

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 necessary conditions for adequately addressing development issues in the agrarian sector, it does not deal with many challenges related to forest management and actually 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 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.

1. 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 analyze the Bolivian experience with the current round of land reform that started in 1996 and continues to this day focusing 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 was implemented in Bolivia in 1953. However –like many countries that experienced ambitious land reforms since the beginning of the 20th 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 experience stands in sharp contrast to the cases of Taiwan and South Korea where land reforms have striking accomplishment in terms of inequality reduction, promotion of rural development as well as 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 experience reveals 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 they are identified by the literature on land and agrarian reform and as applied in Bolivia– with respect to the ‘special’ conditions that characterize Bolivia. These conditions include the necessity to address the development of a forestry sector, or to address the ‘forestry question’ that we define here as the quest for a set of policies that promote the dual objectives of sustainable forest management and 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 –at least formally– envision the development of forest management in most of these areas. However, the current land reform does satisfy many of the conditions necessary to adequately address development issues in the agrarian sector, but does not deal with many of the challenges related to forest management. Rather it contains some elements that come 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 government do not include (nor are complemented with) provisions to address what we call the ‘forestry question’.

We present below a brief survey of the state of the forestry sector and its poor performance in terms of deforestation and contribution to socio-economic development in the recent years. We conclude that land titling *per se* –as it is happening in the reform process– 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 necessarily have 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 of the nature of the land being titled.

The issue of land reform and forestry, however, is relevant 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 as the question of forest management has received little attention in the land reform literature (notable exceptions are Alston *et al.*, 2000; Fudemma & Brondízio, 2003; Borras, 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 organizations, 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 summarize 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. Next, we assess the forestry framework and finally we focus on how the land reform process and the forestry question interconnect in Bolivia. 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.

2. Land Reform: visions and instruments for success

At some point in 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 which is brought about 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). Agrarian reform on the other hand 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 productionⁱ.

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 reforms is the political will to implement it effectively. Given 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 and continuing support and efforts are required for actual implementation and ultimately for success.ⁱⁱ As much as 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 bring about land reform in the process 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 unsecure tenure as new regimes came to power.

The presence of complementary policies –that within the agrarian paradigm include agricultural extension, credit, marketing– are most often necessary to ensure that agriculture becomes viable for marginal farmers who are the typical beneficiaries of land reform and 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. 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 the small farmers and at the barriers they have to overcome to increase the productivity of their lands.ⁱⁱⁱ 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 a successful land reform –as 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 in 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 towards 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 conservative peasantry just mentioned (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 organizational 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 will 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 organizations 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 characterized by a redistributive component: the allocation of land to the land-poor sections of the population. The land reallocated can come from landed population (e.g. absentee landowners), but also from 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 nor 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 has been realized, land sales might be permitted in order to allow more efficient allocation of land resources and reaping the benefits of access to credit that is open conditional on the use of land as a collateral. This 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, 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 among them in terms of formulation, implementation and impact of reforms, they share a clear neglect of forestry issues in favour of agriculture. In the next section we elaborate on how the context of land reform changes significantly in the presence of forest land.

3. Forestry and Land Reform

3.1 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 marginalization (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, forthcoming). 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, 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 the lack of implementation and intrinsic flaws. 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 and 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, forthcoming).

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, but also the production of non-timber forest products require long planning horizons since accelerated harvesting can degrade the quality of forest stands 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 management problems associated (cf. Hardin, 1968 and Ostrom, 1990).^{iv} In the open access case the most valuable forest products will be rapidly depleted and forest degradation and/or deforestation follow. One fundamental instrument to achieve this security is that the land registry covers also forest, or alternatively that there is a reliable registry of forest ownership.^v Equally important is that the rights associated with ownership are forested land is 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 it is common in 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 –combined with socio-economic characteristics of the actors who have command on the forest– result in incentives to undertake sustainable forest management (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 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 their connection 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 organization (detailing extraction modalities and other management activities), an efficient forest service, training facilities for foresters and in general a well-working state machine to guarantee effectiveness and enforcement. Overall, this approach fits well with the prominent role of the state envisaged in the developmentalist paradigm of development 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 of 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 turn to poverty reduction in development discourse– is decentralization 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 on the linkages across actors operating at different scales (Ros-Tonen *et al.*, 2007), or on the social sector emphasizing the need for community agency and empowerment (Larson & Ribot, 2007).

The evolution of approaches based on scientific forestry, to the neoliberal and to decentralization is taking place in a chronological order, but it is not a linear process nor is it 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 decentralization 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.

3.2 Land reform, agrarian reform and forestry policy: synergies, neglect and conflict

Land reforms do not *per se* exclude forestry activities and 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 covered with forest.

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. In effect, through successful land reform marginalised

communities obtain titles over forest and 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: for marginalized communities the challenges that any economic agent or private firm has to face while undertaking forest management will be compounded by the complications of organizing 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; examples are 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 and 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 recognize tenurial arrangement that are common in forests (Bromley & Cernea, 1989).

4. 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 organizations is covered with forest and the communities claimed more than 20 millions hectares of land (INRA, 2007; Pacheco, 2006a: 9). These claims refer to the recognition of traditional rights. Data from 2007 show that out of the total 2,139,806 hectares identified for redistribution 1,410,858 hectares 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 hectares, or 8.5% of the total.^{vi}

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 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 in land use planning.^{vii} 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 millions of hectares 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). It must be noted however, that the PLUS were financed by the donors community and their approval might have reflected simply the need to keep 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. However, given the prominence of forest land, land reform in Bolivia has significant features of a forest tenure reform.

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 given by forest land titles –while guaranteeing sustainable land use– are not in place. The need of addressing 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.

5. Forest management

Now we 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 this policy framework.^{viii}

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 decentralization and community-based natural resources management and 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.

State institutions play a crucial role according to the regulatory framework, however they are not endowed with the necessary resources: the Forest Superintendence is not able to fulfill its regulation and control role and also the Forestry Directorate is badly understaffed and under-funded.^{ix} Overall the number of employees in the public sector working on forestry has been stable around 180 units throughout the period 2000-2008 (FAO, 2010: 308) hardly enough to enforce regulations and promote the forestry sector. Also, FONABOSQUE –the fund that collects part of the revenues from forestry activities– has been activated in 2009 with 13 years of delay with respect to the forestry law that 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. Ironically for a forestry regime based on assumptions on reliable state institutions and with numerous illegal activities ascribed to the private sector representatives of the sector have summoned the government to respect the law and questions have been raised on whether there is any governance in the Bolivian forest.^x

The problems of implementation are compounded by contradictions that were already present in the formulation of the new policies. These contradictions revolve around the decentralization and community-based inspiration of the regulatory framework that includes nation-wide standardised planning procedures and centralized 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 should occur and concessions 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 has the role to collect royalties and verify that the legal provisions are not violated. The structure of the model did focus on specialized knowledge, and fundamental to its enforcement were capable and honest forestry professionals (responsible for drawing up and implementing management plans) and state agents (responsible for overseeing the whole process). 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, 2009).

Still, the government is 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 efforts, and the underpinning political will, to promote land reform and those for the development of the forestry sector.

The relative (lack of) success of the current policy framework becomes clear if we analyze a few indicators that relate to socio-economic and environmental outcomes. Out of the 40 millions of hectares, classified as forest in Bolivia, around 30 million could be used for sustainable logging and the extraction of non-timber forest products (UDAPE, 2004; Pacheco, 2006a: 18, 51),^{xiii} but only 8 millions hectares – less than 30% of the

potential – are currently given in concession and have a management plan.^{xiv}

Furthermore, the total volume of legally extracted logs is about 5% of the estimated sustainable potential (BOLFOR, 2009: 36), only around 50% of timber volumes that are authorized for extraction are actually harvested (UDAPE, 2009: 8) and the mayor source of revenues for the government are from authorizations of land use change requests (UDAPE, 2009: 10). Taken together these data give a measure of the current state of affairs when compared 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 organizations 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 in the decade 2000-2010 and increasing trend for the annual deforestation rate (-0.44 in the decade 1990-2000, -0.46 in the period 2000-2005 and - 0.53 in the period 2005-2010) (FAO, 2010: 21; 233).^{xv} Given the fact that around 54% of the Bolivian territory is covered by forest and that the country is one of the ten countries with 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, or 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.

6. 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 years time frame stipulated in 1996. The Morales government is giving a new impetus towards the completion of the land reform goals and 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 titled areas, in the decade 1996-2006 9.2 million hectares were titled, while in the years 2006-2009 31.5 million

hectares were titled (INRA, 2008: 129; INRA, 2010: 16). Furthermore, substantial effort has 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, are also suggesting an increase in tenure security for all the forests that are included in the titling program.

However, while in general land reform results in increased tenure security, problems associated with tenure security still exist in 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 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 a 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 first is the thorough neglect of forestry within proposed land uses. This neglect is manifest already in the taxonomy used in the land reform legal documents where the land reform itself is called ‘agrarian reform’ (*reforma agraria*) and the main state organization in charge of the reform is called ‘National Institute for Agrarian Reform’ (*Instituto Nacional de Reforma Agraria*). In general, forestry issues are discussed very seldom 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 to 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 are to 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 being titled, the land vice-minister has declared that almost all of the 2.5 million hectares 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.¹

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”), which is 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 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 hectares 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 base 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 omissions, 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,

¹ See, www.econoticiasbolivia.com/documentos/agricultura/evotierra2.html and “Ni revolución ni reforma agraria, sólo show” www.econoticiasbolivia.com/documentos/agricultura/evotierra3.html, both accessed on the 15th June 2009.

when not coupled with similar incentives for the development of the forest-based economic activities, contribute to increase the opportunity cost of forest land. Given the neglect and lack of coordination of 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 one, is inspired by the ‘doctrine of social use’ according to which the sanctity of private property is subordinated 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 is 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.

Land reform in principle might recognize forest management as an option to prove socio-economic use, however since forest management is not a viable economic activity under current conditions this option is itself not viable. Furthermore, the experience of indigenous communities shows also 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 have developed forest management projects –that was already possible through the support of NGOs that facilitated the overcoming of the barrier of the 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, Barry, Pulhin *et al.* 2010: 66-69).

Also colonization programs that (explicitly or implicitly) promote the expansion of the agricultural frontier are in conflict with the objective of sustainable forest management and the abysmal record of state-sponsored colonization 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 colonization in Bolivia are also associated with high rates of deforestation (Kaimowitz *et al.*, 2002; Pacheco, 2006b). Now the government has a new colonization program (INRA, 2007) and has effectively started to put it in practice on the 11th of August 2009, by moving 400 men to Pando. The rightwing 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 impact on forest of this initiative given the record of deforestation that characterised previous settlements programs and the forestry vocation of the area where these settlements are taking place. Especially considering that only 75 hectares 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 the environmental objectives associated with sustainable management. More modestly, we are highlighting that the forest management framework is currently incapable to fulfill its objectives and without some forestry reform the land reform process is also truncated. We would actually argue that a blueprint for reform is epistemologically impossible to establish and a proposal of forestry reform can only be formulated with the involvement of the sector's stakeholders; primarily the landholders that own forests, forest enterprises, and government authorities but also other actors that provide capital and services in the sector and members of the environmental movement.

7. Conclusions

To conclude, the land reform of Bolivia has actually many aspects of a forest tenure reform, but is not associated with instruments to face challenges and opportunities of titling forests. Past experiences of land reform failed because of missing 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 the objective is also to encourage communal management, the conditions will also include specific provisions for the 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 the 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.

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ⁱ 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.

ⁱⁱ Land reforms can be traced back at least to Roman times when, between the V and the II century BC, 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 and Ruppert, 2006). Evidently, absence of political will to implement land reform was an insurmountable obstacle already for these early attempts.

ⁱⁱⁱ Another condition that is often mentioned is that minimum land to man ratio or a minimum available land to (re)distribute. In fact, land scarcity is used often 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 scarcity like Taiwan and South Korea (see Griffin et al., 2002). These experiences have shown that the scarcity problem is not a crucial one and land abundance is not a necessary condition for successful land reform.

^{iv} 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 incurring in any tragedy and that the tragedies described by Hardin have more to do with open access resources rather than with the commons.

^v 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 any

sector in developing countries, is particularly important in the case of forest because of the long time frame necessary to organize any meaningful forest management. Changes in the regulatory framework can often 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).

^{vi} Most of the remaining surface is cover by water bodies, or apt for mix uses, or within natural reserves.

^{vii} 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 in order to deliver a good land use plan and a plan with chances to be implemented participation was considered a fundamental factor.

^{viii} We are not entering instead 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, 1989) and to the meta-analysis by Geist and Lambin (2002).

^{ix} 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 (ABT, Autoridad de Fiscalización y Control Social de Bosque y Tierra). The set up of the new authority might be a step towards the effective decentralization of enforcement operations, but at the moment of writing it is too early to assess the outcome of the process.

^x 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>.

^{xiii} Of the total amount 10.7 millions hectares are protected areas and 2.4 millions have some restrictions related to the provision of ecological services.

^{xiv} Terrazas-Sedlak (Cámara Forestal), 2007, personal communication.

^{xv} Alternative estimate of deforestation between 2004-2005 are as high as 1% of forest cover per year (Wachholtz et al., 2006)