



Status of Forest Certification

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ABSTRACT

Forest certification systems are voluntary, market-based initiatives to promote the sustainable use of forests. These standards assume that consumers prefer products made from materials grown in an environmentally sustainable fashion, and this in turn creates incentives for companies to adopt responsible environmental practices. One of the major reasons for the creation of forest certification systems was to prevent deforestation in tropical forests. However, after 20 years of certification, only 10% of the global forest area is certified, mostly in countries that, arguably, already practiced responsible forest management before certification. Only 2% of tropical forests have been certified (81 million hectares), while in the same period 283 million hectares were lost to deforestation. Africa and Latin America are the only regions with a net loss of forest area in the 2000-2010 decade. In this paper, the status of forest certification is analyzed, and challenges and opportunities are evaluated using the case of Bolivia. In a short period of time, Bolivia became the leader in tropical forest certification. However, in recent years, the area of Bolivian forest under certification has fallen sharply; and deforestation has actually increased in the 2000-2010 period, compared with the previous decade. This research tries to uncover the reasons for the rapid initial growth of certification in Bolivia and its subsequent decline. The information generated from this research is valuable input for policymakers and support organizations to better assist countries with their efforts to sustainably manage their forests.

1. INTRODUCTION

The environmental, or “green,” movement is one of the most important developments in modern society. The environmental movement started in the 1960s out of concerns about environmental sustainability (Friedman, A. 2007, Kibert, C.J. 2005, United Nations 1987). These concerns have encouraged governments and other policy-setting bodies from around the world to issue strategies aimed at ensuring the sustainable use of the planet’s natural resources and the prevention of waste. For this purpose, international organizations such as the World Wildlife Fund (WWF), Greenpeace (Greenpeace 2011), or the United Nations Environment Programme (UNEP) have been created to promote the responsible utilization of our resources (UNEP 2011, WWF 2011c). Also, businesses are making efforts to include environmental issues in their corporate culture, motivated not only by regulation but also by consumer demand (Bowyer, J. 2008).

In the first part of this manuscript, details are provided about the evolving forest certification systems. Then, a presentation and discussion follows about the results from a qualitative research about the status of forest certification in Bolivia, considered by many a success story of certification (FSC 2011).

1.1 FOREST AREA, TYPE OF FORESTS, GEOGRAPHICAL DISTRIBUTION, AND OWNERSHIP

Forests cover about 4 billion hectares, a third of the total global land area. More than half of that area is concentrated in five countries: the Russian Federation, Brazil, Canada, United States, and China (FAO 2010). Primary forests, defined as forests not significantly disturbed by human activity (FAO 2010), constitute 36 percent of the total forest area and 57 percent are classified as regenerated forests (where humans have intervened, chiefly

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with selective logging); and 7 percent is planted forests (e.g., plantations). More than a quarter of the total forest area is designated primarily for production (Table 1). Ownership of world's forests is largely public (80% according to FAO 2010). However, communities, individuals, and private enterprises have been playing an increasingly important role in forest ownership and management. Examples are the increasing private ownership of forests in Russia and Africa, or more community involvement in forest management in South America and Southeast Asia (FAO 2010).

1.2. DEFORESTATION AND RESPONSES TO DEFORESTATION

Forests, in addition to representing a major resource for human sustenance, provide carbon sequestration, temperature regulation, protection against erosion and flood control, water storage, and habitat to half of all known plant and animal species (Böswald, K. 1996, Chlebek, A. and Jařabáč, M. 1996, Lenz, H. 1967, WWF 2011b). A quarter of the world's population directly relies on forests for its subsistence, while all humans are in one way or another dependent on products from our forests (FAO 2011). Forests offer shelter for most of our terrestrial biological diversity, and play a vital role in conserving water and providing wood and non-wood products for communities around the world. Also, recently, the importance of forests for climate change has been recognized more prominently. While forests are major carbon sinks, global forest degradation or clearing also contributes a sixth to global carbon emissions. However, if forests were managed sustainably on a global scale, they would have the potential to absorb one tenth of the projected carbon emissions by 2050 (FAO 2011). The trunk of the trees is an extremely environmentally-friendly material. In fact, wood is considered the most environmentally friendly material of all materials used by humans in large quantities as long as timber harvesting is done in a sustainable way.

As discussed above, forests are of critical importance for the future of humanity and the survival of species (Böswald, K. 1996, Chlebek, A. and Jařabáč, M. 1996, FAO 2011, Lenz, H. 1967, WWF 2011b). However, forests have been and continue to be subject to intensive utilization and logging activities. As a result, large areas of forest lands have been lost mostly to agricultural use but also to urbanization. The world lost 13 million hectares forestland per year during the last decade as compared to 16 million hectares per year during 1990e2000 (FAO 2010). While most boreal and temperate forest areas have been stabilized lately, the annual loss of 13 million hectares per year during the last decade occurred entirely in tropical forests, one of the most valuable areas in respect to biodiversity and natural regeneration. In fact, the deforestation of tropical forests is estimated to contribute about 15 percent of global total carbon dioxide emissions, a greenhouse gas (Achard, F., Stibig, H.J., et al. 2010). However, there are vast regional differences in respect to deforestation. South America and Africa account for most of the deforestation (7.4 million hectares of net change per year), while Asia's net change in forest area was positive with more than 2.2 million hectares added per year. In fact, China alone added a net 2.0 million hectares annually (FAO 2010), as China has increased planted forests more than all other countries combined during the last two decades (FAO 2010). These additional forest areas are needed. To maintain the current level of global wood consumption per capita (0.6m³ per person per year), 2.5 billion m³ wood harvest will have to be added to the current 3.5 m³ over the next decade to account for population growth and increasing standards of living (Sutton, W.R.J. 1999).

As one response to these challenges, governmental regulation and non-governmental certification systems of forests have been established. The former include laws, restrictions, and taxes, among others; while private initiatives include, prominently, forest certification (McGinley, K. and Cubbage, F.W. 2011).

1.3. FOREST CERTIFICATION

Forest certification systems are initiatives with the purpose of promoting the sustainable utilization of forests from an environmental, economic, and social point of view (Bowyer, J. 2008, Hansen, E., Fletcher, R., et al. 2006). Differently from regulatory approaches to forest sustainability, the stated driving force for the adoption for forest certification standards was market demand (McGinley, K. and Cubbage, F.W. 2011). One main driver for the creation of forest certification systems was to address the need of communicating the environmental quality and sustainability of forest products to consumers. The underlying assumption for the establishment of forest certification systems is that consumers prefer products manufactured by companies responsible with the

environment. The hope is that such consumer preference creates a “pull” effect by which companies are incentivized to adopt environmentally friendly practices (Vidal, N., Kozak, R., et al. 2005).

The first forest certification system with a global scope was the system developed by the Forest Stewardship Council (FSC 2013). The FSC system, formed in 1992 by several major environmental non-government organizations (NGOs) and global retailers (Nussbaum, R. and Simula, M. 2005, Van Kooten, G.C., Nelson, H.W., et al. 2005, WWF 2011a), today maintains an important place in shaping forest certification globally as it is responsible for the certification of the largest forest area of any stand-alone certification system. Other certification systems include the Sustainable Forest Initiative in the United States, launched in 1994 (SFI 2011), the American Tree Farm System inception in 1941 (ATFS 2010), or Canada’s Standards Association system, founded in 1996 (CSA 2011). In 1999, European small forest owners founded the Program for the Endorsement of Forest Certification systems (PFEC 2013). The PFEC is an umbrella organization that endorses 29 national forest certification systems in 28 countries, including SFI, ATFS, and the CSA system (PFEC 2013). Other certification systems are the Indonesian Ecolabelling Institute (LEI 2011), the Brazilian Programa Brasileiro de Certificação Florestal (CERTFOR 2011), the Malaysian Timber Certification Council (MTCC, 2006), and Chile’s Sistema Chileno de Certificación de Manejo Forestal Sustentable (CERTFOR 2011). These national systems were developed based on other standards and guidelines; for example the Malaysian MTCC is based on the International Tropical Timber Organization (ITTO 2011) criteria, as is the Brazilian CERFLOR, while the Indonesian LEI system incorporates criteria from the ITTO and FSC (Perera, P. and Vlosky, R.P. 2006).

1.4 CERTIFICATION IN TROPICAL COUNTRIES

After 20 years of forest certification, 416 million hectares of forests have received certification from one of the two global forest certification organizations (174 million ha by FSC and 242 by PEFC; FSC 2013, PFEC 2013). This represents about 10% of the global forest area of 4.03 billion hectares (FAO 2010). However, an overwhelming majority of the total certified forest area is located in the northern hemisphere (UNECE/FAO 2012), and only 2% of the tropical forests have been certified. In fact, a net loss of forest area occurs only in Africa, Latin America, and the Caribbean. Arguably, the countries where most of the certified area is located already had well managed forests before certification (Howe, J. and Fernholz, K. 2012). The U.S., Canada, and the countries of the European Union contain more than three quarters of the total certified area (FAO 2012). The forestland area in the U.S., for example, has not changed in almost 100 years (MacCleery, D.W. 2011).

Latin American countries have rich forest resources, covering about half of South American (FAO 2010). Unfortunately, deforestation is very high in this region, most of it due to conversion of forested areas to croplands and pasture lands (Bowyer, J.L. 1997, Lindsey, R. 2007). Bolivia, Brazil, and Venezuela are among the ten countries with the largest loss of forest area during 1990-2010 (FAO 2010). The problem of deforestation is particularly serious in Bolivia. This country’s forest loss is the highest in the Amazonian basin (Forero, J. 2012) and it is the fifth highest when its population is considered (deforestation per capita calculations based on population and forest loss figures found in FAO 2010). Similarly to other countries in the region, much of the deforestation in Bolivia is caused by land conversion to agriculture, but also due to migration of people to the lowlands, which represent more than half of the Bolivian territory. According to the Food and Agriculture Organization, the annual rate of deforestation in Bolivia during the 200-2010 decade has been of almost 0.5%. Another recent study, which used satellite images and the Normalized Difference Fraction Index (NDFI), estimates a much higher annual forest land loss figure of 0.56% in the 2000-2005 period and of 0.78% in the 2005-2010 period (Cuéllar, S., Rodríguez, A., et al. 2012). This is particularly worrisome considering the fact that Bolivia has once been considered leader in tropical forest certification, as the next section explains.

1.5 FOREST CERTIFICATION IN BOLIVIA

Total forest area of Bolivia is 53 million hectares, of which 28.8 million are potential productive area (Hjortsø, C.N., Jacobsen, J.B., et al. 2006). With the purpose of ensuring sustainable utilization of its rich forest resources, Bolivia passed a highly successful New Forestry Law in 1996, introducing sweeping changes to the way forests

were used until then (Quevedo, L. 2004). Some of the most important changes were (1) the creation of the Forestry Superintendence, a government agency charged with enforcing the forestry law; (2) implementation of a system of forestry concessions, with fee payments based on area, which discouraged the highly selective harvesting; (3) elaboration and approval of forest management plans (Hjortsø, C.N., Jacobsen, J.B., et al. 2006); and (4) established legal recognition of new actors in sustainable forest management, notably indigenous and local communities (Quevedo, L. 2004, Urioste, J.L.d., Quevedo, L., et al. 2010). According to Colchester et al. (Colchester, M., Boscolo, M., et al. 2006), with the new forestry law, Bolivia had the “most progressive legal framework in terms of its accommodation of rural livelihoods in forest,” compared to many countries. Forest certification was implemented simultaneously with the Forestry Law, in what was considered by many as a success story of certification (Duery, S. and Vlosky, R. 2005).

International organizations played an important role in the promotion and implementation of forest certification in Bolivia. The U.S. Agency for Development Aid (USAID) provided financial, marketing, and technical support to these efforts (Chemonics 2004). The certified area grew at a high pace in the decade from 1996 to 2005, reaching at one point more than 2 million hectares, a larger area of tropical forest than what Brazil certified at the time (Duery, S. and Vlosky, R. 2005). However, the certified area fell dramatically since 2008, as illustrated in Figure 1.

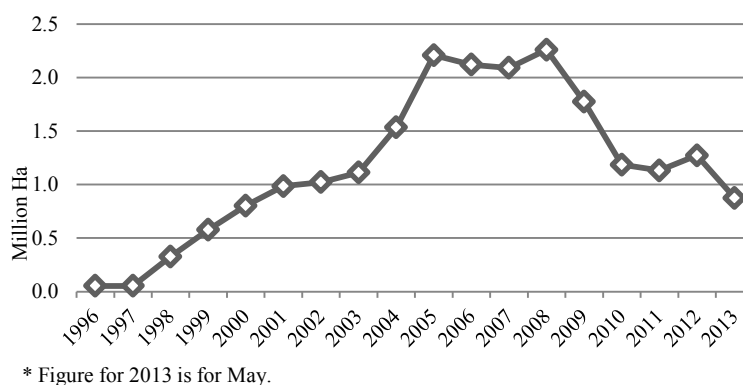


Figure 1. FSC-Certified Forest Area in Bolivia (Camara Forestal de Bolivia 2011, FSC 2012).

Some important developments coincided with the period of rapid decline of forest deforestation in Bolivia (2008 to 2010). The “great recession” officially started in the U.S. in December of 2007 (National Bureau of Economic Research 2010), and had a great impact on imports during the following years (imports of goods in 2009 and 2010 dropped by 26% and 10% relative to 2008, respectively, Bureau of Economic Analysis 2013). Likewise, the global recession caused a big decline of the EU 27 countries’ imports, which 2009 and 2010 monetary value dropped by 22% and 3% from the 2008 level, respectively (Eurostat 2013). This is relevant since United States and the European Union have been historically the most important markets for Bolivian forest products exports (CFB 2012).

OBJECTIVE

The objective of this research was to understand the reasons for the initial success of forest certification in Bolivia, and also explain the rapid decline in certified area in recent years. Of interest was also learning the perceptions of the stakeholders regarding the major benefits obtained from certification.

METHODOLOGY

To accomplish the objectives of this research, both secondary and primary sources of information were used. An extensive analysis of the literature was conducted to gather facts about forest certification in general and specific to the Bolivian case. This literature review was followed by semi-structured interviews with major stakeholders of forest certification in Bolivia. During Summer of 2012 and Spring of 2013, 23 interviews were conducted, including

8 representatives of non-governmental organizations involved in the promotion and implementation of forest certification; 7 company representatives with interest or history of certification (some with forest management certification, others chain-of-custody certified, and a few with both); one government official, representing the agency that oversees forest and land issues (Regulatory Agency for the Social Control of Forests and Lands, or ABT); 2 scholars whose expertise is forest management and forest certification; representatives of 2 indigenous communities that held at one time forest certification and one that is interested in certifying their operations; and 2 representatives of agencies that provide certification services. The interviews were audio-recorded, and these recordings were transcribed and then translated to English. The resulting interview records were then coded and entered into a qualitative analysis software (NVivo, by QSR International 2012). From this analysis, common themes emerged.

RESULTS AND DISCUSSION

Results from the interviews allowed the authors to identify major themes in forest certification development in Bolivia. These themes are presented in Table 1, grouped according to the objective of the study. An explanation follows.

Table 1. Major themes identified during interviews.

Reasons for success of certification	Government support Regulatory framework International financial and technical support
Benefits from certification	Improvement in the standard of living of timber-reliant communities Improvement in image of the forestry sector Better, more stable markets for certified products
Reasons for decline of certified area	Land tenure security Markets (or lack thereof) for certified products

ROLE OF GOVERNMENT AND REGULATORY FRAMEWORK

All of the interviewees agreed in that the initial success of forest certification was made possible by a strong government support and a regulatory framework conducive to certification. Participant coincided in that forestry law of 1996 contained principles compatible with those of forest certification, thus it provided the required legal and technical framework for certification. Additionally, the government provided incentives for certification, such as tax benefits for certified operations and waivers from mandatory periodic audits to certificate holders (Ebeling, J. and Yasué, M. 2009). One participant mentioned that it was just a “small step” from meeting forestry law to qualify for forest certification. Strong enforcement of forestry law, which increases the cost of illegal logging, is largely attributed with facilitating the certification requirements (Ebeling, J. and Yasué, M. 2009).

Political climate has changed in Bolivia since the pass of the forestry law in 1996. Following a trend in Latin American, a new left-leaning Bolivian government was installed in 2006, questioning previous policies and with a discourse of a more equitable income distribution (Pacheco, P., de Jong, W., et al. 2010). In 2012, Bolivia passed the “Law of Mother Earth,” which grants nature the same rights as humans and, among other provisions, it gives indigenous communities legal power to control polluting industries and prohibits (Bolivia, P.S.o. 2012, John Vidal 2011). The second principle in this law explicitly states that natural processes and functions are not merchandise and cannot be traded (Bolivia, P.S.o. 2012). Although the Bolivian government has no official position regarding forest certification, it has been less active in supporting certification efforts than previous governments; removing some incentives for certificate holders, such as the waiver for the five-year audit, according to several interviewees. In one comment that may illustrate the Bolivian government attitude towards certification, the Vice-president of Bolivia, in a 2012 interview, said that he recognized two kinds of environmentalism: the “bad environmentalism,” or “environmentalism of the right,” driven by multinational companies whose sole purpose is to obtain financial gain by showing environmental responsibility credentials through the certification of forests (Soruco, J.C. and Osorio, M.J. 2012). The representative of the government agency in charge of forest control (the Regulatory Agency for the

Social Control of Forests and Lands, or ABT) interviewed for this study, indicated that the sustainable use of forests may be better served by developing a national certification system, less costly and of easier access for those who do not have the financial capability for international certification. This was tried by other countries with different levels of success (see Introduction).

ROLE OF INTERNATIONAL COOPERATION AND NON-GOVERNMENTAL ORGANIZATIONS

Most of the participants coincided in that international aid and non-governmental organizations (NGOs) played a significant role in promoting and implementing forest certification in Bolivia. The U.S. government, through its international development agency (USAID 2013), provided considerable financial support for the promotion of certification; it financed the creation of BOLFOR, or Bolivian Sustainable Forest Management Project, which was instrumental in harmonizing the new forestry law and certification. BOLFOR also participated in the creation of CFV, the Bolivian Council for Voluntary Certification, in 1994. CFV was active in the elaboration of region-specific standards for certification in agreement with FSC principles (Duery, S. and Vlosky, R. 2005).

NGOs played a significant role in promoting certification by providing technical and financial assistance to companies interested in certification. NGOs were especially important in the promotion of community-based forest certification; one participant went as far as to suggest that the decline in this certification category was in great part due to the removal of NGO support (the first certificate in Bolivia was awarded to an indigenous community; currently there are no communities holding certificates).

BENEFITS FROM CERTIFICATION

Participant identified the following benefits from certification.

- Improvement in the standard of living and work conditions of timber-reliant communities. Forestry professionals interviewed for this study agreed in that one of the most important benefits from forest certification is the improvement in standard of living of communities dependent on forest utilization and the work conditions of forestry field personnel. This is consistent with principles of certification, which require forest managers to “comply with all laws, regulations, treaties, conventions and agreements, together with all FSC Principles and Criteria” (1st principle), and “to maintain or enhance forest workers' and local communities' social and economic well-being” (4th principle) (FSC 2013). What is more remarkable, according to representatives of communities with certification experience interviewed for this study, these benefits tend to stay even if these operations do not renew their certificates. These participants also indicated that certification has allowed them to raise the standard of living and educational level of their members.
- Improved image of the forest products sector. Historically, forests have not been well managed in Bolivia. Until 1996, harvest operations were extremely selective, with over 90% of harvested timber focused on three species (Espinoza, O.A., Bond, B.H., et al. 2007). Despite efforts to reduce it, illegal logging is still a big problem (Harvey, F. 2013), some estimated that half of the timber consumed domestically is illegally sourced (Pacheco, P. n.d.). The benefits from the forest reached only a few, and work conditions were poor at best (Pacheco, P., de Jong, W., et al. 2010). All this contributed to create a negative perception of the industry and has led to conflict with indigenous people, which in part motivated the state to start promoting communal participation in forest management in the mid-1990s (de Jong, W., Ruiz, S., et al. 2006). Participants to this study indicated that the new forestry regime started by the 1996 law and the implementation of forest certification have contributed to improve the image and credibility of this important sector of the Bolivian economy, by demonstrating it is capable of meeting internationally-recognized standards of sustainable forest management, from environmental, social, and economic perspectives (Nebel, G., Quevedo, L., et al. 2005). Most participants coincided in that forest-certified products did not command a significant price premium compared to non-certified products in international markets, but allowed companies access to more stable markets for certified products. A lack of price premiums for certified products has been confirmed by some studies (Anderson, R.C., Laband, D.N., et al. 2005, Espinoza, O., Buehlmann, U., et al. 2012, Hubbard, S.S. and Bowe, S.A. 2005). One interviewee mentioned that, in one recent

meeting about forest products business in Bolivia, it was concluded that the drop in demand from European and US markets did not affect certificate holders as severely as other businesses.

LAND TENURE SECURITY

This was a common theme during the interviews, with most of the participants indicating that forest certification efforts are hampered by recent developments in land tenure conflicts; particularly, the higher frequency of illegal settlement on lands under forest management (Condori, I. 2012, Mendoza, L. 2012). The second principle of FSC certification requires forest managers to “to define, document and legally establish long-term tenure and use rights” (FSC 2013); thus this poses a particularly difficult situation for certificate holders or operators in the process of certification. Interviewees reported at least one company lost its certificate due in part to illegal occupation and another planning to certify was unable to continue due to illegal occupation of its concession.

MARKETS FOR CERTIFIED FOREST PRODUCTS

Forest certification systems are market-based, non-regulatory (i.e., voluntary) schemes to promote sustainable utilization of forest resources; therefore, their success depends on the promise of economic advantages to encourage adoption by industry participants. Such economic advantages can originate from (1) growing market demand for certified products, (2) the ability of producers to charge price premiums on certified or standard-conforming products, or (3) benefits from creating access to attractive markets at home or abroad, among other things (Espinoza, O., Buehlmann, U., et al. 2012). In Bolivia there is very little or no domestic demand for certified products, according to the companies interviewed for this study, thus certification is sought only by operations that sell, or intend to sell, to international markets, traditionally Europe and the U.S. During the growth of certification in Bolivia, the increases in certified area were accompanied by growth in the exports of certified products, with the latter growing six-fold in the 1999-2002 period (Duery, S. and Vlosky, R. 2005). This included not only unprocessed lumber, but also value-added products, such as millwork and flooring (Nebel, G., Quevedo, L., et al. 2005). One very large integrated timber company interviewed for this study stated that the main motivation for maintaining their certification is having a stable market for these products.

However, exports of Bolivian forest products declined significantly since 2010, falling 26% in 2011 and then again 19% in 2012 (INE 2013). For the first time, the department of Santa Cruz, which represents the majority of the timber products economic output, imported more timber products than it exported in 2012, mostly from Brazil (Bolpress 2012). This fall in exports is attributed by most to the U.S. and European economic downturn (Los Tiempos 2012). However, other reasons indicated by our industry participants are a tighter control by the ABT and an increased paperwork in the exporting process, which increases the price of timber sold in the domestic market and also makes exporting less attractive, thus producers prefer to sell internally. One interviewee stated that their company even sold unlabeled certified product domestically, since this was a more profitable option.

Although overall exports declined during the 2010-2012 period, it is also worth noting that there has been a shift in international markets for Bolivian timber products. Asia, and particularly China, has become a more important buyer of Bolivian timber products. Bolivian exports to China have increase more than 4,600% in the 2002-2011 period (Xinhua 2012). China buys mostly low-value added products, such as rough lumber, which it then uses to manufacture goods for domestic consumption but mostly to export to other markets, such as the Europe (Bolpress 2012). Regional markets have also grown in importance. Latin American has been experiencing a sustained growth during the last years, with an average growth in economic output of 4.1% per year in the 2005-2012 period (compare this with average growth in advanced economies, which averaged 1.4% during the same period; IMF 2013). Chile, Venezuela, Argentina were the most important regional markets for Bolivian timber products in 2012 (Los Tiempos 2012). According to industries interviewed for this study, this is relevant for certificate holders, since there is no demand for certified material in these markets, thus reducing the motivation for new certifications or for certificate holders to maintain their status.

Another factor affecting exports of Bolivian timber products, and particularly products carrying forest certification, is the construction boom that is taking place in Bolivia. The economic output from construction industry has grown at an average annual rate of 9.1% in the 2005-2012 period (INE 2013). This has increased domestic demand for wood products and consequently prices of timber and timber products (for example, the price for *ochoó*, a species commonly used in construction, has increased 2.5-fold in the 2006-2012 period; INE 2013). Companies that otherwise would have targeted exports markets, produce for the domestic market instead, which as mentioned before, does not require certification. It is expected that, as the construction industry decelerates, exports markets will become more attractive.

One last market factor which may act as an incentive for certification is the implementation of more stringent controls for illegally sourced timber, such as the Europe's Forest Law Enforcement, Governance and Trade, or FLEGT Action Plan (FLEGT 2012). The FLEGT program aims at excluding illegal timber from European markets. The basis for FLEGT's implementation is a voluntary agreement between the European Union (EU) and governments of exporting countries (known as Voluntary Partnership Agreements, or VPAs), by which a government agrees in ensuring that timber exported from its country complies with the country's laws (Carden, C., Wijers, R., et al. 2012). Only six countries have signed VPAs to this day, and another six are in negotiations; Bolivia is not part of either group. Another important component of FLEGT is that it requires importers to apply Due Diligence, which means providing access to information about the origin of the timber and implement a risk assessment procedure to evaluate the risk of timber coming from a specific country being illegally sourced; and also implement risk mitigation measures to keep the risk at a minimum. In the absence of a VPA between the EU and Bolivia, it is expected that FLEGT will encourage forest certification in the short term, as a certificate will most likely be accepted as Due Diligence system (Carden, C., Wijers, R., et al. 2012).

SUMMARY

After 20 years of forest certification, only 10% of the total global forest are is under some form of certification, most of it in temperate latitudes. Only 2% of tropical forests are certified. In Bolivia, a country regarded as a success story of tropical forest certification, the certified area never exceeded 7% of the total country's total forest area, and 4% of the potential productive forest. The country at one point held over 2 million hectares of certified forests, but this area has fallen dramatically during the last five years. As of May, 2013, the certified area was less than 900,000 hectares (FSC 2013). This project intended to uncover the reasons for the initial success of certification in Bolivia, and its subsequent weakening.

Different stakeholders for forest certification were interviewed for this research, and some major themes were identified: government support and international cooperation were critical in the implementation of forest certification in Bolivia. Particularly, a regulatory framework and strong enforcement were conducive to compliance with forest certification principles. Major benefits identified by interviewees were the improvement in the standard of living and work conditions of timber-reliant communities, the improvement in the prestige of the forest products sector, and access to better markets for certified products. Participants identified land tenure insecurity and a lack of markets for certified products (and the existence of more profitable markets for timber products) as major impediments for certification.

Forest certification was conceived as a market-based approach to ensure the sustainable use of forests, from a social, economic, and environmental perspective. However, great part of the support for certification in Bolivia came from non-private sources, which calls into question the premise that forest certification is a market-based approach.

Given that deforestation in Bolivia is caused by land use change, namely mechanized agriculture, small-scale agriculture, and cattle pasture (Müller, R., Pistorius, T., et al. 2013), it is unlikely that certification will have a significant impact in reducing deforestation. Policy instruments and strong enforcement of land laws are required to address these issues.



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