

Land Reform in Bolivia: The Forestry Question

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Abstract

In this paper we discuss forestry issues related to land reform in Bolivia. We find that although the current land reform satisfies most of the conditions necessary for adequately addressing development issues in the agrarian sector, it does not deal with many challenges related to forest management, and in fact contains provisions conflicting with the objectives of sustainable forest management. Given that a large part of the land being titled is actually forest land, omissions of, and conflicts with, the objectives of sustainable forest management are critical, and may have harmful ramifications for the preservation of forest resources as well as poverty reduction within forest-dependent communities.

Keywords: agrarian reform, Bolivia, forest management, forest tenure, land reform

INTRODUCTION

There is ongoing debate over the interpretation of land reform experiences in different countries. Given the evidence available on the effectiveness of such policy interventions, some authors have concluded that land reform is losing potential to achieve the goals of poverty alleviation and rural development (Nagarajan *et al.* 2007), or that alternative—and seemingly less contentious policies—are better at achieving the same goals (cf. Dasgupta & Pellegrini 2009). Nevertheless, the issue of land reform is cyclically resurfacing in the policy debate and has come to the fore again in Latin America to deal with the rooted inequalities in the region (de Janvry & Ground 1978; Deininger & Binswanger 1999; Kay & Urioste 2007).

One Latin American country where the issue of land reform has featured prominently in the public discussion of measures to deal with inequality and promote rural development is

Bolivia. In this paper we analyse the Bolivian experience with the current round of land reform that started in 1996 and continues to this day. We focus on the fact that most land in the reform process is forest, while the policies associated with the reform process deal mostly with agrarian issues.

The first round of land reform in Bolivia was implemented in 1953. However—like many countries that experienced ambitious land reforms since the beginning of the twentieth century—it was not successful in addressing inequality in assets in a lasting manner or in contributing to socio-economic development (e.g., Kay & Urioste 2007). This is in sharp contrast to the cases of Taiwan and South Korea where land reforms have shown striking accomplishment in terms of inequality reduction, promotion of rural development, and providing the basis for equitable national development (Kay 2002). In each such successful case, a common set of conditions can be identified (as we discuss in the next section); the East Asian experiences reveal that land reform might actually be an effective policy instrument provided all such conditions are met.

Our method is to evaluate the ‘standard’ requirements for successful land reform—as identified by the literature on land and agrarian reform and as applied in Bolivia—with respect to the ‘special’ conditions that characterise Bolivia. These conditions include the need to address the development of a forestry sector, or to address the ‘forestry question’ that

Access this article online	
Quick Response Code:	Website: www.conservationandsociety.org
	DOI: 10.4103/0972-4923.92139

we define here as the quest for a set of policies that promote the dual objectives of sustainable forest management and of poverty reduction for the communities dependent on forests.

In Bolivia much of the land in the reform process is covered by forest, and policy makers envision—at least formally—the development of forest management in most of these areas. However, while the current land reform does satisfy many of the conditions necessary to adequately address development issues in the agrarian sector, it does not deal with many of the challenges related to forest management. The current land reform rather contains some elements that are in conflict with the objectives of sustainable forest management. Although a large part of the land being titled is actually forest land, the reform measures undertaken by the Bolivian government do not include (are not complemented with) provisions to address what we call the ‘forestry question’.

We present a brief survey of the state of the forestry sector in Bolivia and its poor performance in terms of deforestation and contribution to socio-economic development in the recent years. We conclude that the process of land titling as it is currently happening—without further forestry policies—is unlikely to give appropriate answers to the challenges faced by individuals and communities involved in forest management. More generally, in the case of Bolivia the conditions for a successful land reform essentially need to include the development of the forestry sector, while the linkage between land reform and forestry is insufficiently addressed and in many instances state institutions seem oblivious to the nature of the land being titled.

However, the issue of land reform and forestry is relevant even beyond Bolivia because the issue of land reform is resurfacing in Latin America at a time when forests are being increasingly titled to communities (White & Martin 2002; Sunderlin *et al.* 2008) and we can expect similar challenges to arise elsewhere. The discussion is also urgent because the question of forest management has received little attention in the land reform literature (notable exceptions are Alston *et al.* 2000; Fudemma & Brondizio 2003; Borrás 2006; Pacheco *et al.* 2008).

This article is based on fieldwork carried out in 2007; the authors have interviewed policy makers at various levels, donors, community organisations, rural dwellers, NGOs, and members of the private sector. The information has been triangulated across authors and with secondary sources. Further consultation of secondary data and selected interviews were used to update the data and the analysis.

In the next section, we summarise the conditions for successful land reforms as recognised in the literature, and consider different approaches to land reform. Subsequently, we discuss the connections between land reform and forestry, and provide evidence that most of the land being titled is forest, and then we assess the forestry framework. Finally, we focus on how, in Bolivia, the land reform process and the forestry question are interconnected. We find that if land reform is carried out neglecting the forestry issue, instead of stimulating rural development, it might contribute to the problem of deforestation and forest degradation.

LAND REFORM: VISIONS AND INSTRUMENTS FOR SUCCESS

Throughout the last century land reform has been enacted in most Latin American countries with varied results (de Janvry 1981; Thiesenhusen 1995). The primary objective of these reforms was to provide access to land as a means of livelihood to the landless or land-poor, and in the process break down the structures of social domination and exploitation that prevailed in the rural areas. The moves were often also justified on grounds of increasing productivity of land by providing incentive to small holders to produce intensively and to invest more on the land (Berry & Cline 1979).

It is useful at this stage to distinguish between the concepts of ‘land reform’ and ‘agrarian reform’. In a narrow definitional sense, land reform entails a redistribution of property rights on land to benefit landless or land-poor peasants, but land reform is also about the recognition of traditional rights especially where there are large indigenous populations (see Larson *et al.* 2010: 4). On the other hand, agrarian reform involves more than such a reallocation and recognition of rights of ownership or usage. Typically, it includes broader measures for rural development such as, but not limited to, provision of credit, agricultural extension, marketing, and input supply facilities, etc. (Adams 1995). Although the nature and coverage of agrarian reform can differ substantially depending on the context, the key element of such a programme remains the clear focus on agricultural production¹.

The extensive literature on land reform, both theoretical and empirical, allows us to identify the key features of what might constitute a ‘successful’ land reform. In this regard, we will focus on three specific issues—political will, tenure security, and the role of complementary policies.

A critical condition—probably the most important one—for land reform is the political will to implement it effectively. Given the distributive conflicts arising with the reform and the fact that a constellation of conditions must be met, the simple enactment of laws does not suffice; continuing support and efforts are required for actual implementation and ultimately for success.² Although attempts have been made to design and implement land reform as a technocratic public policy initiative, genuine land reforms remain intense political acts due to their redistributive element. Political will might take the form of strong and determined governments, which see land reform as important (see the case of Taiwan, South Korea, and China, in Griffin *et al.* 2002). Alternatively, social movements outside the government may rally for land reform measures and force the government to implement them (Huizer 1999). Social movements which culminate into revolutions and in the process bring about land reform are extreme cases where progressive governments come into power on the basis of popular demands where land reform figures prominently.

Another decisive issue for land reform is secure tenure, which in turn is vital to promote investment and provide legal protection in the face of a political backlash that could

try to reverse the outcomes of a land reform programme. Technically secure tenure can be achieved with a transparent system of land records, existing or to be established together with land titling. A well-known case with respect to policy reversals—that can take place if tenure is not fully secure—is that of Chile where substantial land reforms were repealed in steps after the coup against the socialist president Salvador Allende (see Thiesenhusen 1995), and the unresolved issue of compensation for expropriated land that the Sandinistas in Nicaragua left after losing power at the end of the 1980s (Stanfield 1995). In both cases, the absence of definite land titles and transparent records were responsible for the plight of the initial land reform beneficiaries. As a result, many of them lost access to land or exercised insecure tenure as new regimes came to power.

Complementary policies—that within the agrarian paradigm include agricultural extension, credit, and marketing—are most often necessary to ensure that agriculture becomes viable for marginal farmers who are the typical beneficiaries of land reform; the history of land reform is replete with cases where reforms failed precisely because they were not accompanied by such policies. Griffin *et al.* (2002) have raised this issue in the context of the larger focus of development policies and the presence of the so-called ‘urban bias’ and ‘landlord bias’. Urban bias relates to the unequal emphasis of policy making and resource allocation of the government on the urban sector rather than agriculture which continues to engage the majority of the poor in developing countries (Lipton 1977). Landlord bias on the other hand works in the form of agricultural policies which are mostly designed for or are appropriated by the large farmers or landlords (for a recent discussion see Kay 2009). If land reform is to be successful in ensuring a better standard of living for the recipients of land, government policies should be directed specifically at small farmers and at the barriers these small farmers have to overcome to increase the productivity of their lands.³ From a holistic development strategy perspective as well, land reform should be implemented in a setup where agriculture-industry-services linkages are properly exploited; land reform or even rural development should not be a stand-alone strategy (Borras & McKinley 2006). As Kay (2002) argues, in Korea and Taiwan land reforms created a relatively egalitarian agrarian structure and thus provided the genuine basis for broad-based industrial development.

While some of the conditions for successful land reform—are the ones mentioned above—are relatively uncontroversial, different visions of the agrarian question and of the purpose of the integration of the peasantry in the modern economic sector inform different approaches to land reform. Here we are going to present a brief overview of influential approaches (state-led, communitarian and neoliberal) and their diverse implications in terms of land reform.

Most significant examples of land reforms in the last century and the first decade of this century can be categorised as state-led. Contrary to what could be expected given the experience of progressive governments across the globe that have been at the forefront of formulating and implementing

land reform legislations, Marxists can be rather sceptical of land reform. In particular the creation of a landed *petit bourgeoisie* (i.e., the beneficiaries of the land reform process) that would become a conservative peasantry can be seen as an impediment in the achievement of revolutionary conditions (Bernstein 2002). In any case, regimes inspired by Marxist ideals have often undertaken the most radical state-led land reforms characterised by large land redistributions and (often uncompensated) expropriation of large landholdings (see Lippit 1974, for China). Furthermore, these reforms went on promoting forms of management such as cooperatives, also in order to contrast the risk of creating a potential conservative peasantry (Lipton 2009).

In the communitarian approach, the redistribution of lands should not benefit—at least not uniquely—individual owners. Communal ownership is recognised usually because of cultural and social traditions associated with indigenous populations and refers to traditional/existing organisational forms, but at times it is promoted because of the expected socio-economic and environmental benefits when compared to individual ownership (Bryden & Geisler 2007). Instruments for the implementation of land reform include arrangements for forms of communal tenure (including cooperatives) and—possibly—forms of support such as agricultural extension given to social groupings rather than to individual farmers. In general the partner of the land reform agency and of the government will not be (near-)landless individuals, but organisations grouping several individuals and households. This implies that inherent inequalities within a community are often reinforced through the land reform process (see Berry 2009 for a discussion on Ghana). As discussed later in the paper, the Bolivian land reform in recent years shares some characteristics of the communitarian approach.

These two approaches (state-led and communitarian) are often characterised by a redistributive component: the allocation of land to the land-poor sections of the population. The reallocated land can come either from the landed population (e.g., absentee landowners), or from the state-owned land. These redistributive reforms are in clear opposition to neoliberal (market-led) reforms propagated recently by several multilateral organisations, including the World Bank (Borras 2003).

Neo-liberal or market-led reforms are oriented towards the promotion of efficiency and increased productivity, to be obtained by integrating land into the market and facilitating markets for agricultural produce. The land market is established by securing property rights and freedom to exchange land; the standard market mechanisms will lead to an efficient allocation of the productive assets. The most efficient producer—assuming well-working financial markets—will be able to discount the highest future production and to buy the land for a higher price when compared to less efficient producers. Hence allocation through unconstrained markets would be automatically associated with productivity increases (see Deininger & Binswanger 1999).

The approach to land markets will depend on the approach

to land reform. In many cases selling redistributed land is not allowed at least in the short run, and this provision is often associated with state-led and communitarian reforms. One example is the Mexican land reform, where the communitarian approach was complemented by institutions such as the *ejido*, and the land held in common could not legally be divided or sold.

Given that most beneficiaries of land reforms are extremely vulnerable to shocks both at the sectoral (e.g., crop failure) and the personal (death, marriage, etc) level, there is always a risk of losing land through distress sale or using land as collateral for consumption loans which cannot be repaid. In order to prevent this situation, land sales should not be allowed for the first few years after land reform (Banerjee 1999). Eventually, when the initial benefits of access to land have been realised, land sales might be permitted in order to allow more efficient allocation of land resources and to reap the benefits of access to credit that is often conditional on the use of land as a collateral. The concern about small peasants retaining control over their land has generated some extreme responses where even the land rental market has been made practically inoperative through the prohibition of tenancy (see the case of Kerala, India, in Raj & Tharakan 1983). This kind of move, however, might have severe negative implications with peasants engaging in underground tenancy without any rights. In the neoliberal approach, while some restrictions on sales and rentals can be justified, these restrictions should be temporary in order to allow investment and productivity to achieve efficient levels (Deininger 2003).

While the three different approaches to land reform introduced in this section have significant differences in terms of formulation, implementation and impact of reforms, they share a clear neglect of forestry issues in favour of agriculture is a common feature. In the next section we elaborate on how the context of land reform changes significantly in the presence of forest land.

FORESTRY AND LAND REFORM

The forestry policy framework: Connections with land reform

Forest dwellers and traditional communities in many developing countries are often characterised by the paradox of their proximity to abundant natural resources and their socio-economic marginalisation (Dasgupta 1993). This can be attributed to access problems (i.e., because communities lack endowments and entitlements over the resources), or because there are no socio-economic conditions favourable to the development of forest-based activities. Nevertheless, in most countries there is a 'formal' consensus that forestry policy should combine the ecologically sustainable management of natural resources with economic and social objectives that include the transferring of endowments and entitlements to marginal communities, and the development of a forestry sector (see Pellegrini 2011). In this section, we introduce forest management frameworks and the challenges that forest

reforms are facing. Our discussion will mirror the one above on land reform and we will first focus on political will, tenure security and complementary policies. Then, we turn to different approaches to forest management.

As in the case of land reform, the enactment and implementation of forest reform is replete with problems associated with (the absence of) political will. The rents generated by logging and land use change are enormous and the political economy of forest reform is complex, paralleling the issues associated with land reform. Indeed, most Latin American countries have been going through forest reforms—spurred by a mix of domestic pressure from environmental and social actors and programs funded by the international community—that are mutilated by intrinsic flaws and the lack of implementation. The forestry laws of Nicaragua and Honduras might serve as examples—they were announced as part of the Poverty Reduction Strategies (PRS) of the two countries, but they have been enacted with delays, and the provisions in the laws suffered from lack of implementation after the laws were passed. The PRS process was largely directed to fulfill donors' conditions; some donors are also implementing programs in the forestry sector of the two countries, overall playing an important role in promoting reform. Furthermore, the provisions in the laws present a mix of instruments that should promote forest management by the poor but also strict enforcement rules and management procedures that depend on reliable state agencies that are actually not present (see the discussion below on approaches to forest management) (Pellegrini 2011).

The security of tenure is even more important for forest than for agricultural land because of the long-term planning and investments that are necessary to undertake sustainable forestry. By nature, the management and harvesting of logs follows much longer cycles than those common in agricultural practices. Also, the production of non-timber forest products require long planning horizons since accelerated harvesting can degrade the quality of forest lands and compromise their potential productivity in the future. One extreme manifestation of the lack of tenure security in forests is the open access situation and the associated management problems (cf. Hardin 1968 and Ostrom 1990).⁴ In the open access case the most valuable forest products will be rapidly depleted, and forest degradation and/or deforestation follows. One fundamental instrument to achieve this security is that the land registry also covers forest, or that there is a reliable registry of forest ownership.⁵ It is equally important that the rights associated with ownership of forested land are enforced and, for example, that there is protection against encroachment.

Also in the case of forestry, complementary policies play a crucial role. The transfer of property rights over forests to forest dwellers, as is common throughout the developing world (Sunderlin *et al.* 2008), must be matched by adequate policies that allow these actors to undertake forest management. On a more general note, the policy framework of the forestry sector should consistently produce conditions that provide incentive to sustainable forest management when combined

with the socio-economic characteristics of the actors who have command over the forest (Chomitz & Buys 2007). These conditions include that the sector should not be penalised when compared to alternative land uses, the administrative and financial ease to undertake forest management according to the legal framework, etc. Specific conditions apply to the more socially oriented forest enterprises that should be subject of positive discrimination (Larson & Ribot 2007).

We now discuss forest tenure and different approaches to forest policies and the connection of these policies with land reform. Different approaches—scientific, neoliberal, and community-based—to forest management suggest alternative ways of addressing the forestry question. The scientific forestry (or command and control) approach is one that can be classified as technocratic—its focus is on forest management plans prepared by formally/professionally trained foresters and enforced in the field by state agents (Balogh 2002). The approach neglects local traditional ecological knowledge, the social relations that exist in the forest, and the linkages among local livelihoods and forest management; essentially the agency of local actors is ignored altogether. The orientation of the whole system is towards the efficient and sustained production of timber (i.e., the production of a monocrop; Shiva 1993), to be achieved through measures that would create a favourable biological environment. The instruments to implement this model include a regulatory framework with clear guidelines on allowed activities and their organisation (detailing extraction modalities and other management activities), an efficient forest service, training facilities for foresters, and in general a well-working state machinery to guarantee effectiveness and enforcement. Overall, this approach fits well with the prominent role of the state envisaged in the developmentalist paradigm that was hegemonic in the 1970s.

In contrast, the neoliberal approach matches an emphasis on state failures (supported by abundant evidence from the 1970s' experience in forest management in most developing countries) with a concern towards the tragedy of the commons and the perverse incentives that are created at the individual level when forest property rights are not well-defined or are in the hands of the state that often cannot enforce them effectively. As a result of this approach, the policy instruments will include the establishment of secure property rights (often understood simply as private property rights) and the creation of economic incentives promoting efficient extraction of natural resources by individual economic agents and enterprises (e.g., World Bank 2008). The access issue here would be regulated with market mechanisms—the most efficient management agents would be more productive and ultimately gain increasing access to forest resources.

Another approach—that has been gaining ground more recently and is part of the recent move to poverty reduction in the development discourse—is decentralisation and community-based natural resources management. Overall this approach aims at solving the access problem of rural communities, recognising them as the owners of the forest and acknowledges the fact that communities—as it was emphasised

in the literature on the management of the commons—are often better endowed to manage natural resources rather than state or private actors (Ostrom 1990). This approach can be articulated in many ways, for example, it can focus on partnerships and linkages across actors operating at different scales (Ros-Tonen *et al.* 2007), or on the social sector emphasising the need for community agency and empowerment (Larson & Ribot 2007).

The evolution of approaches from those based on scientific forestry to neoliberal approaches and to decentralisation is taking place in a chronological order, but it is not a linear process and it is not possible for any approach to completely supersede previous ones. Furthermore, differences are not always so clear-cut; for example, some strands of the communitarian approach are compatible with neoliberal policies especially when advocating retrenchment of the state and the insertion of communities in existing markets (e.g., McCarthy 2005). Furthermore, references to the fashionable 'buzzwords' in the development discourse (e.g., to decentralisation and participation) might be misleading since they can be used in very different contexts in disparate ways (Büscher & Mutimukuru 2007). Thus the policies that we see in practice are often inspired by a mixture of different approaches.

Land reform, agrarian reform and forestry policy: Synergies, neglect and conflict

Land reforms do not *per se* exclude forestry activities; agroforestry can be a way to improve agricultural productivity, diversify incomes, and tree harvesting can function as a safety net. Moreover, land reforms may potentially be characterised by synergies with forestry policy. However, the nesting of land reform in the agrarian reform paradigm is often associated with a neglect of forestry issues, and even with provisions that conflict with the objective of sustainable forest management. The relation between land reform, agrarian reform, and forestry is pertinent for the Bolivian case because (as we will see below) most land subject to land reform is forest land.

On the one hand, the direct linkages and synergies between land and agrarian reforms, and forestry are most evident on the land titling programs, when titling forests can be interpreted as a forest tenure reform (Pacheco *et al.* 2008). Within the context of land reform, two aspects are especially relevant: titling of forest to poor communities (some of which are indigenous) and individuals, and generalised, increased security of rights over forest areas. Marginalised communities obtain titles over forest through successful land reform, and in effect, forest tenure security is increased fulfilling one of the conditions for sustainable forest management.

On the other hand, the embedding of land reform in an agrarian paradigm may result in the omission of forestry issues resulting from the change in tenure. The neglect of the forestry aspect of the reform would be all the more important in the case of communitarian approaches to land reform. In fact, marginalised communities face the challenges of any economic agent or private firm while undertaking forest management, together with the complications of organising collective action

and overcoming structural, administrative, information, and capital deficits.

Conflict between the objectives of forest management and land reform may arise in cases where land reform is complemented by policies that promote land use change. A general point is that economic activities related to forests should not be overregulated and that the promotion of alternative land uses should be matched by the promotion of forest management. In almost all countries the regulatory framework requires a number of conditions—including cumbersome bureaucratic requirements—to be met in order to harvest and market forest resources legally, while economic activities related to alternative land uses—such as agriculture and cattle ranching—are typically exempted from these requirements. Similarly, a number of policies in the agrarian reform package stimulate the development of agricultural and pastoral activities—for example the subsidies that make agricultural and pastures lands more profitable, promoting the expansion of the agricultural frontier beyond socio-economic and ecological rationality (see Repetto & Gillis 1988; Binswanger 1991). Taken together, these type of regulations and incentives end up increasing the opportunity cost of forest, and render land use change more convenient.

Furthermore, institutional arrangements associated with land reform can also be in conflict with forest management and promote land use change, especially when deforestation is a requirement for secure tenure (Southgate & Runge 1990), and property rights frameworks do not recognise tenurial arrangements that are common in forests (Bromley & Cernea 1989).

THE BOLIVIAN CASE: WHAT LAND AND WHAT REFORM?

The Institute of Agrarian Reform (*Instituto Nacional de Reforma Agraria*, INRA) is in charge of implementing the reform, and available data show that the majority of land requested by indigenous organisations is covered with forest and the communities claimed more than 20 million ha of land (INRA 2007; Pacheco 2006a: 9).⁶ These claims refer to the recognition of traditional rights. Data from 2007 show that out of the total 2,139,806 ha identified for redistribution 1,410,858 ha are to be managed as productive forest (INRA 2007: 72). In other words, almost 66% of the total area identified as state owned and available for redistribution for social and productive purposes (hence, excluding protected areas) is to be managed as forest. In contrast, land classified as agricultural (for both intensive and extensive use) covers only around 181,123 ha, or 8.5% of the total.⁷

The Bolivian Government, supported by donor agencies, has adopted an advanced method of land use planning matching biophysical characteristics of the soil with a participatory approach to public policies. The land use plans (*Planes de Uso del Suelo*, PLUS) recognised the fragility of large parts of the forest in Bolivia, the threats posed by desertification, and acknowledged the ecological services provided by forest.

Accordingly, land use was to follow the vocation of the territory as suggested by the ecosystems' characteristics, but at the same time it was recognised that the interest and the knowledge of local communities had to be taken into consideration during land use planning.⁸ As a result the formulation and approval of the PLUS was based on participatory principles, and was the result of extensive consultations (Rojas *et al.* 2003: III, 12). In 2001, a decree based on the PLUS identified around 40 million ha as permanent productive forest (*tierras forestales de producción permanente*)—land whose only use could be as forest. Also the new constitution refers to the need of respecting the 'vocation' of the territory, confirming that land should be managed sustainably according to its characteristics (Gobierno de Bolivia 2009). However, it must be noted that the PLUS were financed by the donors community, and their approval might have just reflected the need to keep the donors and the domestic environmental movement satisfied. The lack of enactment and implementation of provisions that would guarantee that the PLUS are actually respected is in itself evidence of lack of political will.

Notwithstanding the objectives of maintaining forest cover on most of the land currently occupied by forest and that of sustainable forest management, the issue of forestry and its potential for poverty reduction is underestimated in the land reform process. In the words of the Bolivian Government "it is known that formal access to land and forest [...] does not produce automatically benefits for local development" (Gobierno de Bolivia 2007b; see also Wunder 2001; Larson & Ribot 2007). However, policies that should facilitate the communities in taking advantage of the new opportunities provided by forest land titles—while guaranteeing sustainable land use—are not in place. The need to address the forestry question, and the fact that under current conditions titling is not sufficient to enable sustainable forest management, becomes clear once we look at the policy framework and the state of the forestry sector.

FOREST MANAGEMENT

We now turn to a discussion of the policy framework for forest management; our purpose is to outline the policy environment in which the forest subject to land reform is going to be managed, and question whether the forestry question can be addressed under these conditions. Next we will overview the (under-) development of the forestry sector that is the result of the interaction of socio-economic factors and this policy framework.⁹

Reform of Bolivia's forestry sector occurred in the mid-1990s; the reform attempted to make access to forest resources more 'democratic' and the approval of Forestry Law 1700 (Gobierno de Bolivia 1996b) was a milestone that provided instruments for the poor to manage and extract forest resources legally. This change followed the trend towards decentralisation and community-based natural resources management; its stated objective is achieving social inclusion and making communities stewards of the forest through a

new social orientation of the legal framework. The Morales government, elected in 2006, confirmed this orientation and further emphasised the communitarian aspects of forestry (e.g., Gobierno de Bolivia 2006; 2007b). However, more than ten years after the law's approval the legal framework has more of a nominal rather than factual value, and the policies that should have lent substance to legal predicaments are absent.

Though, according to the regulatory framework, state institutions play a crucial role, they are not endowed with the necessary resources—The Forest Superintendence is not able to fulfill its role of regulation and control, and enforcement in the sector is not on par with the assumptions implicit in the scientific forestry approach and in the forestry law. Also the Forestry Directorate is significantly understaffed and underfunded.¹⁰ Overall, the number of employees in the public sector working on forestry has been stable at around 180 throughout the period 2000–2008 (FAO 2010: 308)—hardly enough to enforce regulations and promote the forestry sector. Also, FONABOSQUE (*El Fondo Nacional de Desarrollo Forestal*, the fund that collects part of the revenues from forestry activities) was activated only in 2009—a delay of 13 years since the forestry law predicated the establishment of the fund.

In general, state institutions have played a passive role, underscoring the lack of political will to tackle the problems of forestry. For a forestry regime based on assumptions of reliable state institutions that should prevent illegal activities by the private sector, it is ironic that questions have been raised on whether there is any governance at all in the Bolivian forest, and representatives of the private sector have summoned the government to respect the law.¹¹

The problems of implementation are compounded by contradictions that were already present during the formulation of the new policies. These contradictions revolve around the decentralisation of and the community-based inspiration of the regulatory framework that includes nation-wide standardised planning procedures and centralised enforcement mechanisms that fall within the scientific forestry approach outlined above.

The law also contains environmental provisions—the forest must be managed according to a minimum of 20 years management plan, state-owned forest auctions must occur, and concessions must be adjudicated accordingly. The system of royalties should make the system self sustainable (financing investment, the regulatory framework, and partially contributing to financing local institutions). Extraction should follow management plans approved by the Forestry Superintendence that plays the role of collecting royalties and verifying that the legal provisions are not violated. The structure of the model did focus on specialised knowledge; capable and honest forestry professionals (responsible for drawing up and implementing management plans) and state agents (responsible for overseeing the whole process) were fundamental to its enforcement. Overall, the regulatory framework set up by the 1996 law contained management modalities and enforcement structures informed by the scientific forestry approach, as well as social objectives and inclusive measures that were in line with the latest developments in forest management thinking (see Pellegrini 2011).

The government is still discussing the promotion of community forestry, and creating a state enterprise to facilitate the operations of community enterprises. Overall, there is a striking contrast between the effort, and the underpinning political will to promote land reform, and lack of attention devoted to the development of the forestry sector.

The relative (lack of) success of the current policy framework becomes clear if we analyse a few indicators that relate to socio-economic and environmental outcomes. Out of the 40 million ha, classified as forest in Bolivia, around 30 million ha could be used for sustainable logging and the extraction of non-timber forest products (UDAPE 2004; Pacheco 2006a: 18, 51),¹² but only 8 million ha—less than 30% of the potential—are currently given in concession and have a management plan [*Terrazas-Sedlak (Cámara Forestal)* pers. comm. 2007]. Furthermore, the total volume of legally extracted logs is about 5% of the estimated sustainable potential (BOLFOR 2009: 36), and only around 50% of timber volumes that are authorised for extraction are actually harvested (UDAPE 2009: 8). The major source of revenue for the government are the authorisation of land use change requests (UDAPE 2009: 10). Taken together, these data give a measure of the current state of affairs in relation to the socio-economic potential of forestry. If we look at community-based initiatives that are more congruent with the stated objectives of the policy framework, the situation is not very encouraging—many communities manage forest resources, but only when they receive support from external organisations mostly funded by international donors (Benneker *et al.* 2005). Notwithstanding this support, many initiatives fail to establish themselves over time, and the overall situation is so problematic that successful communities are the exception rather than the norm (Benneker 2008; Medina *et al.* 2008).

Furthermore, Bolivia is one of the ten countries in the world with the largest annual net loss of forest area from 2000 to 2010 and with an ever-increasing trend for the annual deforestation rate (-0.44 from 1990 to 2000, -0.46 from 2000 to 2005 and -0.53 from 2005 to 2010) (FAO 2010: 21; 233).¹³ Given the fact that around 54% of the Bolivian territory is covered by forest and that Bolivia is one of the ten countries with the most primary forest in the world (FAO 2007), these deforestation rates imply that large expanses of (primary) forests are being lost every year. Overall, most of the forest is not managed according to the legal framework and the rest is either left unexploited, degraded with illegal logging, or affected by land use change. Taken together, these facts substantiate the failure of the current policy framework to achieve the objective of sustainable forest management.

LAND REFORM AND THE FORESTRY QUESTION

Bolivia has already experienced two land reforms—one in the 1950s and one in the 1990s that is yet to be completed. The first land reform was an outcome of the 1952 revolution and its aim was redressing the conditions of inequality and extreme poverty that were the very reasons for the uprising (Kay & Urioste 2007).

The second major land reform legislation was enacted in 1996 (Gobierno de Bolivia 1996a), but its implementation was so timid that only a fraction of land has been titled within the 10 year time frame stipulated in 1996. The Morales government is giving a new impetus to the completion of the land reform goals, and it has enacted a new law with a communitarian vision. For the current government, land reform is a flagship programme aiming to provide access to land to landless citizens, small landowners, and to indigenous communities, through land titles and tenure security (Gobierno de Bolivia 2007a).

While the lack of political will marked the implementation period of the 1996 land reform, the implementation of the same law and of the new law (approved in 2007) has accelerated and, in accordance with the government's discourse, the reform has achieved a new momentum. Relevant manifestations of the political will that now underpins the process are the achievements of the INRA in terms of quantity of land titled and the establishment of reasonably reliable land records. In terms of the titled areas, from 1996 to 2006 9.2 million ha were titled, while from 2006 to 2009 31.5 million ha were titled (INRA 2008: 129; INRA 2010: 16). Furthermore, substantial efforts have been expended to improve the cadastral services and to keep the records updated (INRA 2008: 125). These data, apart from demonstrating the new political will, also suggest an increase in tenure security for all the forests that are included in the titling program.

However, while land reform results in increased tenure security in general, problems associated with tenure security still exist on land that went through the reform process, and colonists have challenged indigenous communities' rights over forest. Examples are the Leco Communities in North La Paz that—after undergoing the titling process for their lands—suffered 15 invasions in 2009.

Another issue that the government is dealing with are the linkages of the land reform with rural development strategies. In the national development plan (Gobierno de Bolivia 2006), the land reform process is nested in an array of initiatives aiming at rural development. These initiatives include extension activities such as loans at 0% interest in order to acquire production tools (especially machinery such as tractors), and inputs (such as seeds and fertilizers) and instruments specifically aiming at the achievement of food sovereignty (Gobierno de Bolivia 2007b).

The Bolivian land reform has many features of the communitarian vision—this approach was already present in the 1996 formulation, it is further emphasised in the 2007 law, and matches the traditional features of the indigenous people of Bolivia. The multicultural and plural character of the country is recognised, and traditional authority structures are acknowledged and can represent local communities in the land titling process (Assies 2006).

Overall, in Bolivia we find that the standard conditions for successful land reform—within the agrarian paradigm—are (to a certain extent) met, and that the approach followed by the

government falls squarely within the traditional approaches of the agrarian reform and communitarian land reform.

The focus on the agrarian paradigm has implications with respect to forestry, and the most obvious implication is the thorough neglect of forestry within proposed land uses. This neglect is already manifest in the taxonomy used in the legal documents for land reform, where 'land reform' itself is called 'agrarian reform' (*reforma agraria*), and the main state organisation in charge of the reform is called 'National Institute for Agrarian Reform' (*Instituto Nacional de Reforma Agraria*, INRA). In general, forestry issues are seldom discussed in the documents of the 'agrarian reform'.

We do not imply that agrarian activities exclude any type of forestry, and agro-forestry is one strategy that can lead to increased agricultural productivity as well as harvesting of trees. However, within the agrarian paradigm, the focus is on agriculture and forestry is—if anything—seen as a complement, while our contention is that actually large tracts of land being titled should be managed primarily as forests.

The implications of the agrarian approach are underscored by one of the few statements from government sources on the land use of the territory that is being titled—the land vice-minister has declared that almost all of the 2.5 million ha available for redistribution up to the year 2006, is covered by forest, and also that forest redistribution cannot solve the land problem in Bolivia. In connection to this declaration, social movements have argued that the redistribution is 'just a show'. Both parties are evidently implying that forest areas are economically useless and are not of interest in the land reform process.¹⁴

Another indication of the neglect of forestry is that during the efforts in developing the regulation of the new law of land reform approved in 2006, the Forestry Directorate (*Dirección Forestal*), in charge of the promotion of forestry development has been excluded on the basis that the law involves only the agrarian sector; a claim at odds with the evidence that titles are demanded mostly on forests.

One exception to the general neglect is the decree 25848, enacted in 2000, that stipulates that indigenous and peasant communities in the Amazonian North will be endowed with 500 ha of land per family. This provision—if implemented—would make available such large extensions of forest that communal forest management (especially the extraction of Brazil nut) could form the basis of their livelihoods (Ruiz 2004:31).

These facts are symptomatic of the general undervaluation and neglect of forestry in the process. This is all the more remarkable given the failure of the current policy framework in developing the potential of the forestry sector in terms of managed area and legal timber extraction.

In addition to the neglect, measures that actually contradict the objective of sustainable forest management are present in the policy framework. These contradictions, as mentioned above, occur every time policies and institutional arrangements favour land uses that are alternative to forest. All subsidies to agricultural and pastoral activities, when

not coupled with similar incentives for the development of the forest-based economic activities, contribute to the increased opportunity cost of forest land. Given the neglect and lack of coordination between forestry and agrarian policies, the current interventions that unilaterally promote the development of the agrarian sector undermine the viability of forest management and promote land use change (see Chomitz & Buys 2007).

Titling and clarification of rights associated with land reform have a positive effect on forest tenure, but with respect to forest management the implications are complex, because of the modalities in which titling is taking place. The Bolivian land reform, similar to other reforms in Latin America (beginning with the Mexican land reform), is inspired by the 'doctrine of social use' according to which the sanctity of private property is subordinate to the social function of property (Ankersen & Ruppert 2006). In Bolivia the doctrine of social use plays out in the provisions according to which land must satisfy 'socio-economic functions' and 'unused' land should be expropriated. In practice, given the fact that forest management is not economically viable in most cases, the most straight forward way to prove use is to deforest. This is a practice common in other land reforms throughout the continent, and can explain how land reform and increased tenure security are often associated with deforestation (e.g., Southgate & Runge 1990).

Land reform, if the tenure associated with the recognition of traditional rights is going to be effectively enforced, increases the opportunities of forest management by declaring that the territory belonging to indigenous communities cannot be sold. Given the low population densities of these communities and the low levels of capital endowments, they cannot change land use over large areas and—if assisted—these communities would have forest management as the only opportunity to engage with economic activities based on their territories.

While, in principle land reform might recognise forest management as an option to prove socio-economic use, since forest management is not a viable economic activity under current conditions, this option is itself not viable. Furthermore, the experience of indigenous communities also shows the difficulties implicit in using communal forest management as a tool to gain firm control of their lands while generating income. When Guarayos indigenous communities developed forest management projects—that was possible through the support of NGOs that facilitated overcoming the barrier of high transaction costs of the forestry system—they still had to face challenges related to encroachment and illegal logging in their lands without the support of state institutions (Cronkleton *et al.* 2010: 66–69).

Colonisation programs that (explicitly or implicitly) promote the expansion of the agricultural frontier are in conflict with the objective of sustainable forest management. The abysmal record of state-sponsored colonisation programs in the 1970s throughout Latin America is substantiated by evidence that they have been one of the main sources of 'state-led' deforestation (Rudel 2007), and episodes of

colonisation in Bolivia are also associated with high rates of deforestation (Kaimowitz *et al.* 2002; Pacheco 2006b). Now the government has a new colonisation program (INRA 2007) and has effectively started to put it in practice on August 11, 2009, by moving 400 men to Pando. The right-wing opposition and also social movements have argued that the ultimate goal of these settlements is to alter the electoral fortunes of the party of the president Morales in Pando, rather than to improve the livelihoods of the people involved and the equitable use of land resources. Apart from these worries, doubts can be raised about the impacts of this initiative on the forests, given the record of deforestation that characterised previous settlement programs, and the planned forestry use of the area where these settlements are taking place. Especially considering that only 75 ha of land per family are allocated, it seems that forest management is not going to be a viable option for the new communities (Pacheco *et al.* 2009: 21)

Here we abstain from outlining how the regulatory and incentive structure of the forestry sector should ideally be, to fulfill the socio-economic and environmental objectives associated with sustainable management. Instead, we highlight the fact that the forest management framework is currently incapable of fulfilling its objectives, and that the land reform process is also truncated without substantial forestry reform. We would actually argue that a detailed blueprint for forest reform is impossible to establish upfront; it should rather be the outcome of a participatory process involving the sector's stakeholders—primarily the landholders that own forests, forest enterprises, government authorities, and other actors that provide capital and services in the sector, and members of the environmental movement.

CONCLUSIONS

To conclude, the land reform of Bolivia actually has many aspects of a forest tenure reform, but is not associated with instruments to face the challenges and the opportunities of titling forests. Past land reform measures have failed because of lack of proper enabling conditions for the development of the rural economy; drawing a parallel to those experiences in the Bolivian context leads one to include, among these conditions, the development of the forestry sector. If one of the objectives is to encourage communal management, the conditions will include specific provisions for that purpose. In general, it is necessary to broaden the land reform agenda, and look for opportunities and synergies with the forestry sector.

Neglecting forestry, and not dealing with provisions in the land reform process that are in conflict with forest management might result in a failure of land reform. This failure would not be due to land reform *per se*, but due to the omission of forestry issues in the debate and the policy measures linked to the land reform. Analogies to earlier failures of land reform are difficult to escape. As land reform of agricultural lands cannot solve rural development problems without addressing agricultural issues, similarly successful land reform of forest land cannot elude forestry issues.

ACKNOWLEDGEMENTS

We would like to thank Juan Carlos Aguilar and Nelson Machicao Beltrán for their support during fieldwork in Bolivia and for the useful discussions. Furthermore, we would like to thank Kristin Komivez and the participants of the Poverty Reduction Strategy Paper research project (www.iss.nl/prsp) financed by SIDA whose contribution is gratefully acknowledged. This study is part of the 'Nationalization of Extractive industries: conflict and co-operation in Bolivia and Ecuador' (NEBE) project within the 'Conflict and Cooperation over Natural Resources in Developing Countries' (CoCooN) program financed by the Netherlands Organisation for Scientific Research (NWO) (iss.nl/nebe).

Notes

1. It is interesting to note that the current land reform programme in Bolivia is denoted in official policy documents as agrarian reform underscoring its agrarian emphasis. Later in the paper we take up this issue for further analysis.
2. Land reforms can be traced back to as early as the Roman times when, between the V and the II century BCE, four land reform laws were passed with little effect because of the resistance of the Roman aristocracy that held a firm grip on key state powers (Ankersen & Ruppert 2006). Evidently, absence of political will to implement land reform was an insurmountable obstacle already for these early attempts.
3. Another condition that is often mentioned is the minimum land to man ratio, or minimum available land to (re)distribute. In fact, land scarcity is often used as an excuse against land reform, even though some of the most successful cases of land reform have been implemented in agrarian societies with extreme land scarcity, for example, Taiwan and South Korea (see Griffin *et al.* 2002). These experiences have shown that the scarcity problem is not crucial, and that land abundance is not a necessary condition for successful land reform.
4. The issues of open access and communally managed natural resources have been the source of debates and disagreements—Hardin's (1968) influential paper highlighted the economic mechanisms that result in the 'tragedy of the commons', while other authors (e.g., Ostrom 1990) have provided empirical and theoretical basis showing that many groups have been able to manage natural resources successfully for very long periods without being subject to any tragedy, and that the tragedies described by Hardin have more to do with open access resources rather than with the commons.
5. While we are not mentioning all the conditions necessary for the development of forestry, another issue worth mentioning is the stability of the regulatory framework. While this issue is common to every sector in developing countries, it is particularly important in the case of forests because of the long time frame necessary to organise any meaningful forest management. Often, changes in the regulatory framework can suddenly make investments unprofitable; such changes include blanket logging bans, modifications of the species and products that can be harvested, or of the forms of timber that can or cannot be exported (e.g., bans on the export of non-transformed logs). These changes in the regulatory framework generate problems with respect to the production strategies of forest owners and, ultimately, can backfire in the context of weak enforcement of the regulatory frameworks and result in illegal logging, forest degradation, and accelerated deforestation (Pellegrini Forthcoming).
6. Large tracts of forest are also being claimed by medium and large landholders, however very little of this land has been titled since 2006 in the context of land reform. The period between 2006 and 2009 saw a total of 775,000 ha titled to medium landholders and enterprises, while the total for smallholders, indigenous groups, farmers, and communal lands is 15,500,000 ha (INRA

2010: 17). In this paper we do not analyse the issues related to forest management in large individual holdings, since they constitute a small portion of the land reform process.

7. Most of the remaining surface is cover by water bodies, apt for mix uses, or within natural reserves.
8. Land use planning was implemented within the general orientation favouring participation of the Bolivian governments of the 1990s, and was accompanied by initiatives such as the law on popular participation ('ley de participación popular', Gobierno de Bolivia 1994) and the national dialogues. In this policy context, participation was considered a fundamental factor in order to deliver a good land use plan with chances of being implemented (on participation and policy making in Bolivia, see Pellegrini Forthcoming).
9. We are not entering in a detailed discussion of the causes of the failure of the forest management and of deforestation. Such discussion—to be meaningful—would require an elaborated analysis that is beyond the scope of this study, and we refer to Bromley's theoretical discussion of the causes of deforestation (Bromley 1999), and to the meta-analysis by Geist and Lambin (2002).
10. The Forestry and the Agrarian Superintendence have been abolished, and a new institution established in the second half of 2009—the Authority for the survey and social control of forest and land (Autoridad de Fiscalización y Control Social de Bosque y Tierra, ABT). The set up of the new authority might be a step towards the effective decentralisation of enforcement operations, but at the moment of writing it is too early to assess the outcome of the process.
11. See 'El Sector Forestal dio 60 días al gobierno para cumplir la ley', www.cfb.org.bo/CFBFerías/CongresoForestal_2007/notas.htm, and '¿Hay gobierno en los bosques de Bolivia?', <http://www.bolpress.com/art.php?Cod=2010012302>.
12. Of the total amount, 10.7 million ha are protected areas, and 2.4 million ha have some restrictions related to the provision of ecological services.
13. Alternative estimates of deforestation between 2004 and 2005 are as high as 1% of forest cover per year (Wachholtz *et al.* 2006)
14. See, www.econoticiasbolivia.com/documentos/agricultura/evotierra2.html (accessed on the June 15, 2009), and 'Ni revolución ni reforma agraria, sólo show' www.econoticiasbolivia.com/documentos/agricultura/evotierra3.html (accessed on the June 15, 2009).

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