Forest management in Bolivia, Honduras and Nicaragua: reform failures?

ABSTRACT

This study is a policy assessment contrasting forestry reforms and their intended objectives against the state of the forestry sector in Bolivia, Honduras and Nicaragua. The study finds that there is a gap between policy objectives and the state of forestry in the three countries and that the policy frameworks are characterized by lack of policy implementation and intrinsically flawed design. In other words, reform failure matched by failure to reform is present in each country. The Poverty Reduction Strategy Papers followed, and possibly reinforced, existing policy trends but they were unable to solve the implementation problems and the lack of coherence that mark the policies of the sector.

Keywords: poverty, forest management, Poverty Reduction Strategy Papers, Bolivia, Honduras, Nicaragua

1. Introduction

Bolivia, Nicaragua and Honduras are endowed with large forest areas and vast tracts of their land can sustainably support only forest (UDAPE, 2004; Larson, 2003; Vallejos Larios and Guillén Coronado, 2006). While this is a constraint for the agricultural sector, it is also an opportunity for stimulating a forestry sector that could contribute to rural development and poverty reduction (Nygren, 2005; Oksanen *et al.*, 2003; Wunder, 2001). In fact, the coincidence of natural capital – in the form of forests – and poverty suggests that forest management can be integrated into national policies to fight poverty (Dasgupta, 1993; Oksanen *et al.*, 2003; Kay *et al.*, 2007). Sustainable forest management and its potential to reduce poverty are currently high in the government agendas of the three countries, although policies to achieve these objectives can be traced back at least a decade. One of the first examples of these policies dates back to the mid-1970s when Honduras established the social forestry sector: a set of policies promoting cooperatives extracting forest products. More recently, the Poverty Reduction Strategy Papers (PRSPs)[1] of the three countries take account of the potential of forest management to reduce poverty (Gobierno de Bolivia, 2001; Gobierno de Honduras, 2001; Gobierno de Nicaragua, 2001) and forestry figures prominently in the National Development Plans of Nicaragua (Gobierno de Nicaragua, 2005) and Bolivia (Gobierno de Bolivia, 2006). Likewise, the new forest law of Honduras, approved in September 2007, also contains a poverty component.

Bolivia, Nicaragua and Honduras are analysed here because they are Latin American countries that adopted PRSPs (see Komives and Dijkstra in this issue) and at the same time are endowed with large forest areas. The focus on forest management is justified by the fact that the PRSPs themselves recognised the potential of forestry to reduce poverty.

This policy assessment provides a comparative analysis highlighting common patterns and differences in the forestry sector across the three countries and a presentation of the factors that block sustainable forest management. The next section contains a discussion of how forest management can contribute to rural livelihoods, the framework for the evaluation of the sector in the three countries, an outline of the evolution of approaches to forest management and information on the data sources. In the following sections the forestry sectors of the three countries are assessed against environmental, social and economic criteria, and the policy regimes are discussed. Next, I turn to the comparative analysis and the conclusions.

The paper highlights the lack of implementation and the inconsistencies in the regulatory framework and shows how these two factors represent formidable obstacles to successful reform. A special emphasis is put on how forest management has been included in the PRSPs and in the National Development Plans of the three countries, and how this inclusion has (or has not) affected the formulation and implementation of policies in the forestry sector. The overarching objective of this study is to contribute to the understanding of past reform failures and to the ongoing discussion of possible ways forward.

I find that the potential of forest management for development and the emphasis in policy documents and in government's discourse are at odds with on the ground practices. Notwithstanding the PRSP process, forest management policies in the three countries are marked by a lack of implementation and crucial parts of the regulation are still informed by older approaches –discussed below– that have already been proven unviable.

2. Forest management and development

Forest management and rural livelihoods

Forestry cannot be by itself a panacea for poverty at the national level because of low population densities in rural areas; however there is a potential for poverty reduction and alleviation because forests' benefits are created and to a certain extent distributed in rural areas were the incidence of poverty is the highest (Chomitz and Buys, 2007:82-84). Estimating the actual contribution of the forestry sector to poverty reduction and alleviation is a challenge in most countries because few data are available on forest-related socio-economic activities and also Bolivia, Honduras and Nicaragua have only scant data (World Bank, 2008: 25-26).

This paper focuses on forest management and extraction, rather than on strict conservation. The forest activities we deal with involve a larger share of the rural population –if compared to the primary target of conservation that typically concerns more remote forests that are scarcely populated– and can provide a wide range of benefits for the rural poor.

The benefits that arise from forests can be classified as direct and indirect: the first class includes the provision of timber and non-timber forest products to local communities and for markets (producer and consumer benefits), the second includes environmental services. Direct benefits can be market-mediated (the creation of jobs, entrepreneurial opportunities, the distribution of rents) or satisfy self-consumption (cf. Wunder, 2001 and Vedeld *et al.*, 2004).

Under some circumstances the potential for forestry to reduce and alleviate poverty can be enhanced. These conditions include the transfer of property rights over the forest to rural

communities: in this way community members can appropriate part of the rents generated by extraction and undertake forest management as entrepreneurs (Chomitz and Buys, 2007).

A framework for the evaluation of forest management

Now I turn to a framework for the evaluation of forest policies and their impact on forest management. This paper follows the pragmatic approach of evaluating policies with respect to the objectives they are meant to achieve.[2] These objectives have been articulated in numerous policy arenas and in the three countries there is a *consensus* that emerges from institutional documents and conversations with stakeholders: the objective is sustainable management from the environmental, social and economic perspectives.

I am going to use available environmental, social and economic indicators to assess the state of the forestry sector. From the environmental perspective, the objective of sustainability is expressed in terms of maintenance of forest cover and of conservation of forest quality, the latter especially in protected areas. The main indicators of success (or lack thereof) come from deforestation rates, which are available for all three countries.

Overall, forest management should be a part of rural development strategies and its impact on poverty could be classified in social and economic terms. The social perspective emphasizes that the poor need to benefit the most from forestry. Therefore, policies should ensure not only the development of the sector, but also encourage the participation of the poorest part of the rural population. The various policies that promote pro-poor forestry fall under the common name of 'social forestry' and are articulated differently in each of the three countries. In Bolivia it is community forestry that is relevant, in Nicaragua it is forestry undertaken by small-holders, and in Honduras by cooperatives. The relative success of these initiatives in the three countries will inform the assessment in terms of social objectives.

From the economic perspective the objectives are to have a sizeable forestry sector making a contribution to national income. Relevant indicators include employment, generation of revenues for the government, and contribution to both the export sector and general economic activities.

Two overarching criteria encompass environmental, social and economic objectives: the development of forest activities that follow the legal framework and the diffusion of certified operations. With respect to logging, one of the benefits of legality is that formal regulations contain safeguards that should guarantee environmental sustainability and that the state can benefit from taxes and royalties. Furthermore, the development of the full economic potential of forest exploitation requires levels of investment and market conditions (in terms of prices, volumes, delivery and reliability) that are not compatible with illegal activities characterised by informality and risk. Certification requires the following of environmentally and of socially sound practices –beyond the requirements of the legal framework– and is a way to achieve higher values per volume and reduce the incidence of transportation costs since certified wood gathers a price premium (Nebela *et al.*, 2005). The price premiums associated to certified wood rarely trickle down to local communities (Stegeman, 2003: 31), however the benefits of certification include improvement of entrepreneurial and administrative capabilities (e.g. increase in transparency, augmented planning) that can be as, or more, important than favourable market prices (Salazar and Gretzinger, 2004a: 42-46). Finally, in certified operations the certification agency is in charge of verifying the compliance with the standards in a more effective way than state enforcement agencies.

Approaches to forest management

Forest management models have been evolving over time. The scientific forestry approach – the first model to spread globally– was developed in Europe and by the end of the 19th century it was transferred to the United States and to many developing countries (Balogh, 2002). This approach is based on scientific management and its distinctive features are that the management systems are clearly identified in laws and regulations; that these systems are based on scientific models implemented by professionals dismissing local knowledge in favour of the knowledge transmitted via formal education; that they are informed by a command and control approach with a focus on enforcement, based on the assumption that forestry professionals and state agents are reliable.

This model dismisses local actors, neglecting forms of knowledge not sanctioned by science, and gears all forestry activities towards production and extraction of wood (i.e. it establishes a monocrop system; Shiva, 1993). Another feature worth stressing is the assumption that state agents can effectively implement and enforce the law. This assumption is at odds with the field reality of forest management in many developing countries where these actors and the institutions that frame their actions are characterised by low resources and high corruption levels (Pellegrini, 2007; Robbins, 2000).

The general failure to manage forests sustainably and equitably that marked the implementation of the scientific forestry approach –especially in developing countries– stirred a movement towards more market-based policies and on economic incentives to maintain and manage efficiently forests (Repetto and Gillis, 1988). Also international financial institutions included in the structural adjustment programs several requirements with respect to privatization of natural resources, including forests. These changes were matched with the emphasis on securing property rights –often understood as 'private'

property rights– and on avoiding the 'tragedy of the commons' (Hardin, 1968), together with beliefs on self-regulatory powers of markets. The central policy recommendations springing from this approach are privatization and market-based incentives.

Also the move to privatize the forest fell short of its ambitious objectives while emerging evidence showed that local communities operating autonomously often achieve superior outcomes in terms of natural resources management when compared to centralised systems and private agents (Ostrom, 1990; Folke, 2004; World Bank, 2008). These factors contributed to a renewed appreciation of traditional ecological knowledge and of management systems based on collective action at the local level and made it possible to focus on social inclusion as an objective of forest management.

Over time, forestry policies in developing countries moved away from state control towards privatization followed by a more socially-oriented approach that emphasises local institutions, participation and decentralization. The PRSP process has taken place within this paradigm change and some of its features (e.g. participation and inclusion) reflect the evolution in mainstream development thinking that matches new forestry models and inspired forestry reforms. When I turn to forestry regimes of each country, a special emphasis is given to the features that mark them: coherence of the approach and the implementation of the resulting policies.

Sources and organization of the analysis

This study is based on fieldwork realised in Bolivia in April 2007 and in Honduras and Nicaragua in July and August of the same year. The author conducted over 100 interviews with government authorities (local and national), academics, community leaders, inhabitants of rural areas, business associations, entrepreneurs, cooperatives, trade unionists, international donors, multilateral financial institutions, and Non-Governmental Organizations

(NGOs). The interviews focused on the state of the sector, on the issues that are hindering development and on potential for improvement. A number of secondary information sources were consulted along with legal and policy documents. Data has been triangulated by asking different actors their perspectives, and comparing their perspectives across them and with secondary sources.

The following analysis briefly outlines the state of the forest in the three countries, emphasizing the environmental, economic and social objectives mentioned above. Then I discuss the policy frameworks that produced these outcomes analyzing the policies – including the PRSPs– chronologically and concluding with interventions led by the donor community. The unsatisfactory state of affairs in forest management that is highlighted here is widely recognised in each of the countries, and the political establishment is continuously pressured to 'reform' the sector. Here I show how these tentative reforms are truncated and give recent examples of instances where new forestry policies are still grounded in the old assumptions of scientific forestry and do not contribute to a translation of new policy principles in new forestry practices. I also show how the PRSP process falls in line with ongoing developments in the sector and that it is difficult to distinguish any impact on existing policies.

3. Bolivia

The state of the forest and the potential of forestry

Bolivia has 59 million hectares covered with forest – 54.2% of the total area – and is one of the ten countries in the world with the most primary forest (FAO, 2007). Estimates for deforestation in 2004-2005 are as high as 1% of forest cover per year (Wachholtz *et al.*,

2006).[3] Given the size and the quality of Bolivian forests, this rate indicates major forest loss and environmental damage.

The country has extensive experience with social forestry and 74 instances of communal forest management, on a total surface of 876,966 hectares, have been recorded in May 2005 (Benneker *et al.*, 2005: 12). The development of communal forest management indicates that some of the social objectives of forestry are being achieved.

Land use plans provide to this day an opportunity to estimate the potential of forest management by comparing the area suitable for forest management with the area actually under management. In fact at the end of the 1990s the Bolivian Government, supported by donor agencies, had decided to adopt an advanced method of land use planning matching biophysical characteristics of the soil with a participatory approach to public policies (Rojas *et al.*, 2003: III, 12). In 2001, a decree based on the land use plans identified around 30 million hectares that could be used for sustainable logging and the extraction of non-timber forest products (UDAPE, 2004; Pacheco, 2006a: 18, 51); but, only 8 million hectares are currently given in concession. In other words, less than 30% of the potential is exploited according to a management plan.[4] This data, together with the deforestation rate, provide a measure of the state of affairs when compared to the potential of forestry: while only a small part of the forest is exploited according to the formal management system, the rest is either left unexploited, or degraded with illegal logging, or affected by land use change.

Even though so little of the Bolivian forestry potential is exploited the sector gives a remarkable contribution to the national economy: currently the forestry sector contributes to almost 3% of GDP and employs 75,000 people. The majority of economic activity is in the timber sector, but notably the production of the Brazilian nut contributes to 0.35% of GDP and employs 22,000 people (UDAPE, 2004).[5] These data include only legal operations

noted in the national accounts and direct economic values, omitting environmental services altogether. The management of forests for the extraction of timber and of non-timber forest products adds to these services and can provide direct incentives for the conservation of the forest. Additionally, non-marketed economic benefits should be added, to contributions included in the GDP accounts. In the case of poor households in the rural areas a substantial part of consumption comes directly from the forest; data at the national level are not available, but household surveys for Tsimane' societies suggest that forest products can represent more than 50% of total consumption (Godoy *et al.*, 2002: 404).

With respect to certification Bolivia is a success case: it is the 7th country in the world in terms of Forest Stewardship Council (FSC) certified forest with 1.8 million hectares (Forest Stewardship Council, 2007b) and 46 certified companies. This is an important achievement for the sector; however, momentum of certification has been slowing in recent years and the certified area under management might start to decrease if certified forest concessions are revoked in the land reform process. Overall, the diffusion of FSC certification can be considered a success qualified by the fact that without the support of donors there is still little practical interest in certification within communities.

In sum, while forestry gives an important contribution to social and economic development of the country, its potential is largely unexploited. Now I turn to the policy framework that created this situation.

The policy framework

Bolivia's forestry sector was reformed in the mid-1990s: the Forestry Law 1700 attempted to make access to forest resources more "democratic" and was a milestone that provided instruments for the poor to exploit forest resources in a legal way (Gobierno de Bolivia, 1996b). The stated objective of the legal framework is to achieve social inclusion and make

communities stewards of the forest. Sector analysis more than ten years following the law's approval shows that the legal framework has more a nominal rather than a factual value and the policies that should have lent substance to legal predicaments were never put in place. These problems of implementation are compounded by contradictions that were already present in the formulation of the new policies.

The forestry law reflects the emphasis of the government in the mid-1990s: it provides a legal framework whose stated aim was to democratize access to the forests by allowing marginalised communities to take advantage of natural resources while protecting the environment. In particular, local social organizations and indigenous communities were recognised as important actors in the new framework. In the same year, the law of land reform, or "Ley INRA" (Gobierno de Bolivia, 1996a) should have complemented the forestry law by transferring property rights to poor communities and increasing forest tenure security.

The forestry law contains also provisions for environmentally sound management stating that the forest must be managed according to a 20 years management plan, and that state-owned forest auctions should occur and concessions be adjudicated accordingly.[6] A system of royalties should make the system self sustainable (financing investment, the regulatory framework, and partially contributing to financing local institutions).[7] Extraction should follow management plans approved by the Forestry Superintendence – the institution in charge of enforcement – that has the role to collect royalties and verify that the legal provisions are not violated. The structure of the model focuses on specialized knowledge and fundamental to its enforcement are 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 contains management modalities and enforcement structures informed by the scientific

forestry approach, as well as social objectives and inclusive measures that are in line with the latest developments in forest management thinking.

With respect to implementation, over time successive governments contradicted the spirit and the word of the law. The spirit of the law was violated because granting the legal right to access forest resources to marginalised social actors was not sufficient for them to exploit this opportunity. Unless the resources necessary for undertaking sustainable management are also granted to the same communities, they are not going to have technical and financial resources to draw and implement forest management plans. Also the letter of the law was violated by the Bolivian government itself; among the violated legal provisions the "Fund for forestry development" (FONABOSQUE) was never activated (Pacheco, 2006b: 41). Moreover, only the first head of the Forestry Superintendence – the institution in charge of enforcing the law – has been nominated according to the procedures established in the law, which is meant to guarantee that the figure is independent from the government; the rest have been simply appointed *ad interim* by the government. Paradoxically for a sector marred in illegal practices, the private actors in the forestry sector have themselves intimated to the government to respect the law.[8] Additionally, the fines that the Forest Superintendence gives go unpaid and royalties are not exacted. Finally, the legal framework is evaded on the ground because state institutions do not have the necessary resources to control operations in the forest. Information on deforestation is available almost in real time (Wachholtz *et al.*, 2006), but the Forest Superintendence is so badly equipped that it cannot intervene even against macroscopic violations of the law. Also the implementation of land reform proceeded at a very slow pace, but it is now gathering momentum and ownership of large forest areas is now being transferred to indigenous communities (INRA, 2008).

The problems of enforcement and lack of operational capability of the Forest Superintendence are a flagrant contradiction with the assumptions implicit in the centralized

system of enforcement inspired by the scientific forestry approach. Furthermore, the structure of enforcement is at odds with the principles of decentralization and participation that inspired the reform. The same contradictions mark other aspects of the regulatory framework such as the use of the system of forest management plans that follow nationally standardised management frameworks and do not allow local knowledge to play any role. These contradictions characterize a forestry model that has a social orientation but also important instruments and enforcement mechanisms that are anchored to older forestry management paradigms.

The Bolivian Poverty Reduction Strategy Paper (PRSP, Gobierno de Bolivia, 2001) includes forest management as an instrument for mitigating environmental risks and vulnerability and suggests that policies should promote sustainable and equitable utilization of forest resources. The PRSP also contains: a succinct reiteration of the principles already contained in the forestry law; an emphasis on implementing those principles and on creating alliances (i.e. including social actors) throughout the sector; and, the provision of support to the sector through technical assistance.

Evo Morales – the president who took power in January 2006 – has been re-stating the objectives of the legal framework and promoting reforms that are inspired by similar principles of previous reforms. However the government is arguably taking these more seriously, paying special attention to indigenous issues that are linked to social exclusion, and emphasizing community forestry as a tool for achieving the goals of poverty eradication and rural development. In particular, greater emphasis is now given to the role of indigenous communities and social groups, but at the same time the government is promoting the creation of a forestry state enterprise; this initiative might add to existing contradictions of the whole sector and does not take into consideration the lack of entrepreneurial capabilities

in the state nor the history of failures of such enterprises in Latin America throughout the 1970s.

The National Development Plan – the new planning instrument adopted by the government – includes a chapter on natural resources, where forestry is crucial (Gobierno de Bolivia, 2006), nevertheless the private sector and forest on private land hardly gets any mention. Also, in the Development Plan for the Agriculture and Forestry sector (Gobierno de Bolivia, 2007) the private sector is mentioned only a few times and the plan indicates that forestry will be based on communities, small producers and state enterprises and institutions. Finally, declarations of government ministers confirm that there is the intention to establish a state enterprise in the forestry sector, and to tax the export of timber. Both interventions run the risk of damaging existing companies operating legally in the sector and the association that represents the interests of the private sector reacted negatively.[9]

Even though several Bolivian governments agreed and contributed to the present framework, the institutions in Bolivia that took the lead in funding and putting into practice projects that implemented the spirit of the legal framework have been donors, NGOs, and private foundations. Most notably, the American, Dutch, Swedish, and Swiss cooperation have invested funds and supported NGOs and foundations (such as Conservación International, Puma, and Fundesnap) in the forest sector. These funds financed most experiences of community forestry, extension services, and forest management. Independent studies and assessments of past experiences might help to evaluate the potential and to orient programs that have similar objectives to the ones of past projects financed by the international community. Existing assessments cast some doubts about the possibility to implement community forestry at a rapid pace and through standardised policies.[10]

4. Honduras

The state of the forest and the potential of forestry

Honduras has 4.5 millions hectares – 41.5% of the territory – covered by forest and the yearly deforestation rate for the period 2000- 2005 was 3.1%; one of the highest in the world (FAO, 2007). A large numbers of cooperatives exist and their mission is to extract and commercialize forest products, most notably resins (Richards *et al.*, 2003: 24), but their impact is questionable. In the words of the president of the largest association of cooperatives, "many of the cooperatives are composed solely by one person with some documents in a briefcase" (Andrés Solórzano, 2007, personal communication). Furthermore, some cooperatives have been infiltrated by criminality, and local leaders have been corrupted by illegal loggers (Global Witness and CONADEH, 2006:10; EIA, 2005:4). Some experiments of communal management exist: several donors assisted the cooperative COATLAH (Rodas *et al.*, 2005: 50) and GTZ is supporting two projects of community forestry in Olancho (PRORENA, 2007). Other projects are promoting the extraction of logs and resins by cooperatives (Nygren, 2005), but while assessments of these experiences is positive, their number is limited.

The forestry laws define what portions of the territory are suitable for forest (according to parameters such as the steepness of the slope, or services such as watershed protection), and which areas, that currently have a different land use, should revert to forest. In fact, estimates from the Honduran Forest Development Corporation (COHDEFOR) –the state agency in charge of the development of the sector and of enforcement– indicate that 87% of the surface of the country is suitable only for forest (Vallejos Larios and Guillén Coronado, 2006:13), but land use planning at the national level – identifying the best use of each plot –

has not been implemented. The value of forest products – timber and non timber – is estimated at 63 millions dollars in 2005 (FAO, 2007) and there are 60,000 people employed directly in forestry (Richards *et al.*, 2003: 15). To these figures self-consumption and illegal extraction must be added. An assessment of the dependency of indigenous communities on the forest found that between 15 and 40% of the total value of consumption – for two Tawahka communities – derives directly from the forest (Godoy *et al.*, 2002:404). Furthermore, estimates of illegal logging range between 80% of total volume extracted for broadleaf and 50% for coniferous species (Richards *et al.*, 2003: 1). Certification is not developed and the country has just 47,400 hectares of certified forest and (Forest Stewardship Council, 2007a) and only 6 certified companies. Overall, in Honduras forests are being lost at a fast pace and despite forest management's contribution to development, much of its potential is unexploited.

The policy framework

Before the 2007 forestry law was approved, at least 38 laws governed the sector, creating a confusing policy framework (FAO, 2006). The situation is further complicated because forest tenure is unclear: most forest is officially state-owned (FAO, 2007), but state agents have little practical consequence on forest management and individuals exercise *de facto* ownership.

Corruption is a barrier to legal logging because it facilitates illegal operations and creates obstacles to legal ones. Evidence of this abounds in Honduras. Bribes are extorted from certified community forestry operations and reportedly without bribes transport of legal wood becomes impossible (Rodas *et al.*, 2005: 53). In the words of a forest official of COHDEFOR from the San Pedro Sula region, "For the police the worst loggers are legal

loggers: they do not want to pay bribes!" COHDEFOR itself is a synonym of corruption – as recognised in public meetings by its director.[11] Furthermore: during a field visit I met a convoy transporting illegally-extracted mahogany logs from the Tawahka biosphere and one of the drivers expressed his confidence that he would not face troubles; in case the convoy would be stopped by any enforcement agent, the owner of the wood would be able to "sort things out". Shortly after our visit a member of a local NGO was killed, but no actions were taken even though the offender is a known drug dealer who is also involved in illegal logging.

The failures of the system have prompted the birth of a strong environmental movement that is vocal, but faces numerous challenges. On the one hand, members of the movement receive threats from illegal loggers and some of its members suffered deadly attacks (EIA, 2005: III, 3-4). On the other hand, the judiciary treats environmentalists' breaking the law – for example by organizing road blocks – as members of criminal organization and make environmentalists' opposition to environmental crimes difficult (Victor Ochoa, 2007, personal communication).

As in Bolivia and Nicaragua, the PRSP in Honduras includes forest management and recommends approving the new forestry law by 2002 (as mentioned above the new law was eventually approved in 2007) and developing a forestry cluster (Gobierno de Honduras, 2001). The strategy outlines a link between slash and burn practices, deforestation and land degradation, and acknowledges the country's potential to develop a sustainable forest sector contributing to 'economic growth, employment generation and reduction of poverty, especially in rural areas'. The policy measures that would contribute to the sector include support to small enterprises, provision of technological transfers and of community land management (in relation to solving land tenure problems). Pricing strategies and payments

for environmental services are mentioned as means to preserve forest cover along with reforestation and plantation activities.

The approval of the new forestry law (in September 2007) created many expectations and support by environmental groups and other social actors, but its implementation started with a long delay in its publication and official enactment.[12] The law includes the abolition of COHDEFOR (which received unanimous support), the establishment of the Institute of Forest Development and Conservation, more resources for enforcement, and harsher penalties against those who commit forest-related crimes. It must be noted that 3 members of Zelaya's cabinet (serving until the 2009 coup) and the director of CODEHFOR are – or were – owners or employees of logging companies, a fact that casts doubts about the real intentions of the government. Apart from the new law, the forestry sector has been visible in the news and the government has been active on forestry issues. On the first day of his mandate, then-President Zelaya indicated that 1% of the state budget would be used for reforestation and protection, and that the army would be involved in enforcement. The declaration about the budget commitment has been repeated many times, but only one-sixth of the amount has been disbursed (Ernesto Ponce, 2007, personal communication). Out of the resources that effectively were spent for the sector, the military absorbed 70% without producing any evidence that enforcement has improved; in fact, some circumstantiated evidence suggests that the militaries tend to use their powers and resources to benefit from illegal logging rather than combating it.[13] This is another striking example of how new enforcement systems are still driven by older approaches. It also confirms how these enforcement structures are ineffective in improving compliance with the regulatory framework and how centralized enforcement agencies tend to become a part of the problem

rather than a solution. In sum, also in Honduras implementation of the regulatory framework is lacking and policies lean toward older approaches.

The role of international cooperation in the forestry sector is limited, if compared to the case of Bolivia, but the German cooperation and WWF are active and international funds finance local foundations such as ICADE that focuses on agricultural extension activities within protected areas and deal with forestry indirectly.

5. Nicaragua

The state of the forest and the potential of forestry

Nicaragua has more than 5 million hectares – 42.7% of its territory – covered by forest with a 1.3% annual deforestation rate between 2000- 2005 (FAO, 2007). Few cases of community forestry exist and only case of community management –supported by WWF– has achieved certification in the country (Salazar and Gretzinger, 2004b). Data on land vocation at the national level are not available; signalling that land use planning is not developed yet. The total market value in 2005 for wood products, timber and non-timber is estimated to be 43 million dollars (FAO, 2007). These estimates are biased downwards because of self-consumption and unreported illegal logging; the latter estimated at an astounding 70-80% of total volumes extracted, with illegally extracted logs marketed at much lower prices than legal ones (Richards *et al.*, 2003: 4). Another symptom of the underdevelopment of the sector is that Nicaragua has only 11,500 hectares of certified forest and a total of 11 certified companies (Forest Stewardship Council, 2007a). In sum, the limited data available suggest that while forests are disappearing their contribution to socio-economic development is limited.

The policy framework

The Poverty Reduction Strategy Paper (PRSP) recommended approving a new forestry law by 2002 (which was approved, albeit at the end of 2003), addressing deforestation as a source of ecological vulnerability, and developing a forestry cluster. The forestry cluster –one of the four strategic ones promoted in the PRSP – would be a set of interconnected activities including high value added activities. Also, the National Development Plan (Gobierno de Nicaragua, 2005), which in Nicaragua was also considered a part of the PRSP process, includes a forestry cluster and seek to strengthen the whole forestry production chain. However, there was very little implementation of the plan.

The main policy instruments that set the framework for forestry are the forestry law and the logging ban.[14] The forestry law establishes the conditions for forest management: the system of forest management plans is similar to the one in Bolivia and the organization in charge of regulation and control is the National Forest Institute (INAFOR) (Gobierno de Nicaragua, 2003). This is also a model that contains remnants of the older scientific forestry approach and some social provisions. The law includes some incentives towards the development of the sector mostly in the form of tax deductions; a system that does little to promote forest management by the poor since they are not liable of paying taxes in the first place. There are deductions that would apply to small landholders who plant trees on their plots; however, due to bureaucratic hurdles and obstruction by the institutions that should facilitate the process, it is virtually impossible to take advantage of law's provisions without support by some external organization (NGOs or donors). Also in Nicaragua the issue of forest tenure is pending as land tenure is perceived to be insecure even by those who possess legal titles (Broegaard, 2005).

Apart from the tax deductions mentioned above, one of the few provisions meant to promote forest management while favouring small landowners was the exemption to the requirement of drawing management plans for areas of less than 50 hectares; this measure is particularly relevant since many beneficiaries from land reform in the 1980s own small tracts of forest. The instrument to be used in cases where the plots are smaller than 50 hectares is the simplified plan: a technically less demanding and less expensive document than the management plans. Regrettably the simplified plans have been abused by large enterprises that presented several such plans for adjacent forest areas. INAFOR, financed by the royalties generated by authorized extraction activities, approved these plans and turned a blind eye on their illegitimate nature (Global Witness, 2007:15).[15] The situation changed after the "scandal of the River Kung Kung" that dominated the news in March and May 2006: a great number of trees were claimed to be illegally logged and transported on the river. As a response, an emergency decree was enacted to stop extraction and was followed by a logging ban (Gobierno de Nicaragua, 2006). The ban prohibits extraction of 6 species of wood, bars any logging operation in protected areas or within 15 kms from all national borders, suspends the simplified management plans, and puts the army in charge of enforcement.

The first employment of the army was to stop the traffic of illegal logs in the Kung Kung river, but a substantial number of the logs sequestered by and under the surveillance of the army disappeared.[16] Some analyses suggest that the logging ban has not been able to stop illegal logging and that deforestation rates might have increased after its approval (Guzmán, 2007). This situation shows how centralized enforcement system allowed the abuse of the pro-poor mechanisms in the law and how the State, again focusing on centralised enforcement mechanisms, is failing to control illegal logging. They also illustrate how the regulatory framework contains traits of both newer and older approaches to forestry, as well as ongoing implementation problems. In addition, the logging ban is a formidable obstacle to

any future development of the sector as it forbids the legal extraction of the most valuable species.

The Nicaraguan forestry sector has been assisted by donors and NGOs investing in the rural sector. PRORURAL is supporting institutional strengthening of INAFOR, the Interamerican Development Bank is financing a rural extension program with a large forestry component ("Programa Socio Ambiental y de Desarrollo Forestal", POSAF) implemented by the Ministry of Natural Resources, and GTZ (the German technical cooperation) has a natural resources program (PRORENA).

6. Comparative analysis

Forest management and reforms

The unsatisfactory environmental outcomes of the current management regimes highlighted above are synthesised by the fact that all of the three countries have high rates of deforestation, with Honduras standing out with its soaring rate. From the socio-economic perspective, none of the countries is able to fulfil its aspirations in terms of forest management and the sector is underdeveloped. As seen above, also the experiences of social forestry are limited in Honduras and Nicaragua and existing activities depend on donors' support in the three countries. These results stand in contrast to the potential that forestry has in reducing poverty. Reforms have been announced and in many cases they are already in place without proper implementation and with intrinsic flaws. As a result, the sector is characterised by an only apparent paradox: under-exploitation of most forest areas is coupled with deforestation and permanent land use change. The PRSPs have played a limited role in the three countries: they confirmed the objectives of existing policies but did not contribute to

any noticeable improvement of implementation nor highlighted the changes needed to have a policy structure coherent with the principles of participation and decentralization.

The regulatory framework of the forest sector in the three countries is marked by reform failures because important features of the policy framework are not implemented. At the same time, the sector is characterised by failures to reform: remnants of older approaches remain in crucial parts of the new systems especially with respect to enforcement.

Taking stock, looking ahead

Considering the problems in the sector and the challenges successful reforms face, a reform process inspired by contemporary approaches to forestry would be participatory already in its formulation. This process would include consultations of the actors that are involved in the sector and could contribute to a new system that guarantees coherence and avoids interventions (especially on enforcement) informed by older approaches. The process would also require that central actors in the new model share their concerns. When interviewed, small holders and community organizations mentioned the problems highlighted above, but also a number of other issues. Their indications could serve as the basis for new reform programs and for the implementation of existing formal regimes. This paper follows a similar approach: I consulted the stakeholders and the potential beneficiaries of a reformed forestry sector on what problems blocked the development of the sector, and their answer informed my analysis. For example, cases of enforcement failures were mentioned as barriers to sustainable forest management by all the actors (including enforcement agents that would blame each other). What I suggest here is similar to the dialogues that were part of the PRSP process. The failure of the dialogues to make a difference in policy making is due to the lack of political will necessary to organize them effectively and to implement the policies coming

out of them, rather than intrinsic faults of the instrument. As any other participatory initiatives, dialogues are bound to fail if the policy makers do not support them.

While it is very difficult to control the forest with the type of centralised systems that prevail in the three countries, viable alternatives are not being implemented. The search for other enforcement models would indicate that decentralization with participation of local communities seems to be a necessary but not sufficient condition where state agencies are weak. That is to say that decentralization might work, while centralized systems are bound to fail (see Pellegrini, 2007; Veron *et al.* 2006). Likewise, a radical rethinking of forestry, and of the colonial models that still inspires it, is necessary to let local communities benefit from forest management (Larson and Ribot, 2007).

The success of the new movement towards the development of social forestry will depend on solving the problems that affect the sector as a whole, together with the problems of involving and organizing impoverished communities. The challenge of establishing decentralised community-based systems that benefit the poor should not be underestimated (Nygren, 2005; Veron *et al.*, 2006); not all communities are ready or willing to undertake community forestry management since many projects face problems with corruption or mismanagement and require a lengthy process to develop from relatively simple activities (harvesting logs) to parts of the production chain with more value added (secondary and tertiary transformation) (e.g. Stegeman, 2003: 31, 41). Typically, they require large resources and time and might work better if coordinated with the private sector rather than trying to replace it altogether. For the poor to benefit from integration in the private sector affirmative actions and positive discrimination should be part of the policies (Larson and Ribot, 2007).

The focus of this paper is on national policies and donors' initiatives, but also international policies play a role: right now by omission because countries providing global environmental services (such as Bolivia, Honduras and Nicaragua) are not consistently rewarded. Recent developments such as the 'Clean Development Mechanism' (CDM), the 'UN Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD)' and the example of the 'Yasuni ITT initiative' (where the Ecuadorian state is seeking funds from the international community to leave oil underground within the boundaries of the Yasuni Park) might offer financial support for comprehensive programs aimed at sustainable forest management and could also support social forestry.[17] Overall, these programs might create opportunities for Bolivia, Honduras and Nicaragua to develop sustainable forest management.

7. Conclusions

The forestry sectors of Bolivia, Nicaragua and Honduras are failing with respect to environmental, social and economic objectives. The policy regimes in the three countries are characterised by inconsistencies: in spite of a change in the approach towards participation and decentralization, important regulatory instruments –especially those related to enforcement– are centralized and based on unrealistic assumptions of state agents' capabilities. Furthermore the implementation of policies in the sector is problematic. In this context the PRSPs seem to have made very little difference and future reforms will have to focus on implementation and coherence of the policy framework to fulfil the objectives of sustainable forest management.

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[1] The Poverty Reduction Strategy Papers are planning documents elaborating a strategy to reduce poverty and explaining how the resources generated by debt forgiveness will be used for the purpose. The drafting of these documents through a participatory process including social actors –the national dialogues– is necessary condition for debt relief (see Komivez and Dijkstra in this issue).

[2] For a discussion of pragmatism in the context of economic analysis of environmental policies see Bromley, 2004; 2006.

[3] According to FAO, the yearly deforestation rate for the period 2000- 2005 is 0.41% (FAO, 2007)

[4] It is worth noting that managed does not mean exploited: the management plans allow for regeneration following a 20 years cycle, hence the yearly harvested surface is maximally 5% of the concession.

[5] Another factor – apart from the limited area under management – that contributes to the slight contribution of the sector to the Bolivian economy is low productivity. The extraction focuses on few high value species and the result is that the average extracted volume is 3 m3/ha, while the estimated potential is 15 m3/ha (UDAPE, 2004; Benneker *et al.*, 2005), and the transformation process is also wasteful at around half of the potential (Ibáñez-Chávez, personal communication).

[6] The law has been criticised for not allowing enough in terms of local decision making (Larson, 2006). Furthermore, given the lack of implementation of the law, not enough information is being collected on natural regeneration and no management practices to accelerate the reproduction of the most valuable species are implemented (Fredericksen *et al.*, 2003). Under current management practice there is some evidence that regeneration cannot be achieved in the 20 years cycle (Dauber *et al.*, 2005).

[7] The system has changed in 2003 following the crises on international prices of wood and the consequent lack of capability of logging companies to pay the royalties (Fredericksen *et al.*, 2003: 40, Pacheco, 2006b: 24, 36). Now, the companies pay effectively 1/20 of the royalties and a small tax to finance the

administration of the Forest Superintendence. As a result, the revenues to the state administration and enforcement capability of the Superintendence have both been diminished.

[8] "El Sector Forestal dio 60 días al gobierno para cumplir la ley", http://www.cfb.org.bo/CFBInicio/CongresoForestal/boletin.notaNF02.htm

[9] "Preocupación en sector forestal por anuncio de empresas mixtas", El Diario, 11/9/2007.

[10] For examples and evaluations of cooperation projects see Robertson and Wunder, 2005; Endara Agramont and Villca Huanaco, 2006; PROBONA, 2006; Stegeman, 2003; Benneker *et al.*, 2005; Stegeman, 2005; COSUDE, 2007.

[11] On corruption episodes involving COHDEFOR see also EIA, 2005: 11-14, 17-18.

[12] "Aprobada la ley forestal", El Heraldo, 14/09/2007, the law was eventually published only at the end of February 2008.

[13] This was confirmed by numerous sources including researchers, environmentalists and developmental NGOs.

[14] For an introduction to the legal framework see Larson, 2006: 35-37.

[15] See also "¿Quién está detrás de mafia maderera?", Confidencial, 07 to13 May 2006.

[16] "Alerta por tucas extraviadas", El Nuevo Diario, 26/11/2006.

[17] For example, on the CDM see Fitzroy and Papyrakis, 2010