

Enhancing Forest Tenure Reforms Through More Responsive Regulations

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Abstract

Forest tenure reforms have offered new opportunities for communities to obtain formal rights to forests and forest benefits, but at the same time a variety of limitations are placed on livelihood options. This article draws on several case studies of reforms in Africa, Asia and Latin America to analyse the regulations accompanying reforms. It identifies three types of regulations, namely rules that limit areas available to local communities; rules that delineate conservation areas and impose related limits on use; and bureaucratic requirements for permits and management plans, which restrict the commercial use and marketing of valuable forest products. It discusses problems with these regulations, and proposes a simple framework for identifying ways to promote regulations that work for forest conservation but are more responsive to the needs of communities and forests.

Keywords: community forestry, tenure rights, property, regulations, public policy, conservation

INTRODUCTION

Forest tenure reforms in Asia, Africa, and Latin America have offered new opportunities for communities to obtain formal rights to forests and forest resources (for an overview, see the introduction to this special issue by Larson and Dahal). In many ways, these reforms have also had positive effects on livelihoods, such as by granting communities more secure long-term access to resources, the right to exclude outsiders (such as unwanted logging concessions), and participation in new product markets (Dahal et al. 2010). Nevertheless, in many cases, it is apparent that communities could obtain more substantial benefits if it were not for excessive limitations placed on their options.

These limitations come in a number of forms. Based on research on forest tenure reforms in 10 countries, this article addresses three different types of regulations: rules that limit areas available to local communities; rules that delineate conservation areas and impose limits on use; and bureaucratic requirements for permits and management plans, which restrict the commercial use and marketing of valuable forest products (see also Pulhin et al. 2010). These regulations are not separate from but are rather an integral part of the tenure reforms themselves, and suggest a limited view of community 'rights' on the part of the state (see also Larson and Dahal This issue, and Cronkleton This issue).

Though it is broadly recognised that some kind of regulation is needed to guarantee the future of the world's forests, it is apparent that many regulations serve less noble purposes, including maintaining government jobs and authority, and favouring elite actors (Silva et al. 2002; Larson and Ribot 2007), or rent-seeking and corruption (Kolstad and Soreide 2009). This article provides a brief look at the research methods and the history of forest bureaucracy before presenting examples of these three different types of regulations. The final section analyses the findings, and suggests a framework for rethinking the role of the state in community regulation

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based on the drivers of deforestation and the degree of local forest dependence.

METHODS

The case studies discussed in this article were drawn from an action research project carried out in 10 countries from 2006 to 2008. The project, undertaken by the Center for International Forestry Research (CIFOR) in coordination with the Rights and Resources Initiative, aimed at understanding the origins, nature, and initial outcomes of forest tenure reforms taking place in Asia (India, Nepal, and the Philippines), Africa (Burkina Faso, Cameroon, and Ghana) and Latin America (Bolivia, Brazil, Guatemala, and Nicaragua). These reforms vary considerably, ranging from benefit sharing agreements to full-scale titling, but all involve the transfer or recognition of new statutory rights to communities living in forests.

Countries and subregional research sites were chosen not only to explore tenure changes but also based on the conclusion (through scoping activities with partners organisations), that there was an opportunity to deepen rights or affect policy decisions. The specific choice of territories or villages studied within these sites was based on an assessment of those that would provide the best understanding of the reform or the reform process depending on each national context.

All of the research was carried out using the same set of central questions, key theoretical and background readings, hypotheses and definitions of key terms, though the specific methods used to obtain the information required varied from country to country. Lead researchers in each country were always country nationals, and the field research was usually organised and implemented by national or subnational non-governmental organisations or universities with CIFOR oversight (for more information on methods, see Larson and Dahal This issue).

Given the policy-oriented goals and action research priorities, researchers and communities were often engaged in promoting the reforms and seeking to improve outcomes. Hence, one of the central variables studied was the role of regulations in fostering—or hindering—the ability of communities to obtain additional livelihood benefits in association with their new statutory rights. In the research design, the topic of regulations was conceived of only in terms of the third type mentioned above: bureaucratic requirements for permits and management plans. The other two types of regulation emerged from later analyses across the cases.

ORIGIN OF GOVERNMENT FORESTRY REGULATIONS

Forest bureaucracies have emerged out of a tradition of regulation that began with the organisation of land and resources in a process described by Vandergeest and Peluso (1995: 387–388) as “territorialisation”. Territorialisation involves dividing territory and creating “regulations delineating

how and by whom these areas can be used”, including the use of natural resources within its boundaries.

Territorialisation as applied to forest estates has an ancient origin. The first clear record may come from 700 BCE Assyria, where game reserves were set aside by decree for royal hunts (Dixon and Sherman 1991). In medieval Europe, forests were demarcated as a particular domain in the *silva* (literally, a place for growing trees), reserved for the hunting pleasure of the dominant classes of landlords (Fay and Michon 2003). Enforcement of forest regulations became the task of forest administrators with the specific mission of protecting the forest domain from encroachment. In Europe, the first royal corps of forest administrators (later called foresters) was created in 1290 to “defend the royal rights of hunting and justice” and later to restrict the usufruct rights of peasants (Fay and Michon 2003: 6). This corps served the elite’s economic interests. The kings and the nobles therefore used forest regulations not only to protect their exclusive hunting grounds but also to secure economic opportunities (Peluso 1992), though the establishment of forest estates was probably also based on calculations regarding the need for forest products and services over the long term.

The tendency of foresters to exclude local people from forests thus has a long history, dating back to the involvement of the forestry profession with landowning authorities. This bias carried over easily into their involvement in the privatisation of the commons in Europe, especially in the eighteenth and nineteenth centuries, and fit well with the undemocratic and hierarchical style of colonial authorities as well.

Over time, forestry came to embrace a complex mission of regulating, administering, conserving, and managing the forest domain, as developing and harmonising silvicultural practices to ensure sustained production became a major concern (Fay and Michon 2003). For example, in 1661, Louis XIV of France and his Minister of Finance, Colbert, instituted revisions of forest administration and laws with the intent of reversing the reduction of forest cover caused by overexploitation (Elliott 1996).

The development of ‘scientific forestry’ from about 1765 to 1800, largely in Prussia and Saxony, provided legitimacy for territorialisation, and hence the enforcement of forest regulations to rationalise forest management. Thus the idea emerged in the context of centralised state-making initiatives (Scott 1995). The early concept of scientific forestry was best captured by Le Roy, the warden of the park of Versailles, in Diderot’s *Encyclopédie* of 1766:

In all ages, one has sensed the importance of preserving forests; they have always been regarded as the property of the state and administered in its name: religion itself had consecrated forests, doubtless to protect, through veneration, that which had to be conserved for public interests ... Our oaks no longer proffer oracles ... we must replace this cult by care, and whatever advantage one may previously have found in the respect that one had for forests, one can expect even more success from vigilance

and economy ... If one exploits wood for the present needs, one must also conserve them and plan for the future generations ... It is therefore necessary that those who are charged with overseeing the maintenance of forests by the state be very experienced ... they must know the workings of nature (Le Roy cited in Harrison 1992: 117–118).

The above quote suggests the philosophical bases for designing and enforcing forest regulations by the state. First, forests are the property of the state and have to be administered in its name for public interest. Therefore, a state forestry agency needs to be established to control forestlands and forest resources for public good through regulations. Second, forests may be exploited to satisfy present needs but also have to be conserved for future generations. Thus, as the landlord, the state forest agency is both a forest enterprise and a conservation institution, roles that may be in conflict with each other (Peluso 1992). Hence, forest regulations are needed to balance the economic and conservation objectives of state forest management. Third, those who are charged with overseeing the maintenance of forests by the state must be experienced and know the “workings of nature”. This legitimised the mission of foresters and established the exclusivity of professional foresters in forest administration and management (Fay and Michon 2003). As professional foresters discharge their functions, their actions, conducted in the name of public interest, are guided and legitimated by forest regulations.

The first university training programme to promote scientific forest management was established at the University of Freiburg, Freiburg, Germany. In 1824, the National School of Forestry was founded in Nancy, France (Mantel 1964), and it attracted students from all over Europe and the United States of America (Peluso 1992). When they returned home or travelled to colonies in Asia and Africa, or to Latin America, foresters carried with them the philosophy of state-controlled and technocratic forest management (Fernow 1911).

The founder of the US Forest Service, Gifford Pinchot, studied at Nancy and is considered the first proponent of ‘modern resource conservation’ (Eckersley 1992). Pinchot believed in the complementarity of conservation and development: forests, he said, should be managed to “provide the greatest good for the greatest number of people for the longest time” (Dana and Fairfax 1980: 72). As a result, “today, the term forest conservation can mean anything from intensive timber production to total preservation” (Elliott 1996).

Both the utilitarian view of forests as a source of government revenue (forest use to provide the greatest good for the greatest number) and the more preservationist stance advocated by some conservationists have justified absolute state control of the forest resource base and the strict regulation of its use. The ongoing delineation of large tracts of forestlands into production and protection areas by governments in many developing countries reflects the persistence of Pinchot’s resource conservation paradigm. The same paradigm allows foresters to conduct their science according to the state’s interests, even though they rarely view their policies or implementation as political acts. Today, scientific forestry refers

to both the German tradition—regimented plantations with minimal diversity, and the foresters-know-best management for sustained yield—as well as the more modern concept of planned, sustainable, conservation-oriented professional management (Tim Synnott pers. comm.).

Indigenous or tribal peoples and other local communities have gained little from state territorialisation or the centralisation of forest control, except sometimes temporary employment as skilled or unskilled labourers on lands they are likely to have once controlled (Peluso 1992). Notwithstanding the promise that forest bureaucracies will manage forest resources wisely, their performance in many developing countries has often perpetuated or even exacerbated land degradation and rural poverty (Blaikie 1985).

Interest in the value of forests has risen recently in light of climate change mitigation strategies such as Reducing Emissions from Deforestation and Forest Degradation (REDD or REDD+). REDD is a performance-based mechanism whereby funds will be used to compensate developing countries for the reduction of forest carbon emissions as compared to a national baseline; the ‘+’ refers to the inclusion of carbon stock enhancement. It is likely to involve both funds and compliance markets, and could potentially involve large sums of money, though expectations for a global agreement in the short term have recently declined (Berglund 2010). REDD+ strategies provide governments with a new potentially high-value forest product in carbon, require central oversight to avoid leakage and are likely to need substantial scientific expertise for carbon monitoring (Angelsen 2009). It thus has raised concerns among communities and indigenous peoples that there may be a new round of centralisation of forests (and forest carbon) and top-down rule-making regarding forest use (Larson 2011). (See also Mogoi et al. This issue).

Despite recent efforts to provide new and secure rights to indigenous and other local communities through forest tenure reform, government regulations are still founded on the scientific forest management tradition and the bureaucratic culture that has persisted in state forest agencies. As will be revealed in the following discussion of case studies from Asia, Latin America, and Africa, forest regulations perpetuate state control over lands and forest resources, undermining the potential benefits of the reform.

FOREST RIGHTS AND THE RULES THAT BOUND THEM

In the past 20 to 30 years, communities living in forests have received unprecedented formal rights to forest resources—at least on paper. In practice, however, these new rights have encountered numerous obstacles (Larson et al. 2010; Larson and Dahal This issue), suggesting a limited view of ‘rights’ on the part of most state forestry agencies. In fact, many of the earliest schemes for granting forest lands to local government or communities, such as those in India and Nepal, were as much about granting prescribed management responsibilities and labour requirements as they were about rights (Saxena

1997; Gilmour 2003). Only recently have some reforms gone substantially further in recognising local rights to governance, though these may mainly be limited to certain cases of indigenous and traditional peoples in Latin America and the Philippines.

The case of Joint Forest Management in India, which was not included in this study, provides an excellent example of the ways in which ‘co-management’ is often deeply imbalanced (see also Cronkleton This issue). According to Sarin (2010), JFM is not about rights or the devolution of authority but rather conditional entitlement and the devolution of responsibility (see also Sarin 1993). The guiding Memorandums of Understanding between the forest department and village institutions were designed and imposed by the former and were standardised across villages, even in places with customary tenure and management institutions. As a result, indigenous forest use practices and management institutions were undermined (Nayak and Berkes 2008), and, at least in some cases, biodiversity and livelihoods declined.

Forest policies in India have generated conflict and resistance (Guha 1989; Jeffery et al. 2003; Rangarajan 2003; Springate-Baginski et al. 2009). Perhaps the most important achievement of those struggles, in light of the research discussed in this special issue, is the passing in 2006 of the Scheduled Tribes and Other Traditional Forest Dwellers’ Act (popularly known as the Forest Rights Act). The Act emerged in response to the ongoing failure to recognise customary land rights and, thus, the criminalisation of forest peoples (Springate-Baginski et al. 2009). It “grants legal recognition to the rights of traditional forest dwelling communities, partially correcting the injustice” caused by the forest laws (Perera 2009), benefiting *adivasis* (the 8% of the Indian population known as original peoples).

The Forest Rights Act was promoted by the Ministry of Tribal Affairs, however, not the Ministry of Environment and Forests, and its approval was followed by “nine different public interest litigations... filed by retired forest officials and conservationists challenging the Act” (Ramdas 2009: 66). A number of reports since then have noted both the bureaucratisation of the process and active resistance to, and sabotage of, the implementation of the Forest Rights Act by the Government of India (Ramdas 2009; Springate-Baginski et al. 2009; CSD 2010; Kashwan In review).

The attempt to control ‘community forestry’ and the resistance to recognising local rights to forests are not limited to India. In some cases, obtaining the right, such as to a community forest, has been highly costly and bureaucratic. For example, the process for establishing community forests is so complicated in Cameroon that none have been established without extensive external assistance (Oyono 2002, 2004b). The community forestry concessions in the Petén, Guatemala, originally included a mandate that an NGO had to accompany each organisation, and millions of dollars were invested (Monterroso and Barry 2009). These examples, as with JFM in India, represent cases with an additional layer of ‘contractual regulations’ that are required even to obtain the right to the forest.

After rights are granted, they are often bound or limited by rules, regulations or implementation procedures. Hence overall, tenure reforms demonstrate a limited transfer of power and local authority over resource management. Many state forestry officials apparently fail to heed the finding that people are more likely to follow rules and monitor the behaviour of others, such as rules for forest management, when they are “genuinely engaged in decisions” regarding those rules, and when livelihoods are insured (Ostrom and Nagendra 2006: 19224). No less important than a belief in community capacity, however, is the tendency for forestry officials to carve out opportunities for rent seeking and resource capture. Below we consider some of the rules and regulations that are used to limit the resources and powers granted to communities.

Regulations that limit access to land

Despite the recent trend to devolve ownership and/or control of forests to communities, access to high-value forests may be restricted by zoning, classification systems, and other land allocation regulations. Such regulations may be viewed as the state’s first line of defence, or a ‘first cut’ (Barry, pers. comm.), in securing valuable forestlands and limiting the area to be handed back to communities. Such regulations may overlay all subsequent decisions, severely limiting the resources available to communities.

Across world regions, it appears particularly common among the Asian countries studied for governments to have prioritised the handover of ‘wastelands’ or degraded areas to communities and/or to include requirements for reforestation. India is one example (Sarin 1993; Saxena 1997; Sundar 2000; Saigal 2011). As is typical of many Asian countries, India’s forest management has a European legacy, in this case British colonial rule. India was one of the first nations to establish a professional forest service: it nationalised its forest domain under the Forest Act of 1865. To date, most of India’s 77 million ha of forestland remains under state control. More than a sixth of the country’s geographical area (55 million ha) is considered wasteland. This area has been the target of recent community-based forest management programmes, such as Joint Forest Management and the Tree Growers’ Cooperative Society (TGCS) programme. The research under this project focused on the latter (Saigal et al. 2009). The TGCS programme was a response to the growing concern in the 1980s about fuelwood and fodder scarcity and increasing land degradation. Its proponent, the National Wastelands Development Board, viewed the project as a more effective and sustainable institutional alternative for afforestation than the existing forest department-led social forestry programme.

In three villages studied in Rajasthan, between 1991 and 1992, each received a lease of less than 40 ha in this wasteland area, irrespective of the population. Such small parcels are not enough to generate livelihood benefits for each household. Most leased lands were of poor quality and were highly degraded when they were handed over, requiring difficult and costly development and a long time to become productive.

Indeed, about 59 per cent of the households surveyed in all three villages considered TGCSs 'unimportant' to their livelihoods. In contrast, the government appears to gain from the new tenure arrangement in at least two ways. First, the TGCSs largely prevented encroachments on the leased sites and hence these areas have been protected; second, the TGCSs helped improve the biophysical condition of the sites (Saigal et al. 2009). Both these accomplishments further the conservation objectives of the state. Also, the Revenue Department retains the right to use the land for other purposes (Saigal et al. 2009).

Similarly, in the Philippines, another country noted for its 'radical' and 'progressive' community forestry policy (Pulhin et al. 2007; Utting 2000), communities continue to struggle to gain control over productive forest areas. Earlier government initiatives under the Integrated Social Forestry Programme had leased to communities only lands already denuded of trees, then extracted cheap labour for reforestation and protection (McDermott 2001). In addition, the government, through the Department of Environment and Natural Resources, expected these communities to stabilise upland encroachment, increase the productivity of upland agriculture and control potential dissent. At the same time, the department retains the power to allocate timber concessions (now called industrial forest management agreements) on residual forestlands when it is profitable and politically expedient to do so (Li 2002). Although the transfer of forest management from the department to local communities over the past 25 years has been significant, with close to 4.7 million ha under various forms of land tenure instruments, the more productive areas in general are still under private timber concessions and agreements or the government-controlled National Integrated Protected Area System.

Nepal, despite having pioneered community forestry in Asia, has had its own share of challenges in making productive forestland available to community forest user groups (CFUGs). In the *Terai* region, where most of the productive forests are located, the Department of Forests retains control over high-value forests and has only rarely, and after significant grassroots demand, handed them over to CFUGs (Bhattarai 2006; Ojha et al. 2008). As of 2005, only about 2 per cent of the *Terai* forests had been handed over to CFUGs, compared with almost 24 per cent of the lower-quality hill forests. The government contends that products from these forests need to be distributed throughout the country, including to urban populations, and it should therefore be responsible for these areas. In addition, the Forest Policy of 2000 imposed a 40 percent tax on revenues generated from the sale of timber on the CFUGs in the *Terai* and stipulated other restrictions on forest devolution in this area (Bhattarai 2006).

As in India, the state-controlled forest management approaches of both Nepal and the Philippines are of colonial origin. Nepal's forest policies were directly influenced by the British, when its experts helped the Rana rulers establish the Department of Forests in 1942 (Paudel et al. 2009). The department started the nationalisation of forestland and perpetuated the colonial notion of scientific forestry in the

country. The Philippines' forest management was a legacy of the Spanish and the American systems. The Spanish colonial government established the first forestry bureau in 1863 and introduced the European tradition of centralised forest management. The American colonisers who took over in 1898 then established a forestry school, in 1910, with the help of none other than Pinchot himself. The concepts of scientific forestry remain the basis for the country's forest resources management.

The use of forest regulations to limit communities' access to forestland is of course not solely an Asian phenomenon. For example in Cameroon the community forestry programme is not applied to the more productive forests (Diaw et al. 2008; Oyono et al. 2009). A 1993 zoning plan classified the forestland into permanent and nonpermanent forest estate. The permanent forest estate includes national parks, faunal reserves, game ranches, botanical gardens, zoological gardens, production forests (intended for timber extraction), protection forests, and research forests—the richest, largest and most strategic forest areas. The nonpermanent forest estate comprises less productive forests and agricultural lands adjacent to villages, and it is here that, during the time of the research, about 56 village communities had 25-year management agreements that entitle them to access, use, and manage the land for livelihood purposes (Oyono et al. 2009). Hence, local communities have been legally excluded from high value forests, which are largely reserved for commercial logging and protected areas. As in Asia, the state's tendency to retain valuable forestlands in Cameroon is rooted in its colonial tradition (Oyono 2004a).

Conservation and protected area regulations

Conservation organisations have sometimes supported forest tenure reforms in favour of communities, even inside protected areas, such as in the formation of the community forestry concessions in Guatemala's Maya Biosphere Reserve. At the same time, however, conservation advocates have often failed to understand what may be at stake in the limitations placed on communities through accompanying regulations.

In Brazil, extractive reserves (RESEX) were created to protect the rights of agroextractive and traditional populations (Pacheco et al. 2008). Pablo Pacheco contributed the RESEX case to an earlier version of this paper (Pulhin et al. 2010); it is summarised briefly here. Though previous land projects fell under the jurisdiction of the National Institute for Colonisation and Agrarian Reform, RESEX represented a specific type of conservation land use under Law No. 9.985, falling under environment agency jurisdiction. In the municipality of Porto de Moz, in the state of Pará, local communities have a history of struggles with the timber and fishing companies. These companies used local resources, but communities reaped little benefit (Moreira and Hébert 2003; Salgado and Kaimowitz 2003). To protect their land and resources, communities demanded RESEX. The resulting 'Verde para Sempre' RESEX, covering some 1.3 million ha and including about 58 communities, was created in 2004 by presidential decree.

Although the reserve secured the property rights of residents and allowed the communities to exclude timber companies from their lands, it also imposed new constraints on forest use for smallholders living in the reserve.

Landholders living inside it receive not full ownership rights but an indefinite usufruct right bounded by a variety of land-use constraints. The law prohibited the use of species at risk of extinction and practices that erode these habitats or could harm the regeneration of natural ecosystems. Logging is allowed only under special circumstances (e.g., when it is complementary to other extractive activities). According to the RESEX management plan, forest conversion is limited to 10 per cent of the total area and the movement of water buffalos is constrained. Perhaps most importantly, any activity to be developed must be included in a RESEX development plan, which can only be undertaken after the definitive development plan for the entire RESEX has been written and approved—which has still not occurred.

Despite grassroots mobilisation to create the reserve, the government's environmental and conservation objectives tend to dominate the interests of the local population. The formal institutions are highly bureaucratic and ineffective in implementing their own regulations. The lack of a management plan prevented some local communities from pursuing logging operations, even though the system of extractive reserves was intended to protect the interests of agroextractivist communities and people whose traditional livelihoods depend on timber and non-timber forest products. The conservation-oriented regulations leave local people little flexibility to use the resources to fulfil their material needs—at least not legally.

In Guatemala, conservationists have launched an effort to expand protected areas in the western highlands—a region vital to the country's hydroecological balance and with important forest remnants (Elías et al. 2009). Deforestation in this region is already among the lowest in the country (net annual deforestation is 0.64 per cent), and most of the forests are on communal or municipal lands. Though highland communities are often amenable to the idea of creating protected areas, it is not always clear what this would mean in practice. In fact, conservation-inspired restrictions, such as those placed on sheep farming, firewood use, and the use of *pinabete* (*Abies guatemalensis* Rehder), a highland pine species popular for Christmas trees, appear to affect the poorest families most, forcing them to bear the costs of protection without offering any alternatives or compensation in return (Elías 1997). Projects are developed with ecological incentives without considering the need to guarantee the long-term supply of firewood and timber. Failure to communicate and negotiate adequately with communities on these issues has also led to conflict, and in some cases violent protest, such as when a forestry office was burned down in the Ixil region (Larson et al. 2008; see also Elías This issue).

Permits for commercial resource use

State forest agencies often regulate the commercial use of

high value forest resources, such as timber, in the name of the public interest. Even when valuable forest resources have been handed over to communities by the state under the new tenure arrangements, strict government regulations still constrain the flow of benefits to local communities.

Logging, in particular, often involves having to participate in highly cumbersome and costly processes to obtain permits and licenses. These are sometimes the same processes required of logging companies but may include additional rules for communities or be applied in ways that favour industry and discriminate against communities (Larson and Ribot 2007). Often they challenge community capacity simply to obtain the permits. For example, obtaining the management plan required for establishing community forests in Cameroon can cost as much as USD 55,000 and take up to two years (Smith 2006). In addition, logging must be undertaken using low-impact procedures. In contrast, short-term concessions to the private sector, known as *ventes de coupe*, are less regulated, entailing no management plan and no restrictions on logging methods (Oyono et al. 2006). Little has been done to facilitate market opportunities for other actors to participate in timber commodity chains or add value to forest resources (Larson et al. 2008; Pacheco This issue).

A study in Honduras (Navarro et al. 2007) found that obtaining a logging permit involved 20 actors, 53 procedures and 71 steps, and took an average of three to four months. Similarly, in Costa Rica, the process involved 11 actors, 31 procedures and 34 steps, and could take up to 18 months. A related study in Nicaragua's autonomous regions identified around 30 steps for areas over 500 ha (Navarro et al. 2008). In the Bolivian case study site Cururú, it took longer than two years from the initiation of the management plan to its final approval.

In Nicaragua, the costs of the general management plan and the environmental impact assessment for the management area were about USD 2 and USD 1 per ha, respectively (Argüello 2008). Annual operating plans covering the annual extraction area range from USD 9–12 per ha for broadleaf forests. The initial investment for these studies at Layasiksa, one of the CIFOR-RRI study sites, was more than USD 50,000, but due to World Wildlife Fund and Forest Stewardship Council requirement this included a larger area than the ones managed just for logging (Larson et al. 2008).

In the Philippines, although the approved work plan specifies the target volume to be harvested annually, the actual volume harvested depends on approval from the Department of Environment and Natural Resources, which issues an annual permit. Without the permit, the cooperative cannot proceed with its timber harvesting operations, but approval can easily take more than six months, in part because it is issued by the department's central office in Metro Manila, leaving the cooperative with only six months to operate. Total costs can be as high as USD 4,700. Even after the permit has been issued and the timber has been cut, regulations to control the transport of harvested timber create additional problems (Dugan and Pulhin 2006). Communities must obtain a permit for moving timber to the roadside, and another to transport the timber to

buyers. Further delays and additional transaction costs ensue because the department staff who issue the permit are usually many kilometres away (Pulhin et al. 2008).

Nepal's regulations for community forests leave ample room for government foresters to interfere with the rights of user groups, even after communities have satisfied the regulatory requirements. The main contractual document that guides forest management practice is an operational plan, prepared and agreed upon by the district forest officer and the CFUG. Hence, district forest officers often use their administrative and technical influence to add provisions beyond what is legally required. For example, the operational plan of Sundari CFUG includes a provision stating that when harvesting timber from the community forest, the CFUG should get permission from the district forest officer and record the harvested amounts by species. In one case, a CFUG member who wanted to sell 300 cubic feet of excess timber in the market had to visit the range post more than 12 times over four months before getting the final approval (Paudel et al. 2009).

The combination of complex bureaucracies, high up-front costs in time and money, lack of credit facility, and forest officer interference present major disincentives for community investment in formal management plans. Under such conditions it is very unlikely that communities can undertake community-based operations without significant outside support or other incentives.

THE FUTURE OF COMMUNITY REGULATION

How much and what kind of regulation is really needed, under what circumstances and why, and how much is too much? This section challenges some of the justifications for the current regulatory framework, then poses a simple model for conceptualising the role of the state versus communities in regulating forests. Finally, it addresses the question of how to separate the substantive problems from the arguments that may simply be a smokescreen generated by self-perpetuating bureaucracies or rent-seeking officials.

Problems with current restrictions on community forest use

This article has reviewed three types of regulations that limit the quality of forests available to communities and/or restrict community decision-making about resource use and sale. Interestingly, each type also has a socio-spatial dimension, and the three can (but do not always) occur in the same country: the first represents spaces of community exclusion; the second refers to spaces where a formally defined 'community' is permitted to use a limited quantity or type of resource; and the third are spaces occupied, managed or even owned by communities but subject to indirect regulation through economic and policy instruments that increase opportunity and transaction costs for commercial resource use. This point suggests that regulations today are not entirely disconnected from the territorialisation strategies of the past, and that these

different 'types of regulation' may in some cases be different socio-spatial dimensions of a single policy.

Each type of restriction has some degree of legitimate justification, but a number of concerns call these justifications into question. The first type of regulation limits the area available to communities in terms of size and/or quality of forests. The common justification is that the state is a better manager and that revenues will be distributed more equitably. But denying forests to communities is also a colonial tradition that has been perpetuated by modern forest bureaucracies. In addition, states have often failed to prove themselves to be good forest managers (Blaikie 1985). It is true that granting a high quality forest to an industrial concession may bring in greater revenue to the state than granting it to a poor community, but at the same time, the issue is primarily one of priorities.

The other two types of regulation emphasise conservation by delineating conservation areas, imposing limits on use, and requiring permits for commercial purposes. These regulations are presumably implemented to conserve and protect forest ecosystems and resources, but they raise several other issues that should be taken into consideration.

First, though there is no question that rules are needed to promote forest conservation and sustainable use, complicated regulations often breed—and are perpetuated by—corruption. In fact, forestry regulations often appear to have less to do with forest conservation and more with establishing and perpetuating bureaucratic procedures for timber permits. In the Philippines, each step creates the opportunity to extract money from communities (Dugan and Pulhin 2006), a problem widely recognised in Nepal as well (Paudel et al. 2006). In a systematic review of literature on natural resources and corruption, Kolstad and Soreide (2009: 214) conclude that corruption, in the form of rent seeking and patronage, "is the main reason why resource-rich countries perform badly in economic terms".

Second, some regulations, especially those that restrict resource use, can cause significant hardship, either unnecessarily and/or without compensation. Restrictions on sheep herding in the Guatemalan highlands have hit women, the poorest members of rural society, hardest (Elias et al. 2009). Limits on resource access, particularly in the earlier years of Nepal's community forests, badly affected those who were more forest dependent (Malla 2000; Adhikari et al. 2004; Colfer et al. 2008). Likewise, in the early years of community forestry in the Philippines, confinement of community resource access and use mainly to cultivated areas sustained the almost century-old, highly skewed distribution of benefits from forest resources in favour of a few timber license operators (Pulhin et al. 2007).

Third, many restrictions and other regulations are so unreasonable that they simply cannot be enforced. Onibon et al. (1999) called these "sterile dualisms", defined as "the coexistence of impracticable state law and unauthorised local practices" (Benjamin 2008: 2256). For example, the failure of the government to move on the RESEX development plan meant the formal suspension of numerous livelihood activities, but in practice people have to continue them to survive. Similarly, rules for legal logging are sometimes so difficult to comply

with that they push people into informal markets. Gregerson and Contreras (2010: 3) argue that “the most stringent forest regulations are normally found in countries that have the least capacity to enforce them” (Cashore and McDermott 2004).

Fourth, some regulations have serious and unnecessary economic consequences, increasing insecurity for investment and marketing of forest resources. This is particularly true of policy reversals such as those seen in the Philippines and Nicaragua, which particularly resulted in large losses for small operations with low profit margins. In the Philippines, commercial timber harvesting under the community forest management programme was suspended three different times, leaving investors with huge debts and market obligations unmet (Pulhin et al. 2008). The Cooperative in Compostela Valley in Mindanao lost around USD 53,400 due to one suspension alone in 2003 (Pulhin and Dressler 2009). Similarly, the Nicaraguan government declared a forest emergency and logging ban in 2006 that led to losses of over USD 28,000 for the most prominent community forestry organisation in the country (Larson and Mendoza-Lewis 2009).

Fifth, formal regulations may actually have the reverse effect on forest conservation if they undermine effective informal or customary forest governance structures and management norms, where these exist. The imposition of formal systems over customary systems has commonly resulted in “forum shopping” (Benda-Beckmann 1981), or the purposeful selection of which set of rules to follow; the breakdown of authority—similarly, such that neither customary nor state authority can manage resources effectively (Nemarundwe 2004); and open access dynamics (Fitzpatrick 2006). The loss of effective customary practices may also bring about unpredictable associated losses, e.g., restrictions on herding in Nepal are undermining a significant traditional highland culture that includes unsurpassed local ethnobotanical expertise (Banjade and Paudel 2008).

Starting from the community

What is the solution? How could regulations for forest-based communities be designed in such a way that they truly operate where and when they are most needed, and only complement local regulation when the local ones are not? Rather than starting from the perspective of state regulation, we propose starting from communities—what are local needs and practices, and what potential do they have for sustainable, grassroots forest management? Fundamentally, if greater local control

and appropriation is behind the principle of better and more sustainable management—as greater long term security is more likely to promote a long term interest in sustaining resources—then to what extent is over-regulation and the retention of management rights interfering with the potential of tenure reforms?

Fitzpatrick (2005) argues that the design of tenure reforms should be based on an assessment of the sources of tenure insecurity affecting communities. According to Fitzpatrick, the more external the insecurity, the less the state should interfere in internal affairs and, rather, focus on defending the perimeter of the community’s customary area; the more internal, the greater the role of the state in mediating decisions about access. A similar argument could be made regarding tenure reform and the drivers of deforestation. The more external the drivers of deforestation, the more the reform should seek to strengthen the community’s rights of exclusion and internal rule-making, while providing appropriate forums for negotiation with poor, external users (Mwangi and Dohrn 2008); the more internal, the greater the role of the state. This constitutes the first key variable.

Current forest conditions should guide decisions regarding the extent to which recovery should be prioritised or if it is sufficient to maintain forest conditions (or manage for certain products). Internal incentives for forest maintenance, such as livelihood contributions or cultural values, should be reinforced and external pressures controlled. These internal incentives constitute the other key variable (Table 1). The kind of conceptualisation presented in the table suggests a way to implement proposals such as ‘minimum standards’ or broader ‘rule of thumb’ options rather than highly bureaucratic management mechanisms and standards.

The table, of course, is an oversimplification of reality, and it merits some important caveats. First, it assumes that tenure rights have been granted or recognised, and that they address underlying problems of insecurity. Second, the table only refers to proximate causes of deforestation. State policy may be an important underlying cause of degradation through the promotion of multiple contradictory policies and/or specific policies that promote forest clearing. These policies should be addressed as well. Third, external degradation may be a cause of internal degradation (Ribot pers. comm.), as local people may over-exploit their own resources rather than have them ‘stolen’ by outsiders. Hence external degradation should be addressed first, and in this light state facilitation of internal rule enforcement may not be needed.

Table 1
Degree and type of state regulatory role based on drivers of deforestation and ‘forest dependence’

		Drivers of deforestation/degradation	
		External (or none)	Internal
Contribution of (standing) forest to livelihoods or cultural reproduction	Strong	No state intervention in community: State protects borders	Moderate state role: State facilitates rule enforcement
	Weak	Moderate state role: State protects borders, and facilitates organisation and incentives to increase livelihoods contribution if desired by the community	High state role: Greater state regulation of forest use (but communities still have a firm right to participate in decisions)

Source: Inspired by Fitzpatrick (2005)

The political challenge

Conceptual models may be useful, but they still face the challenge that forest agencies often have both a fundamental lack of confidence in community capacity (or goals) and a myriad of less noble interests than forests to protect. Again, the argument here is not that communities necessarily should be granted full rights to forests or are necessarily better managers than the state, but rather how to expand the arena of the debate so that communities can be given a chance. Three considerations suggest ways forward: First, regulation and rights are two separate issues. Though in some cases rights may need to be earned and conditional (e.g., some of the communities granted concessions in the Petén had no existing prior or historic claim to the lands there), communities may have earned rights to forests, regardless of the use to which they decide to put them. That is, whether or not they have rights is a political issue to be determined through advocacy, public debate and national and international laws and courts; then, rights that have been granted should be unambiguous and secure, and defended by the state. With regard to forest use, there is no reason that communities should be subject to rules that are more restrictive than those that apply to the state itself or to private enterprise.

Second, insights from Paudel et al. (This issue) demonstrate the importance of second-level grassroots organisations in forests. Effective organisations, like the Federation of Community Forestry Users in Nepal (FECOFUN) and the Asociación de Comunidades Forestales de Petén (ACOFOP) in Guatemala, promote knowledge-sharing and build capacity. They can overcome communication barriers between foresters and communities, lobby the state regarding community interests, and organise protests against unreasonable laws and regulations. They can also improve governance and forest management among their member communities. These organisations can work with allies among NGOs and donors to support public debate, research, and information sharing about these issues, including whistle blowing on corruption or unfair practices.

Third, forward-thinking state foresters make important allies. Forest agency officials have been crucial in building support for community forestry in Nepal and in Mexico (Bray et al. 2006), and for the community concessions in the Petén, Guatemala. Similarly, in the Philippines, an attempt by the Department of the Environment and Natural Resources Secretary to cancel all community-based forest management Agreements nationwide in 2005 failed, thanks to the support of a few department foresters who allied with members of civil society and politicians sympathetic to local communities' interest. Long term solutions in this regard will require bringing community perspectives into forestry curriculums at national universities.

CONCLUSIONS

At times, a strong role for the state might be justified, including through restrictions and regulations, but reforms should not be a way for the state to gain control over communities—forest departments as often as not still tend to blame local populations

for degradation, failing to see communities as allies. Of particular concern are responsibilities that significantly constrain livelihoods, especially those of the poorest members of society; the failure to address or even recognise on-the-ground, pre-existing practices, or the costs to communities of newly assigned ones; corruption; and rules that are unenforceable.

The issues of tenure rights and regulations take on new importance in light of REDD+ strategies. REDD+ is likely to require clear tenure as well as strict regulations if carbon emission reductions are to be met. But experience with the regulations accompanying tenure reforms suggests that community rights may not be upheld and that rules may, once again, be imposed 'from above', unless clear safeguards are made necessary and independently monitored (Larson 2011).

Tenure reforms should aim to reinforce or alter the incentive structure in favour of the use and conservation of forests and forest resources. The state regulatory apparatus should seek to provide incentives and increase capacities for local forest management, building on the potential knowledge, energy, and indigenous organisational structures that are currently ignored or marginalised—an opportunity that has not yet been grasped, and that needs to be harmonised with formal management systems.

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REFERENCES

- Adhikari, B., S.D. Falco and J.C. Lovett. 2004. Household characteristics and forest dependency: Evidence from common property forest management in Nepal. *Ecological Economics* 48: 245–257.
- Angelsen, A. 2009. *Realising REDD+: National strategy and policy options*. Bogor, Indonesia: Center for International Forestry Research.
- Argüello, A. 2008. *Cadena de valor de la madera de la cooperativa Kiwatigni en Layasiksa-RAAN*. Unpublished report. Managua: Center for International Forestry Research and Masangni.
- Banjade, M.R. and N.S. Paudel. 2008. *Suspa Community Forest Users Group, Dokakha*. Project site report. Kathmandu: Center for International Forestry Research and Forest Action.
- Benda-Beckmann, K. von. 1981. Forum shopping and shopping forums. *Journal of Legal Pluralism* 19: 117–159.
- Benjamin, C. 2008. Legal pluralism and decentralization: Natural resource management in Mali. *World Development* 36(11): 2255–2276.
- Berglund, N. 2010. View and news from Norway. October 14. www.newsenglish.no/2010/10/14/jens-gives-up-on-global-climate-deal. Accessed on November 1, 2010.
- Bhattarai, B. 2006. Widening the gap between terai and hill farmers in Nepal: The implications of the New Forest Policy 2000. In: *Hanging in the balance: Equity in community-based natural resource management in Asia* (eds. Mahanty, S., J. Fox, M. Nurse, P. Stephen and L. McLees). Bangkok: The Center for People and Forests; Honolulu: East-West Center.
- Blaikie, P. 1985. *The political economy of soil erosion in developing countries*. London: Longman.
- Bray, D.B., C. Antinori and J.M. Torres-Rojo. 2006. The Mexican model of community forest management: The role of agrarian policy, forest

- policy and entrepreneurial organization. *Forest Policy and Economics* 8: 470–484.
- Cashore, B. and C. McDermott. 2004. *Global environmental forest policies: Canada as a constant case comparison of select forest practice regulations*. Victoria, BC: International Forest Resources.
- Colfer, C.J.P., G.R. Dahal and D. Capistrano (eds.). 2008. *Lessons from forest decentralisation in Asia Pacific: Money, justice and quest for good governance*. London: Earthscan.
- Council for Social Development (CSD). 2010. Summary report on implementation of the Forest Rights Act. New Delhi. <http://www.forestrightsact.com/component/k2/item/15>. Accessed on April 14, 2011.
- Dahal, G.R., A.M. Larson and P. Pacheco. 2010. Outcomes of reform for livelihoods, forest condition and equity. In: *Forests for people: Community rights and forest tenure reform* (eds. Larson, A.M., D. Barry, G.R. Dahal and C.J.P. Colfer). Pp. 183–209. London: Earthscan.
- Dana, S.T. and S.K. Fairfax. 1980. *Forest and range policy: Its development in the United States*. New York: McGraw-Hill.
- Diaw, M.C., R. Prabhu and T. Aseh (eds.). 2008. *In search for common ground: Adaptive collaborative management of forest in Cameroon*. Bogor, Indonesia: Center for International Forestry Research.
- Dixon, J.A. and P.B. Sherman. 1991. *Economics of protected areas: A new look at costs and benefits*. London: Earthscan.
- Dugan, P. and J. Pulhin. 2006. Forest harvesting in community-based forest management (CBFM) in the Philippines: Simple tools versus complex procedures. In: *A cut for the poor. Proceedings of international conference on managing forests for poverty reduction: Capturing opportunities in forest harvesting and wood processing for the benefit of the poor* (eds. Oberndorf, R., P. Durst, S. Mahanty, K. Burslem and R. Suzuki). Ho Chi Minh City, Vietnam. FAO RAP Publication 2007/09 and RECOFTC Report No. 19. Bangkok: Food and Agriculture Organization; and The Center for People and Forests. October 3–6, 2006.
- Eckersley, R. 1992. *Environmentalism and political theory: Toward an ecocentric approach*. London: University College London Press.
- Elías, S., A.M. Larson, and J. Mendoza. 2009. *Tenencia de la tierra, bosques y medios de vida en el Altiplano Occidental de Guatemala*. Guatemala: Center for International Forestry Research; and Facultad de Agronomía – Universidad de San Carlos.
- Elías, S. 1997. *Autogestión comunitaria de recursos naturales: Estudio de caso en Totonicapán*. Guatemala: Facultad Latinoamericana de Ciencias Sociales.
- Elliott, C. 1996. Paradigms of forest conservation. *Unasylva* 47(187). <http://www.fao.org/docrep/w2149e/w2149e00.htm>. Accessed on April 18, 2011.
- Fay, C. and G. Michon. 2003. The contribution of plantation and agroforestry to rural livelihoods: Redressing forestry hegemony—where a forestry regulatory framework is best replaced by an agrarian one. Paper presented at *International conference on rural livelihoods, forests and biodiversity*. Bonn, Germany. May 19–23, 2003.
- Fernow, B. 1911. *The history of forestry*. 3rd edition. Toronto: University of Toronto Press.
- Fitzpatrick, D. 2005. ‘Best practice’ options for the legal recognition of customary tenure. *Development and Change* 36(3): 449–475.
- Fitzpatrick, D. 2006. Evolution and chaos in property rights systems: The Third World tragedy of contested access. *Yale Law Journal* 115: 996–1048.
- Gilmour, D. 2003. Retrospective and prospective view of community forestry in Nepal. *Journal of Forest and Livelihoods* 2(2): 5–7.
- Gregerson, H. and A. Contreras. 2010. *Rethinking forest regulations: From simple rules to systems to promote best practices and compliance*. Washington, DC: Rights and Resources Initiative.
- Guha, R. 1989. *The unquiet woods: Ecological change and peasant resistance in the Himalaya*. Oxford: Oxford University Press.
- Harrison, R.P. 1992. *Forests: The shadow of civilization*. Chicago: University of Chicago Press.
- Jeffrey, R., N. Sundar, A. Mishra, N. Peter and P. Tharakan. 2003. A move from minor to major: Competing discourses of non-timber forest products in India. In: *Nature in the global South: Environmental projects in South and Southeast Asia* (eds. Greenough, P. and A.L. Tsing). Durham: Duke University Press.
- Kashwan, P. In review. Beyond localization: Nature conservation, forest bureaucracies, and policies for restitution of rights.
- Kolstad, I. and T. Soreide. 2009. Corruption in natural resource management: Implications for policy makers. *Resources Policy* 34(4): 214–226.
- Larson, A.M. 2011. Forest tenure reform in the age of climate change: Lessons for REDD+. *Global Environmental Change* 21: 540–549. doi:10.1016/j.gloenvcha.2010.11.008
- Larson, A.M. and J.C. Ribot. 2007. The poverty of forestry policy: Double standards on an uneven playing field. *Sustainability Science* 2(2): 189–204.
- Larson, A.M. and J. Mendoza-Lewis. 2009. *Desafíos en la tenencia comunitaria de bosques en la RAAN de Nicaragua*. Managua: Center for International Forestry Research; Universidad de las Regiones Autónomas de la Costa Caribe Nicaragüense; and Rights and Resources Initiative.
- Larson, A.M., D. Barry and G.R. Dahal. 2010. New rights for forest based communities? Understanding processes of forest tenure reform. *International Forestry Review* 12(1): 78–96.
- Larson, A.M., P. Cronkleton, D. Barry and P. Pacheco. 2008. *Tenure rights and beyond: Community access to forest resources in Latin America*. Bogor: Center for International Forestry Research Occasional Paper No. 50.
- Li, T.M. 2002. Engaging simplifications: Community-based resource management, market processes and state agendas in upland Southeast Asia. *World Development* 30(2): 265–283.
- Malla, Y. 2000. Impact of community forestry policy on rural livelihoods and food security in Nepal. *Unasylva* 51(3).
- Mantel, K. 1964. History of the international science of forestry with special consideration of Central Europe: Literature, training, and research from the earliest beginnings to the nineteenth century. In: *International review of forestry research*. Volume 1 (eds. Romberger, J.A. and P. Mikola). Pp. 1–37. New York, NY: Academic Press.
- McDermott, M.H. 2001. Invoking community: Indigenous people and ancestral domain in Palawan, the Philippines. In: *Communities and the environment: Ethnicity, gender and the state in community-based conservation* (eds. Agrawal, A. and C. Gibson). New Brunswick, NJ: Rutgers University Press.
- Monterroso, I. and D. Barry. 2009. *Sistema de concesiones forestales comunitarias: Reflexiones sobre la reforma forestal y el futuro del modelo*. Guatemala: Center for International Forestry Research; and Facultad Latinoamericana de Ciencias Sociales.
- Moreira, E. and H. Hébette. 2003. Estudo socio-economico com vista a criaçao da Resex Verde para Sempre. Belem, Brazil: Universidade Federal do Pará.
- Mwangi, E. and S. Dohrn. 2008. Securing access to dryland resources for multiple users in Africa: A review of recent research. *Land Use Policy* 25: 240–248.
- Navarro, G., F. Del Gatto, O. Faurby and A. Arguello. 2007. Verificación de la legalidad en el sector forestal Nicaragüense. Presentation at the *VI Congreso forestal Centroamericano: Competitividad, sostenibilidad forestal en Centroamérica*. San Salvador, El Salvador. August 29–31, 2007.
- Navarro, G., M. Sánchez, A.M. Larson, G. Bermúdez and E. Méndez. 2008. *Simplificación de trámites en el sistema de verificación de la legalidad del sector forestal en Nicaragua*. Unpublished consultancy report. Informe 2: Diagnóstico de los permisos forestales de aprovechamiento. Managua: Instituto Nacional Forestal; Deutsche Gesellschaft für Technische Zusammenarbeit; and Centro Agronómico Tropical de Investigación y Enseñanza.
- Nayak, P.K. and F. Berkes. 2008. Politics of co-optation: Community forest management versus joint forest management in Orissa, India. *Environmental Management* 41: 707–718.

- Nemarundwe, N. 2004. Social charters and organization for access to woodlands: Institutional implications for developing responsibilities for resource management to the local level in Chivi District, Zimbabwe. *Society and Natural Resources* 17: 279–291.
- Ojha, H.R., N.P. Timsina, R. Chhetri and K. Paudel. 2008. *Communities, forests and governance: Policy and institutional innovations from Nepal*. New Delhi: Adroit Publishers.
- Onibon, A., B. Dabiré and L. Ferroukhi. 1999. Local practice and decentralization and devolution of natural resources management in West Africa. *Unasylva* 50: 23–27.
- Ostrom, E. and H. Nagendra. 2006. Insights on linking forests, trees, and people from the air, on the ground, and in the laboratory. *Proceedings of the National Academy of Sciences* 103(51): 19224–19231.
- Oyono, P.R. 2002. Forest management, systemic crisis and policy change: socio-organizational roots of ecological uncertainties in the Cameroon's decentralization model. Paper presented at *World Resources Institute workshop on decentralization and the environment*. Bellagio, Italy. February 18–22, 2002.
- Oyono, P.R. 2004a. One step forward, two steps back? Paradoxes of natural resources management decentralisation in Cameroon. *Journal of Modern African Studies* 42(1): 91–111.
- Oyono, P.R. 2004b. *Institutional deficit, representation, and decentralized forest management in Cameroon*. Washington, DC: World Resources Institute Working Paper No. 15.
- Oyono, P.R., J.C. Ribot and A.M. Larson. 2006. *Green and black gold in rural Cameroon: Natural resources for local justice, governance and sustainability*. Washington, DC: World Resources Institute Working Paper No. 22.
- Oyono, P.R., S.S. Kombo and M.B. Biyong. 2009. *Les nouvelles niches de droits forestiers communautaires au Cameroun: Effets cumulatifs sur les moyens de subsistance et les formes locales de vulnérabilité*. Yaoundé: Center for International Forestry Research.
- Pacheco, P., W. Nunes, C. Rocha, I. Vieira, J. Herrera, K. Alves, T. Feitosa, et al. 2008. *Acesso à terra e meios de vida: Examinando suas interações em três locais no Estado do Pará*. Santa Cruz, Bolivia: Center for International Forestry Research; Laboratório Agroecológico da Transamazonica; and Assessoria Comunitária e Ambiental.
- Paudel, D., S.J. Keeling and D.R. Khanal. 2006. *Forest products verification in Nepal and the work of the Commission to Investigate the Abuse of Authority*. VERIFOR Case Study 10. <http://www.verifor.org>. Accessed on April 18, 2011.
- Paudel, N.S., M. Banjade and G.R. Dahal. 2009. *Improving equity and livelihoods in community forestry, Country Report Nepal*. Kathmandu: ForestAction and Center for International Forestry Research.
- Peluso, N.L. 1992. *Rich forests, poor people: Resource control and resistance in Java*. Berkeley: University of California Press.
- Perera, J. 2009. Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006: A charter of forest dweller's rights? In: *Land and cultural survival: The communal land rights of indigenous peoples in Asia* (ed. Perera, J.). Mandaluyong City, Philippines: Asian Development Bank.
- Pulhin, J.M., A.M. Larson and P. Pacheco. 2010. Regulations as barriers to community benefits in tenure reform. In: *Forests for people: Community rights and forest tenure reform* (eds. Larson, A.M., D. Barry, G.R. Dahal and C.J.P. Colfer). Pp. 139–159. London: Earthscan.
- Pulhin, J.M. and W.H. Dressler. 2009. People, power and timber: The politics of community-based forest management. *Journal of Environmental Management* 91(1): 206–214. doi:10.1016/j.jenvman.2009.08.007
- Pulhin, J.M., J.T. Dizon, R.V.O. Cruz, D.T. Gevana and G.R. Dahal. 2008. *Tenure reform on Philippine forest lands; Assessment of socio-economic and environmental impacts*. Los Baños: College of Forestry and Natural Resources, University of Philippines.
- Pulhin, J.M., M. Inoue and T. Enters. 2007. Three decades of community-based forest management in the Philippines: Emerging lessons for sustainable and equitable forest management. *International Forestry Review* 19(4): 865–883.
- Ramdas, S.R. 2009. Women, forestspaces and the law: Transgressing the boundaries. *Review of Women's Studies, Economic and Political Weekly*. 44: 65–73.
- Rangarajan, M. 2003. The politics of ecology: The debate on wildlife and people in India, 1970–95. In: *Battles over nature: Science and the politics of conservation* (eds. Saberwal, V. and M. Rangarajan). Delhi: Permanent Black.
- Saigal, S. 2011. Greening the 'wastelands': Evolving discourse on wastelands and its impact on community rights in India. Paper presented at the *Conference of the International Association for the Study of the Commons*. Hyderabad, India. January 11–14, 2011.
- Saigal, S., G.R. Dahal and B. Vira. 2009. *Cooperation in forestry: Analysis of forestry cooperatives in Rajasthan, India*. Cambridge: Rights and Resources Initiative; Center for International Forestry Research; and University of Cambridge.
- Salgado, I. and D. Kaimowitz. 2003. Porto de Moz: O prefeito 'dono do municipio'. In: *Municípios e gestão florestal na Amazonia* (ed. Toni, F.). Brasília: A.S. Editores.
- Sarin, M. 1993. *From conflict to collaboration: Local institutions in joint forest management*. New Delhi: Ford Foundation and Society for the Promotion of Wastelands Development Joint Forest Management Working Paper No. 14.
- Sarin, M. 2010. From superficial tinkering to unpacking state forests in India. Presentation at the conference on *taking stock of smallholder and community forestry: Where do we go from here?* Organized by Center for International Forestry Research; Centre de Coopération Internationale en Recherche Agronomique pour le Développement; and Institut de Recherche pour le Développement. Montpellier, France. March 24–26, 2010.
- Saxena, N.C. 1997. *The saga of participatory forest management in India*. Bogor: CIFOR Special Publication.
- Scott, J.C. 1995. State simplifications: nature, space and people. *Journal of Political Philosophy* 3(3): 191–233.
- Silva, E., D. Kaimowitz, A. Bojanic, F. Ekoko, T. Manurung and I. Pavez. 2002. Making the law of the jungle: The reform of forest legislation in Bolivia, Cameroon, Costa Rica, and Indonesia. *Global Environmental Politics* 2: 63–97.
- Smith, W. 2006. Regulating timber commodity chains: Timber commodity chains linking Cameroon and Europe. Paper presented at *conference of the International Association for the Study of Common Property (IASCP)*. Bali, Indonesia. June 19–23, 2006.
- Springate-Baginski, O., M. Sarin, S. Ghosh, P. Dasgupta, I. Bose, A. Banerjee, K. Sarap, et al. 2009. *Redressing 'historical injustice' though the Indian Forest Rights Act 2006: A historical institutional analysis of contemporary forest rights reform*. Manchester: University of Manchester Improving Institutions for Pro-Poor Growth (IPPG) Discussion Paper Series No. 29. www.ippg.org.uk.
- Sundar, N. 2000. Unpacking the 'joint' in joint forest management. *Development and Change* 31: 255–279.
- Utting, P. 2000. An overview of the potential and pitfalls of participatory conservation. In: *Forest policy and politics in the Philippines: The dynamics of participatory conservation* (ed. Utting, P.). Quezon City and Manila: Ateneo de Manila University Press and United Nations Research Institute for Social Development.
- Vandergeest, P. and N. Peluso. 1995. Territorialization and state power in Thailand. *Theory and Society* 24: 385–426.