cases with a significant increase in rights and declined as the increase in rights declined. There were some trade-offs, however. Several cases involved times of hardship, or livelihood declines for certain members of the community or groups of people external to the community, while forest condition improved; in some cases rights entailed substantial responsibilities and burdens. Conversely, livelihood improvements were sometimes associated with declining forest condition. Perhaps most notable from a rights perspective, however, is that livelihoods improved in a number of sites *without* declines in forest condition (see Table 9.9).

It is important to analyse each case in context to understand those outcomes. With regard to livelihoods and income, three major mediating variables affect results:

- 1 the quantity and quality of forest resources granted to communities;
- 2 national regulations (including the conservation-related limitations established by the reform); and
- 3 market conditions and forms of market engagement.

Table 9.9 *Synergies and trade-offs between changes in livelihoods and changes in forest condition*

Changes in livelihoods	Changes in forest condition		
	+F	=F	-F
Relatively larger +L	CBFM, Philippines*	Petén, Guatemala RAAN, Nicaragua (some sites)	Cameroon Guarayos, Bolivia (some sites)
Relatively smaller +L or +=L	Nepal KEF, Philippines	Pando, Bolivia Burkina Faso RAAN, Nicaragua (some sites)	<i>Guarayos, Bolivia (some sites)</i>
=L	India Ghana	<i>Porto de Moz Highlands, Guatemala</i>	Trans-Amazon

+ Improvement; – deterioration; = no change; += small changes or changes explained in text

Italics: Cases classified previously as having little or no increase in rights

* The indicators represent composites; the site with the larger income benefits was one in which forest condition was declining (because of outside encroachment).

Most important for livelihoods, reforms need to be fully implemented, with follow-through that facilitates the communities' ability to obtain benefits from forests.

Change in forest condition is affected by these factors:

- the starting condition of the forest and the extent to which the reform prioritizes conservation or regeneration;
- dependence on agro-extractive activities, which generates an economic incentive to conserve the forest, and/or a culture strongly linked to forest maintenance;
- proximity to colonization areas or other competing interests in forests, including population growth, industry and market demands, that are beyond the control of communities.

Central to protecting forest condition is a community's right and ability to exclude outsiders, especially logging companies and those who would convert the forest to other uses.

With regard to equity, the central finding is that positive outcomes appear to depend on specific, dedicated efforts to address sources of inequity. Such efforts should thus be built into future reforms.

Notes

1. Special thanks go to Bocar Kante, Phil René Oyono, Naya Sharma Paudel, Juan Pulhin and Emmanuel Marfo for extensive time and effort spent offering clarifications on case-level and country-level outcomes.

2. All cases with consolidated rights to access or withdrawal and strong exclusion rights were classified as having a 'significant increase' in rights, except for the case where only a limited number of communities had received title (Trans-Amazon). This case and all cases with increases in access and use rights with strong exclusion rights were classified as 'moderate increase'. The RESEX was also classified as 'moderate' because of consolidated use rights, though exclusion is still weak. The remaining cases were classified as having little to no increase in rights; again, Guarayos is not straightforward because those in more remote areas have received titles and consolidated access rights, but this is not the case in the more populated areas. The Ghana benefit-sharing scheme is included in this group because in practice these benefits have not reached the community level.
3. A final reason is probably community adaptation and optimism.
4. Natural pastures at high altitudes constitute about 78 per cent of Nepal's pastureland (Banjade and Paudel, 2008).
5. See Colfer (2005) for more on women and sustainable forest management.