

# Forest Certification in Bolivia

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## **ABSTRACT**

Forest certification has been widely adopted by Bolivian stakeholders. More than one million hectares have been certified, of which 95% belong to large timber firms. One of every 12 certificates corresponds to a community-based management plan. The new Forestry Law of 1997 and its regulations, national dependency on foreign exports, and national and international support of forest management and certification together facilitated the development of forest certification in Bolivia. Several benefits are apparent from certification: improved forest management practices in the field, reduction of social conflicts among timber companies and local communities, maintenance of existing markets or access to new ones, reduced forestry oversight costs for state agencies, and support of the new Forestry Law and its norms. The promotion of community participation in Bolivia's forest management and certification processes is needed.

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## I. INTRODUCTION

Acceptable forest management practices are essential for forest certification. This is what the new Bolivia Forestry Law has promoted since its promulgation in 1996. The new law democratized stakeholders' access rights on forested lands for commercial objectives, created forest management norms, and minimized overlapping rights among stakeholders. In addition, the law improved the national forest administration, established clear rules for forest managers (Quevedo 1998), and enforced the adoption of management practices among concessionaries (Boscolo *et al.* 2002). In short, the new Forestry Law prepared companies and landowners for certification standards by building a solid legal, technical, and administrative forestry platform.

Under Bolivia's former Forestry Law the use of the forest for commercial purpose was virtually monopolized by large logging firms. Today, in addition to timber companies, indigenous people, local communities, and landowners have the right to access productive forests. Under the old law, timber companies paid by volume harvested, a practice that facilitated the accumulation of large landholdings by only a few owners and led to corruption. The former law allowed timber companies to hold large areas, which promoted selective harvesting of the Bolivia's most valuable species; namely, mahogany. In July of 1997 the Forest Superintendence granted 5.47 million hectares of forest land to timber companies (Superintendencia Forestal 1997), out of 22 million hectares that they had originally owned. This reduction of the possession of large areas meant that new social actors could access the forest for commercial objectives, but left millions of hectares in limbo.

When forest managers fulfill national forest management regulations they meet several certification requirements (Nevel *et al.* 2003, Contreras-Hermosilla and Vargas Ríos 2001, Jack 1999). Certification is indeed a result of a process promoted by the new Forestry Law (Prisma 2000). However, it is fair to say that fulfilling Forestry Law requirements does not necessarily mean a compromise with sustainable forest management or the successful completion of a certification evaluation.

The new Forestry Law discourages selective harvesting and forces forest managers to seek new species and markets. According to Jack (1999), here is where we can find one of the connections between the new forestry regime and certification: the search for green markets for non-traditional species. Firms must pay by area instead of by harvested volume and are forced to intensify land use and capital (Bojanic 2001). Recently this payment system was modified further: firms now pay only for the area that effectively intervenes each year, i.e the annual cut area. This new payment system has reduced the amount of fees paid for the Forest Superintendence and municipalities, but it appears to have economically revitalized forest industries, many of which are in crisis.

The new Forestry Law was not the only factor leading to changes in forest management in Bolivia: there was also a massive institutional movement that led Bolivia toward improved forest management and certification. More than one million hectares of Bolivia's forest land is certified under the Forest Stewardship Council (FSC) system.

There is a wide commitment among stakeholders to support certification, especially among large firms, although community-based forest management still needs to be promoted. Finally, the lack of adoption of the Criteria and Indicators system for sustainable management facilitated the introduction of the FSC system.

In 1997 the Bolivian political environment was ripe for forest certification; since the beginning of the process certification received enough support from national organizations, including the government. International aid from government agencies as well as from non-governmental organizations (NGOs), played a significant role in the capacity building of forest management and certification. The FSC Bolivian national initiative received enough support from most stakeholders, including Bolivia's government and national and international NGOs.

This chapter analyzes these dynamics in the following steps: I will first discuss the background factors that led to forest certification in Bolivia. I will then describe how certification emerged and stakeholder reactions to its development. Finally, I will analyze the effects of certification in Bolivia, namely power, social, environmental and economic aspects, and end with general conclusions.

## II. BACKGROUND FACTORS

### Ownership and Tenure

Bolivia has a total land area of 1,095,581 km<sup>2</sup>. Of this area, 50% is natural forest of the tropical lowlands (Castello and Roca 2002). Forest management occurs mainly in the tropics. Here, seven forest regions are used for timber production: Amazon, Choré, Preandino-amazónico, Bajo Paraguá, Guarayos, Chiquitanía and Chaco; the Amazon is the region with the highest volume per hectare (Dauber *et al.* 1999). The productive forests represent about 41 million hectares, 28 million hectares of which do not have any land-use restrictions for harvesting (Castello and Roca 2002).

In Bolivia, all natural forest belongs to the government; the government grants commercial harvesting rights to four main groups in accordance with the Forestry Law (Table 1). All groups are required to have a forest management plan that is approved by the Forest Superintendence.

**Table 1.** Forest Bolivian rights granted (December 2002)

Type of right	Quantity	Area (ha)
Forest concessionaries	86	5.399.253
Local Social Associations	16	429.697
Private and communal lands	584	544.387
Indigenous Lands (TCO)	21	559.201
Long-term contracts	1	112.000
Total	708	7.044.538

Source: Forest Superintendence (2003)

### *Forest Concessionaries and Timber Industry*

This sector includes logging companies, with an average area of 60,000 hectares per concession. Concessionaries have contracts with the government for 40 years, renewable every five years after a technical audit. If the operation is certified by the international system (such as FSC), it does not need to pass a government audit and contract renewal occurs automatically.

With the advent of the new forestry regime, all former long-term harvesting contracts could choose to be automatically converted to the system of forest concessions or to keep their contract as granted by old forestry law. Long-term contracts provided the legal means to grant rights to those industries that preferred not to use the concession scheme. Today there is only one long-term contact (Table 1). New concessions are supposed to be granted by international auction (although none has occurred yet).

In general, forest concessionaries are vertically integrated and carry out all of their chain management and industrial processes: forest management, logging, primary and secondary transformation, and national and international commercialization. However, the timber industry is poorly diversified; most timber products are solid wood (Castello and Roca 2002). The timber industry produces furniture, flooring, laminate and other products (*madera aserrada, láminas y contrachapado, tableros reconstruidos, muebles and parkets*).

The secondary transformation of timber is essentially concentrated in this forest sector, as firms have more financial resources, technology and experience. With the exception of one, all companies are locals. Most timber companies belong to the *Camara Forestal de Bolivia-CFB*, or Bolivian Forestry Chamber.

### *Asociaciones Sociales del Lugar (ASLs), or Local Social Associations*

ASLs have an average management area of 27,000 hectares. The Forest Superintendence grants concessions to them for 40 years, under the same regulations followed by timber companies. These concessions are given to local people (i.e. that effectively live on site) without auction as long as they meet the requirements for ASLs. According to the new law, local people from any municipality may request up to 20% of the public land of the local municipality, so long as they are organized as an ASL.

To create an ASL it is necessary to have at least 20 members, all of whom must be local residents of at least five years. This idea was developed in order to provide local communities with land management opportunities; unfortunately few have used this privilege because of a lack of information, resources and/or capacities. Indeed, most ASL concessions have been granted to former local loggers, who have better organization capacity, logging knowledge, and resources. Despite these capacities, however, loggers show a lack of consolidation as enterprises; they need to improve their administrative and financial management skills, and develop a participatory mechanism (Certificación

Forestal 2000). In general, ASLs produce saw timber and sell it to local markets. Many ASLs are inactive or need to develop more efficient organizational management systems. This explains in part why lands managed by ASLs are not certified.

### *Private and Communal Lands*

Private and communal lands belong to groups or individuals that have either purchased lands outright or have acquired them free from the national government. Since it is easier for small landowners to follow Forestry Law regulations, areas less than 200 hectares in size typically have a forest management plan (86% of plans are for areas less than 200 ha, 14% of plans are areas greater than 200 ha). In general, these landowners produce saw timber and sell to local markets.

### *Indigenous Lands*

Indigenous lands belong to the so-called *Tierras Comunitarias de Origen* (TCO, Originally Community Lands), and were legally granted to indigenous peoples by the Bolivian government. These lands are considered private lands, and are legally equivalent to other forms of land tenure recognized by the Bolivian constitution. Although most Bolivian people are indigenous, all lands originally belong to the Bolivian State and it is the government who grants land rights to indigenous and non-indigenous people. To constitute a TCO, i.e. for land to be recognized as “indigenous land”, the community must demonstrate its traditional right to that land. The process generally takes years and is characterized by conflicts with other private rights or land interests, and overlapping ownership rights. A good example of these conflicts is the TCO Monteverde, which lives in permanent conflict with ranchers that claim rights over portions of the land inside the TCO. Most TCOs hold large areas and it is difficult for them to protect their lands or simply to be free of conflicts because of previous land settlements. There are currently 51 indigenous land claims for 17,495,677 hectares, but since July 2003 only 3,330,493 hectares have been legally defined as TCO lands (Cronkleton and Albornoz 2004)

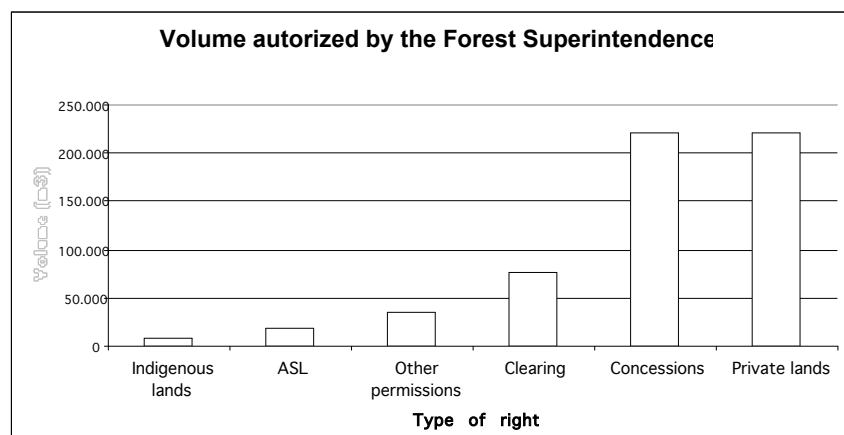
On average, approved community-based plans cover 26,000 hectares, which does not reflect the total area of TCO lands. Despite the traditional knowledge of indigenous people regarding natural forests, today this sector probably has the most difficulty in implementing long-term commercial forest management plans. This is largely due to its lack of experience in business administration and wood technology, and lack of capital. However, indigenous lands are a great potential for forest management because of the size of indigenous territories. Like ASLs and private and communal lands, TCOs mainly produce saw timber and sell to local markets.

Of all of these actors, timber companies are best prepared for certification because of their experience in timber harvesting, wood processing, and commercialization, as well as their access to capital. Since certification is directly connected to international markets, large firms are most interested in certification. Although they face several limitations, community-based initiatives present a great potential for forest management and certification, largely due to large indigenous forest holdings.

## Markets

The Bolivian forest sector represents only 3% of the Gross Internal Production but 11% of foreign exports (STCP 2000). About 50% of the industry's productivity is exports-related, which is why certification has been extremely welcomed by the timber industry. In 2002 the Forest Superintendence authorized an allowable cut of 581.782 m<sup>3</sup> (see Figure 1 for authorization by stakeholder), but Castello and Roca (2002) indicate that in actuality 1.1 million m<sup>3</sup> of timber is cut each year. The difference may be explained by illegal harvesting.

Figure 1. Volume authorized by the Forest Superintendence in 2002, by stakeholder



Source: Superintendencia Forestal (2003)

According to CFB (2003), in 2002 exported forest products included Brazil Nuts (US\$ 28 million), board (\$20.3 million), doors (US\$ 13 million), chairs (US\$ 4.4 million), furniture (US\$ 3 million). A total of 45 species were exported. The main species were: *Cedrela* (US\$ 11.3 million), *Swietenia macrophylla* (US\$ 8.3 million), *Amburana cearensis* (US\$ 8.14 million), *Cedrelinga catenaeformis* (US\$ 6 million). Other important species were *Cariniana* spp, *Machaerium* sp, *Hura crepitans* and *Ficus* spp. The main markets were USA (US\$ 42.6 million), UK (US\$ 15.6 million), México (US\$ 6.6 million), Chile (US\$ 3.43 million) and The Netherlands (US\$ 2.3 million). Other significant markets included Germany, Italy, France, Perú and Argentina.

The dependence on foreign exports and the presence of an environmentally-sensitive market have together contributed to the certification boom in Bolivia. According to the manager of La Chonta concession, a certified operation, forest certification is an opportunity for the Bolivian timber industry but it is not truly voluntary because it has been imposed by the current international green-labeling trend (Antelo 2000). Following this same view, STCP (2000) considers that in the medium-term, certification will be a basic requirement (not an option) for accessing environmentally-sensitive markets such as the United Kingdom, The Netherlands, and Germany. Although the green market plays an influential role, Jack (1999) reminds us that certification was

developed not only by the market, but also by the support of national organizations and the new Bolivian forestry law.

Forest products exports are presented in Table 2. In 2002 a total volume of 63.574 m<sup>3</sup> was exported, the equivalent of US\$ 88.2 million.

Table 2. Bolivian forest products exportation (in US\$) for 2000, 2001, and 2002

Type of product	Year 2000	Year 2001	Year 2002
Raw material	24.753.487	21.158.814	20.622.482
Elaborated	69.058.949	59.844.610	58.348.552
Semi elaborated	25.730.323	4.784.854	8.557.392
Pre-primary and non timber products	380.120	164.251	696.298
Total	119.922.878	85.953.529	88.224.724

Source: CFB (2003)

According to Carden (2003), the market is not a problem to the Bolivian forest industry, but rather, internal deficiencies such as a lack of communication links between potential buyers and producers, the lack of logging contractors to harvest and saw trunks, unpublished information about the availability of species and volume, illegal harvesting, old transformation equipment that is poorly maintained and generally underutilized, the lack of financial liquidity and access to financing, and finally, traditional non-professional family-based firm administrations. Similarly, Sainz (1999) identifies the following limitations to timber company exports: inconsistency of product quality, insufficient capacity to respond to sub-contracting orders, and low industrial efficiency.

Sacre (2002) concurs with Carden regarding market issues, and claims that Bolivia has a large potential to access new markets and expand current markets, but its timber industry also needs to focus on valued-added certified products. Here, certification offers an opportunity for small carpenters who could take advantage of the green market (Viehbeck 1999).

### III. THE EMERGENCE OF FOREST CERTIFICATION

#### Initial Support

At the beginning of 1990, a series of events occurred that made the environment appropriate for forest management and certification:

1989: The first attempt to implement a reduced-impact logging effort was carried out in the Chore Reserve by the SENMA/BID Project, with the introduction of census, marking, and mapping of harvested trees. The census practice was later consolidated by Bolfor Project.

1993: WWF established a field office with a large focus on forest management training. This initiative has led to a Program Office, which supports community certification.

1994: A Bolfor forest project was funded, which aims to provide technical assistance, research and training for forest management.

1994: A national workshop decided to implement the certification process under FSC Principles and Criteria.

1995: CFV (the Bolivian Council for Voluntary Forest Certification) was officially established.

1996: Bolivia's new Forestry Law was sanctioned.

1996: The CIMAR/SmartWood certification program was created, which seeks to develop local capacities, promote certification among timber industries and local communities, and reduce certification costs (Saravia and Peña 1999). This program, together with CFV, implemented a series of workshops on certification throughout Bolivia.

1997: A strong Forest Superintendence was created and replaced the old and inefficient forest service. National forest management regulations were established, in coordination with the Bolfor Project.

1999: CADEFOR (*Centro Amazónico de Desarrollo Forestal* or Forestry Development Amazon Center) was created with Bolfor's support.

Other initiatives that contributed to improved forest management were: PROMAB, a Dutch forestry project; Panfor, supported by Bolfor and ITTO and based in the Amazon; FTTP/CERES; CIAT; MHNNKM; APCPB, CIDOB, SNV, and others.

There were also efforts, mainly in the form of government initiatives, to adopt the Tarapoto Criteria and Indicators Proposal for the Amazon, and similarly the International Tropical Timber Organization (ITTO), before the emergence of the FSC certification system. These standards were never implemented in the field. Stakeholders decided to adopt the FSC scheme because it was a market-based approach to certification that seemed to be accepted by most consumers in the Northern hemisphere.

Certification first emerged with the implementation of the Bolfor Project, a USAID/Bolivian government project. The Bolfor Project began in February of 1994, when USAID signed a contract with a consortium of actors that included Chemonics International and the subcontractors Tropical Research and Development (TRD), Conservation International (CI) and Wildlife Conservation Society (WCS). Bolfor's goals were to reduce the degradation of forest, soil, and water resources and to protect the biodiversity of Bolivia's forests; its purpose was to build Bolivian public and private sector capacity to develop and support sustainable forest use programs.

In 1994, Bolfor hired Richard Donovan as a consultant to develop strategic options for initiating voluntary forest certification in Bolivia. Donovan recommended that Bolfor begin the certification process under the FSC scheme. On October 11<sup>th</sup> of that same year, Bolfor organized a broad national workshop to discuss the need of a forest certification process. Sixty-five people attended the meeting and represented the different interests, including government, timber industry, environmentalists, NGOs, indigenous groups, and academics; all agreed to support a national initiative under the FSC system. A working group was immediately formed. The next year the *Consejo Boliviano para la Certificación Forestal Voluntaria* (CFV, or The Bolivian Council for Voluntary Forest Certification) was legally established as an NGO, and began focusing its attention on promoting certification and developing standards for forest management and brazil nuts in particular<sup>1</sup>. Today, many of the CFV founding members actively participate in the national and international FSC dialogue.

It is interesting to note that, while the national government promoted certification it never attempted to interfere or control the process. It was clear to government officials from the beginning that forest certification was a voluntary process, one that's success depended on its transparency, credibility, and independence from the government sphere. Bolfor's officers were responsible for clarifying the government's role in certification to high-level government officials, and for communicating the objectives and benefits of certification, all of which were easily understood.

At the onset of certification, however, it was necessary to address a lack of interest among the industrial forest companies, led by the CFB, which saw certification as a maneuver of NGOs, ecologists and northern conservationists and a roadblock to their commercial interests. Despite industry concerns, the certification process continued its course in Bolivia, along with the international process which convinced some markets to give preference to certified products. Although the timber industry did not initially trust certification, it did not boycott the effort; it was easier to talk and discuss with individual members of the CFB than with its employees. Time passed and as the benefits of certification became apparent – specifically that it was not a “trap” and that it was a feasible goal that did not necessitate tremendous efforts - more firms engaged in the process, including the CFB itself. By this point, all doors were open to certification, a phenomenon that led Bolivia to be the world's first country with certified tropical natural forests.

The CFV follows a similar structure to that of the FSC: a board of directors represents three chambers (environmental, social and economic), and consists of a diverse member group that represents different interests. CFV was endorsed by FSC in January 1998 as a national initiative. In general, it successfully raised significant funds; the main donors were Bolfor I (Chemonics / USAID), Bolfor II (TNC / USAID), the McArthur Foundation, the Alton Jones Foundation, WWF, FSC, and GTZ. The objectives of the CFV are to:

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<sup>1</sup> For a full review of the CFV process see Jack 1999.

- guarantee the credibility of the voluntary forest certification process;
- Enforce the application of forest certification principles;
- act on conflict resolution and interpret certification rules;
- promote forest certification at the national and international levels; and
- link the national and international certification efforts and initiatives.

CFV was the first FSC national initiative in Latin America. This meant advantages as well as disadvantages. International attention throughout CFV's development allowed it to obtain financial support with relative ease; however, FSC's lack of experience in dealing with national initiatives and standards development translated into inadequate guidance and slowed development.

It is clear that high internal and external interest in forest certification existed in the 1990s. We could be tempted to attribute it to Bolivia's new forestry law, but the process started several years before its promulgation. The real interest was actually in sustainable forest management, which was probably cultivated by the wide, participatory, national discussion about a new forestry law that started in 1992. The public wanted better use and management of the natural forests - this has probably attracted the international cooperation. Certification itself resulted from this effort to improve forest management practices.

### **Institutional Design**

One of the immediate tasks of the CFV was the development of Bolivia's national forest certification standards. Technical committees were created by CFV to develop national standards for forest management, and later, a separate standard for brazil nuts. Both committees consisted of experts and represented social, economic, and environmental interests.

Most likely, the participative process for developing the national standards attracted the attention of many stakeholders, who viewed the process as an open, equilibrated, and transparent forum with which to discuss forest issues. Such a forum is difficult to find in the private, NGO, or governmental spheres.

For the first time, several and opposed interests came to the same table to openly and friendly discuss forest management concerns, with the clear aim of reaching a consensus. As a result, the approved standards were fully accepted by stakeholders and were effectively implemented in the field. Another factor that sped the certification process was the number of educational courses on certification and chain-of-custody, as well as a series of workshops directed by CFV and SmartWood that promoted certification among forest companies, the social sector, and foresters.

### **Standards**

The technical committee for standards development was established in December of comprised by well known, respected individuals from the environmental, social and

economic chambers. By this time, the CFB was not yet convinced yet about the certification process; it refused to collaborate but did not prohibit its members from doing so.

Four key principles were identified in order to guide the Bolivian standard: the principle of legality of operations, the principle of gradualism in achieving sustainable forest management, the principle of the precautionary approach, and the principle of the use of the best available technology (CFV 2000). The only true controversial issue regarded indigenous, forest workers, and concessionaries rights; in the end, agreements were reached. The success of the process was assured by the group's flexibility. In addition, individual players were not seeking personal gains but rather supported the certification initiative (Jack 1999). According to Nittler and Cordero (1995), the main debate among the standards working group consisted of the following questions:

- Should the standards “impose” or “promote” forest management?
- How detailed should the standards be, and when and how may the certifiers use their own criteria during evaluations?
- How to deal with land tenure and community rights?

The standards-setting process can be essentially characterized as follows: (a) the technical committee prepared several drafts, (b) the drafts were widely distributed among national and regional stakeholders, (c) the technical committee considered the stakeholder's recommendations and prepared a new draft which was again distributed among the stakeholders, (d) more drafts were prepared by the technical committee and finally submitted to the CFV Board of Directors, and finally (e) The CFV Board of Directors approved the final version and submitted it to FSC for its endorsement. The consultation process involved a series of workshops and consultations among approximately 450 stakeholders, and ended with a field test. The standards were finally endorsed by the FSC in January of 1999<sup>2</sup>.

CFV's and FSC's lack of experience in national standards development delayed the process since no guidelines were available. For example, the working group developed indicators without correlating them with each FSC principle and criteria; the group did, however, respond to each. A reorganization of the indicators was done by FSC request. Additionally, at the beginning of the process the indicators were so specific they appeared to be management prescriptions that were not flexible enough to allow maneuvering by certifiers or forest managers. This approach was most criticized by reviewers and was later corrected. Jack (1999) summarizes the factors that led to a consensus during the standards development of the working group:

- a neutral facilitator, which created an adequate atmosphere;
- the existence of FSC Principles and Criteria, which clarified what could be done and what could not, i.e. it delimited the arena for the players;

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<sup>2</sup> For a full review of the standards process see Jack (1999).

- the participation of scientists, immune to potential twisted interests;
- the fact that Bolfor and CFV provided a neutral environment for participants;
- the understanding that ultimately, certification will benefit all;
- minimal confrontation because of professionalism among the participants; and
- all the participants accepted the challenge to try to understand their colleague's point of view.

The implementation of the Bolivian FSC standard was relatively easy for forest management operators, who followed their forest management plan approved by the Forest Superintendence. According to the general manager of La Chonta Concession "certification is not difficult to reach if managers fulfill the new Forestry Law norms" (Antelo 2000). The main difference between both norms is the social component, which is not included in government regulations - this is probably why this sector became very interested in certification since the beginning. Some other key requirements of the certification standard and possible conflicts, compared to the governmental norms, are: wildlife protection, forest damage reduction, road construction planning and maintenance, conflict management, forest protection, training, waste management, and accounting.

One issue that remains unsolved is FSC Principle 9 regarding High Conservation Value Forests (HCVF), which apparently will require much effort from managers to identify and manage. The first attempt to deal with this issue was a study by Rumiz *et al.* (2001), which proposed indicators for the national certification standard. The study recognized the complexity of Principle 9, particularly that it might cause positive and negative effects on certification in Bolivia. The implications were: (a) higher management and certification costs, (b) the dilemma of strict protection or forest management, (c) the need for social research, local consultation, and land claims, and (d) the identification of biological and social HCVF attributes. Based on this report and further discussions, the CFV proposed a set of indicators to the FSC. Today CFV is currently implementing another study financed by The Netherlands, which aims to identify HCVF and their attributes.

After five years of implementation, the Bolivian standard has been reviewed, adjusted and harmonized by the CFV Board of Directors in 2004; they are currently under FSC consideration.

### **Forestry Problems**

Like with most developing countries, the Bolivian forestry sector faced a lot of difficulties with respect to forest certification, many of which were associated with the country's economic and social issues. Illegal logging was uncontrolled because of the weakness of the Forest Service, the existence of corruption, and a lack of authority. Deforestation was another threat to forest conservation because of shifting cultivation and agro industry: the national rate of deforestation is about 270,000 hectares per year (Rojas *et al.* 2003); Santa Cruz Department is most affected by human activities, with 203,400 hectares deforested each year (Camacho *et al.* 2001).

On the other hand, the absence of sustainable forest management was the rule, characterized as being highly selective creaming-off logging (Nevel et al. 2003) and concentrating on a few valuable species (*Swietenia macrophylla*, *Cedrela* spp, and *Amburana cearensis*). Although forest management was clearly defined and demanded by former Forestry Law, sustainable forest management plans were not implemented under the former regime (Superintendencia Forestal 1997). International markets play a role in high-grading the most valuable species, since these markets are oriented to few valuable timber species which are now scarce.

Only timber companies were allowed access to forest land, and held 22,000 million hectares under long-term contracts (Stolz and Quevedo 1992). This inequity caused several social conflicts since other stakeholders could not access the forest for commercial purposes. The lack of serious management, corruption in the public and private forestry sectors, and inequity brought a lack of credibility to the forestry sector. In part because of this, loggers were blamed for all forest destruction and earned a very poor reputation.

In general, certification has directly and indirectly helped to solve or reduce several problems, including illegal logging in forest management plan units, hunting, markets, lack of forestry sector credibility, and social conflicts.

### **Roadblocks and Challenges**

Certification in Bolivia faced some roadblocks, but not many. The primary obstacle was opposition from industrial forest companies, which did not trust certification and perceived it as a “trap.” For example, when the CFV and the Forest Foundation Trust once organized a meeting among Bolivian forest producers and international certified timber product buyers, the CFB refused to participate, arguing that certification was “another barrier” for their business. The CFB systematically refused to participate in certification activities.

Another challenge was the lack of experience in certification and field forest management. The CFV was the first national initiative in the South; without a prototype, the working group learned by experience. For example, because it was unclear how to prepare the national standard, it took several years to write and submit for endorsement by FSC. In addition, although environmentalists and foresters usually belonged to the same chamber, they did not always agree on management issues since they were both learning real forest management. Despite these challenges, the CFV standard was the first endorsed by FSC for the tropics.

## **IV. THE REACTION TO CERTIFICATION**

### **Forest Policy Community and Stakeholders**

Certification was generally supported by most stakeholders, except the timber industry, which initially did not trust the process. At the beginning few timber industries, such as “La Chonta” and “CIMAL/IMR”, became interested in the new niche for certified timber products within the international market and decided to certify their operations and to explore the new market opportunity; this was a complete success. “Tarumá” was another leading firm in certification, but later lost its certificate. Firms not interested at all in responsible management opposed certification and advocated against the new Forestry Law. This attitude still exists for part of the forestry sector.

I, the author of this paper, worked in 1997 for the new Forest Superintendence and witnessed a dramatic change in one of the largest companies and their attitude toward certification. One day the chief forester of the company visited me and asked me to replace his management plan, which he had presented to the Forest Superintendence a few weeks before, within the deadline imposed by the Forestry Law. Since the plan was also a legal document and was already under revision, it was not easy to replace it. However, his argument was very convincing: the company had contacted a client in United Kingdom, who offered to buy all of the company’s garden furniture production but only if the product was certified. Within six months, this company transformed its traditional harvesting scheme to one very efficient and later certified by FSC; the company was only missing the market signal, its local capacity was ready to respond. Examples like this were enough to excite the interest of the forest industry community in certification. Later, most forest companies became the best allies of certification. When it was clear that certification was driven by the international market, which offered better conditions and preferences for certified products, the CFB adopted certification as an institutional policy. Today, 25% of the forest management area in Bolivia is certified, and a similar proportion is expected to be certified in the next one to two years. This expectation implies that Bolivia will have certified about 50% of its management area within the next couple of years.

Doubts about the forest certification process also existed outside the forest industry sector; some stakeholders from civil society suspected that certification was a northern plan to control the world’s rain forests. However, when Bolivia’s logging companies adopted certification, most doubts disappeared. The national government unified its commitment with certification since it increased its image inside and outside the country.

Community forests and indigenous people were also interested in certification, although the process is clearly dominated by industrial forest companies. In terms of forest management capacity and political influence, the social sector is the weakest in the certification process and timber companies the strongest.

Along with other efforts to promote community participation in certification, the “Green Label Project” was implemented by SNV and *Central Indígena del Oriente Boliviano* (CIDOB, or Bolivian Eastern Indigenous Center) and financed by The Netherlands; the project’s second phase was carried out by HIVOS (Semo 1999). The Green Label Project worked in coordination with the national certification process and

had representatives at CFV and the standards technical committee. Despite its efforts, the Green Label Project was not able to add community-based initiatives to certification; its merit lies in its ability to educate communities about the benefits of certification and to show them the road to forest management.

Similarly, since 1999 Bolivia-World Wildlife Fund (WWF) has managed a fund supported by Sweden to finance technical assistance and certification for community-based forest operations in Latin America (Pierront 1999).

### Current Status of Forestland Certification

Forest certification in Bolivia has grown very fast since 1998 (Nevel *et al.* 2002); the country currently has 12 certified forest operations, totaling 1,169,994 hectares (Table 3) and 17 chain-of-custody operations (Table 4). Five forest management operations are currently involved in the certification process (Table 5), all through SmartWood. Two operations have lost their certificate; one has been temporarily suspended.

**Table 3.** Certified management operations in Bolivia (April 2004)

Firm	Type of right	Location	Area (ha)
Aserradero San Martín Concesión Cinma San Martín	Concession	Santa Cruz	119.200,00
Aserradero San Martín S.R.L. Concesión Cinma Pando	Concession	Santa Cruz	166.228,00
CIMAL/IMR Ltda. Concesión Guarayos	Concession	Santa Cruz	181.750,00
CIMAL/IMR Ltda. Concesión Marabol	Concession	Santa Cruz	75.500,00
CIMAL/IMR Ltda. Concesión Velasco	Concession	Santa Cruz	154.494,77
Empresa Agroindustrial La Chonta Ltda. Concesión La Chonta	Concession	Santa Cruz	100.000,00
Empresa Agroindustrial La Chonta Ltda. Concesión Lago Rey	Concession	Santa Cruz	120.000,00
Indusmar S.R.L. Concesión Selva Negra	Concession	Cochabamba	67.402,00
Industria Maderera Pando S.A. (IMAPA)	Concession	Cobija	38.000,00
INPA Parket S.R.L. - Propiedad Amazonic	Private	Santa Cruz	29.952,00
Sagusa Pando S.R.L. (Concesión Sagusa Pando)	Concession	Cobija	66.060,06
Territorio Comunitario de Origen - Yuqui	Community	Cochabamba	51.390
Total			1,169,994

SmartWood (2004)

**Table 4.** Chain-of-custody certified firms in Bolivia (April 2004)

Firm	Place
Bolivian Forest Saver S.R.L.	Santa Cruz
Carpintería Don Fernando S.R.L.	Santa Cruz
CIMAL/IMR Ltda. División Industrial	Santa Cruz
CIMAL/IMR Ltda. División Muebles	Santa Cruz
Empresa Agroindustrial La Chonta Ltda.	Santa Cruz
Forestal Agroindustrial Pacahuaras S.A.	Beni
INPA PARKET LTDA	Santa Cruz
Jolyka Bolivia S.R.L.	Cochabamba

Maderera Boliviana Etienne S.A. (MABET S.A.)	La Paz
Martínez Ultra Tech Doors Ltda.	Cochabamba
Sociedad Boliviana Maderera S.R.L. (SOBOLMA)	Santa Cruz
Taller Artesanal Bolivia	Santa Cruz
Taller Artesanal Hermanos Guasase	Santa Cruz
Tecnocarpinteria Amazonas S.R.L.	Santa Cruz
Tecnocarpinteria San Pedro S.R.L.	Santa Cruz
United Furniture Industries Bolivia S.A.	La Paz

Data provide by SmartWood-Bolivia

**Table 5.** Bolivian forest management operations in certification process (April 2004)

Firm	Type of right	Location	Area (ha)
Aserradero San Pedro S.R.L.	Concession	Santa Cruz	17.000
Cimagro Pando S.R.L.	Concession	Santa Cruz	365.122
Complejo Industrial Maderero San José Ltda. (Concesión San José)	Concession	La Paz	60.000
Industria Forestal Cachuela S.A.	Concession	Santa Cruz	244.488
Empresa Proinsa	Concession	La Paz	96.550
Total			783.160

Data provide by SmartWood-Bolivia

As it can be seen, there is only one community-based certified plan in Bolivia. Despite the nation's certification achievement, it is clear that community initiatives need to be improved or certified markets will be monopolized by big firms, and *equity* – one of the fundamental goals of FSC - will be jeopardized (Nevel *et al.* 2003). Certification is concentrated on the largest, most capable and better organized forest companies, which have used their capacities to benefit from certification. The question is, how small producers and community-based initiatives, with little capacity for forest management, will be certificated?

### Current Status of the Certified Marketplace

Since Bolivia's timber industry is vertically integrated, most companies utilize their own production. All certified products are sold; the supply of certified products is not sufficient to meet buyers' demand. Industries without certified forests are forced to mix 70% of certified wood and 30% of non-certified wood, as allowed by FSC (Jorge Versalovich, Jolika, 2004). Others with forest concessions seek additional certified supplies because their international buyers demand more than they can produce in their own forests (Alberto Arce, CIMAL/IMR, personal communication). By 2002, the total annual allowable cut volume was 366,000 m<sup>3</sup>, from a total cup of 34,000 hectares (Nevel *et al.* 2003).

Within the last five years the Bolivian industry has been affected by a general crisis, the timber industry not an exception. However, it has been clear that certified

companies were able to more easily deal with the crisis by maintaining or creating new markets, and by improving their internal administrative and management systems (Pablo Antelo, La Chonta, personal communication). These certified firms showed others that forest management was possible, and even profitable, during crisis. While timber exportation has declined in the last years, sales of certified products increase each year (Figure 2).

Figure 2. Bolivian annual exportation of certified products



Source: CFB (2003)

## V. EFFECTS OF CERTIFICATION

Forest certification was implemented to promote sustainable forest management and to serve as an incentive for forest industry and social stakeholders that were expected to participate in the future of commercial forest use. Certification succeeded, and helped to solve or at least minimize many problems by promoting the implementation of real forest management in the field. As a result:

Certified companies more efficiently control their concessions, and illegal logging is controlled, at least within the certified forest management unit. However, according to Nevel *et al.* (2003) forest certification is expected to have little impact on reducing deforestation outside forest management units.

Less control is needed by the Forest Superintendence for certified timber companies, since certifiers systematically verify the field management activities of forest managers and operators.

Rare species and wildlife are better protected, since hunting is not allowed on certified forest lands, except in justified cases regarding indigenous people.

Sustainable forest management practices have been improved, although some local ecologists and silviculturalists now demand further progress towards sustainability, through the adoption of various silvicultural practices (see Fredericksen *et al.* 2003).

Certified companies now have improved access to international markets, and more lesser-known species are being introduced into the marketplace.

Credibility has increased, at least for certified companies (Nevel *et al.* 2003). In general, the forestry sector has a better reputation than 10 years ago.

Better communication among timber companies and social stakeholders has developed, and social conflicts in the field have decreased.

### **Power**

At the national level, the best impact of certification was to improve the image of the forestry sector in general and of the forest industry in particular. Certification ensured that timber harvesting could be done in a proper way, thereby satisfying a wide range of stakeholders. Since the new Forestry Law, previous critics of logging companies and forest certification are now defendants of those they once attacked. These critics included foresters and environmentalists who demanded sustainable forest management practices from logging companies. Since many foresters worked for logging companies, they frequently engaged in fierce debates.

Once sustainable practices were achieved by several timber companies, there was no longer a reason to attack loggers, except to support them in order to keep the system working. Although it is probable that not all forest management plans are well implemented, the public expects that the Forest Superintendence will supervise those companies and will ultimately enforce sustainable forest management.

Gradually, the forest sector was heard at the political level, not only because of its economic power but also because of its new achievement in forest management. With acknowledged credibility, certified operations received more attention from the national government, NGOs, and the international community. Banks are more willing to give loans to certified firms. Today the CFB manages a fund to finance certification, supported by the Sweden Agency for Cooperation (ASDI). The goal of the fund is to raise US\$ 250,000, in order to finance 100% of the scoping and 50% of the final evaluation of any forest management operation affiliated to the CFB. It has a board of directors, consisting of three members from the CFB and one from CFV (CFV 2003a). In essence, Bolivia's timber industry gained credibility through forest certification and became more pro-management. It is not clear if certification has affected the balance of power among industry, community and indigenous groups, except where timber industry has consolidated its own green markets.

All actors, including government, NGOs, foresters, and forest companies, are proud of the national certification achievement. In 2002 the CFB received the prize "Gift

to the Earth” given by WWF, which internationalized Bolivian achievement in forest certification. The national government, recognizing the importance of sustainable forest management, has sanctioned a decree ordering all public construction to use only timber originating from sustainably managed sources.

Finally, the international community has effectively supported sustainable forest management and certification. The main supporters are USAID, The Netherlands, Germany, Sweden, United Kingdom, Switzerland, FAO, ITTO, DANIDA, SNV, the McArthur Foundation, the Alton Jones Foundation, WWF, and FSC.

## Social

Community-based forest management is more complex than that carried out by logging companies because of the response to multiple objectives, including social and economic aspects of the people settled on managed lands. A workshop on community forest management and the mechanisms of social participation in certification (CFV and CIEC 1997) ranked the degree of limitation (*high, low and no limitation*) for 14 initiatives against five possible constraints. The most significant constraints were lack of capital, tenure, and commercialization (Table 6).

**Table 6.** Ranking of community-based forest management limitations

Degree of limitation	Technical assistance (%)	Capital (%)	Tenure (%)	Commercialization (%)	Organization (%)
High	23.0	<b>69.0</b>	<b>57.0</b>	<b>58.0</b>	33.0
Low	<b>46.0</b>	23.0	21.5	25.0	25.0
No limitation	31.0	8.0	21.5	17.0	<b>42.0</b>
	100.0	100.0	100.0	100.0	100.0

Source: CFV and CIEC (1997)

The public sector has not received benefits from forest certification. In an attempt to solve this problem several workshops have been held, but in all cases the answer was not the lack of funding to pay certification, but a lack of forest management to certify. Recognizing this weakness, several projects and organizations aim to support community-based operations, such as Bolfor II, the FOMABO/UAGRM Project (supported by Danida/KVL), FTTP, and CFV. In 1999 a workshop was held to identify the opportunities and limitations of community-based forest management (CFV 2000); the main conclusions and recommendations were:

- Limitations include the lack of experience on intensive forest management for commercial goals, and a lack of technology, capital, and organizational structures for production, processing, and wood products commercialization.
- Benefits of certification include improved forest management and forest conservation, better image, access to markets, and promotion of compromises and community organization toward forest management.

- The international market of certified products is not less exigent about quality and they require large amount of products, which is beyond the potential of community-based operations.
- Business collaboration between communities and private companies may offer a series of advantages for community-based operations, but it is necessary to strength their negotiation capacity.
- The cost of certification and the implementation of the standards is a constraint. It is necessary to develop mechanisms to facilitate community access to certification and to improve the community's capacity to implement forest management.
- It is necessary to develop and to implement mechanisms to facilitate community-based operations, to access certification that supports their capacities for forest management and then for their certification. This includes information about forest management and certification, technical assistance, training, financing, and capacity-building for commercial production.

For the indigenous sector, there are two main incentives for certifying forest operations: to assure better markets for their products, and land security by increasing public image. A better image helps indigenous groups to legitimize rights to their lands, such as the Lomeríos initiative case (McDaniel 2004), in which landownership consolidation has been the greatest certification benefit. The first certified operation in Bolivia was Lomeríos, a community-base management plan of 1996; the operation lost its certificate five years later, when its contract with the certifier ended and the operation could not satisfy the pre-conditions despite the attractive potential financial returns indicated by Hanrahan and Grimes (1997). The Lomeríos' management problems became evident when in 1999, the Central Intercomunal of Lomeríos (CICOL) decided to close the sawmill due to accounting and management problems. The primary problems identified by the certifier included land conflicts with the ASL AMAISAN, encroachment of agricultural practices in forest management areas, and community participation problems in decision-making, sales and benefits distribution (McDaniel 2004).

Today, only one community-based plan holds a certificate: the Yuqui operation (51,390 hectares), certified in 2004, which received strong external support from Bolfor; WWF-Bolivia financed the cost of certification.

At the local level, within the certified forest industry workers conditions have improved<sup>3</sup>. Workers have better living infrastructure, food, job security, training, and social benefits. In general, their rights are better respected than in non-certified land units. In addition, better communication exists between timber companies and local communities. Social conflicts between certified areas and local communities have been minimized or solved<sup>4</sup>; certification has facilitated dialogue among interest groups. This includes the rights of local communities to access timber and non-timber products for domestic uses, and reducing community illegal logging on certified operations; more research is needed to assess these claims. For the timber industry, social issues are

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<sup>3</sup> Personal observation.

<sup>4</sup> Personal observation.

probably the most sensitive. Antelo (2000) mentions that this issue must be addressed with caution, but in the long term conditions will favor management operations.

### **Economic**

The main markets for certified products are the UK, the US, Germany, The Netherlands, and Sweden, but only the UK and the US represent 85% of foreign exports. In 1998 exports totaled only US\$ 0.18 million, but the figures improved to US\$ 14 million in 2003. This trend contrasts exports of non-certified timber products, which in 1998 totaled US\$ 120 million and decreased to US\$ 85 million in 2003 (CFB 2003). According to Sandoval (1999), the main benefit to certified operations was access to new markets, not better prices, but Nevel *et al.* (2003) claims that the average price premium was between 5 to 51%.

The perception of certified exporting products companies is clearly positive with respect to certification. Fuertes (2000) reports an opinion poll of 43 exporting forest companies: 94.6% considered certification to be beneficial, 91.9% indicated that certification guaranteed fair pay and social benefits, 89.2% indicated that certification optimized company's operations, 86.5% considered that certification increases management costs, 75.7% concluded that there was a similitude between certification and the Forest Law, and 72.2% indicated that it improves labor conditions.

### **Environmental**

It is difficult to discuss certification without addressing forest management, since the first is a consequence of the second. Within the last 10 years the Bolivian forestry sector has worked towards developing and implementing the basic requirements of sustainable forest management; essentially, the clarification of stakeholders' rights, field management planning, and on a lesser level ecology and silviculture. Most achievements have been in facilitating stakeholder access to forest lands, eliminating an overlap of stakeholders rights, developing management norms, implementing annual cup volume and area for harvesting, creating census and harvesting maps, and focusing on seed trees and harvesting trees marking, road construction and logging planning, and wildlife and riparian zones protection<sup>5</sup>. Certification in Bolivia has utilized the existing legal forest structure since it is clear that legal requirements coincide with certification standards. This is a contribution to certification that is not recognized, especially considering the fact that there are forces that are not interested in real forest management that demand changes in the law and its norms.

The contribution of certification can be seen in the field: improved attitudes and more consistent management practices, compliance with governmental regulations, reductions in supervision costs for the Forest Superintendence, and better relationships between timber companies and local communities (Olvis Camacho, Technical Intendent at the Forest Superintendence, Personal communication). High value conservation forest

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<sup>5</sup> Personal observation.

management is in its beginnings. Despite the fact that environmental benefits from certification appear obvious, they need to be empirically tested in the field. To what extent is certified forest management sustainable? What is missing?

## VI. CONCLUSION

Certification does not exist without forest management. In Bolivia, certification emerged at an appropriate time, when a series of events occurred that together promoted sustainable forest management: several organizations decided to support forest management, the new Forestry Law and its norms were passed, a new and efficient forest service (the Forest Superintendence) was established, and local capacity was developed for forest management and certification practices.

At the beginning of the certification process few but open-minded timber industry managers were interested in certification. Their success in gaining new, preferential markets for certified products fueled the interests of their entrepreneur colleagues, who did not trust certification. When it was clear that certification was an effective tool for facilitating access to preferential markets and improving internal companies' administration systems and public credibility, the CFB adopted certification as an institutional policy. There is no doubt that certification has brought local benefits that are not related to markets or prices, and that international market interest has triggered certification. However, the lack of clarity about the price premium in the international market creates uncertainty among stakeholders. At the national level, as suggested by Boscolo and Vargas (2001), certified operations should be granted more incentives, and government should develop a stronger policy to support internal certification benefits.

The main impacts of forest certification were to interest forest companies in better forest management, although it seems as though it is time to increase the quality of field management operations. Effective monitoring of natural regeneration responses to harvesting and the implementation of silvicultural practices have been most unattended.

Although conditions of forest workers in the field and the relationship between loggers and communities have improved, it is necessary to incorporate community-based management plans in the certification system. Otherwise the concept of *equity* will be jeopardized and larger timber companies will monopolize forest certification, including the market and a host of certification benefits. However, the incorporation of communities is not an easy task. A workshop held in Santa Cruz, Bolivia, in June of 2003 attempted to identify a strategy for community forest certification (CFV 2003b) and developed a series of certification problems that seemed to prevent community certification, but failed to identify the main constraint: the difficulty in implementing forest management plans. It is not enough to have funds for their evaluations, to lower the standards (although adaptation to specific community/indigenous characteristics may be needed), or to create specific markets for communities. This is currently not the biggest problem in Bolivia; direct costs of certification in Bolivia are low compared to other countries in Central America (Sandoval 1999), and funds for evaluations are available, especially those managed by CFB and WWF. The real need is to create or support local

conditions to implement forest management plans; to do so it is necessary to strengthen local forest management capacities (access to capital, and training on forest management, wood processing, and business management). Perhaps this is a field that certification has been unable to address. The lack of community-based forest management in certification is a great concern, and social scientists and foresters should seek alternatives; this may include direct or indirect technical assistance for forest management and capacity building. At the same time, the FSC SLIMS strategy should keep working.

HCVF management is expected to be a bottleneck for Bolivian certification. Research to identify HCVF attributes and applicable management methods will be necessary, which may be beyond the managers' capacity. If management becomes too expensive, too complicated, or scientist-dependent, it will be impracticable and no longer an interesting option. Since research is needed, basic research should be funded and carried out by the national government and international community.

Over the last 10 years Bolivia has experienced great developments in forest management and forest certification, which I identify as Phase 1. Now it is necessary to start Phase II of management, which is the inclusion of real monitoring of natural regeneration responses to harvesting and the implementation of silvicultural practices to assure that forest management is truly environmentally sustainable. Here, certifiers have a role in asking for continual improvement of forestry practices. It is disturbing that in the last few years the quality of forest management has not increased; rather, it has reached a level of plateau.

Forest certification should continue promoting the use of certified products in the international market, identifying fair markets and advocating for better prices. In addition, national markets should also be developed - otherwise certification market benefits will be a privilege only for exporters. The north-south balance in all approaches and negotiations is a requirement if stakeholders want certification to work in the long term.

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