# The effectiveness of market-based conservation: Can forest certification compensate for poor environmental regulation in the tropics?

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## Abstract

The Forest Stewardship Council (FSC) was founded by civil society actors in response to the perceived failure of governments to tackle a pressing global problem: the loss and degradation of tropical forests. Forest certification provides international civil society with a tool to promote sustainable forest management by relying on markets instead of governments. The FSC is an example of a private standard-setting organisation and is regarded by many to be one of the most innovative institutions of global environmental governance. Its success, however, has been mainly limited to northern industrialised countries.

This study examines some of the obstacles the FSC faces in achieving adherence to its regulations in the South and thereby complements existing literature on the success of forest certification in OECD countries. Its empirical basis is a comparative case study of Ecuador and Bolivia where over 60 interviews with key stakeholders were conducted. The paper shows that the success of forest certification – although it constitutes a market-based approach – depends on policy-related factors. While markets provide the incentives, government regulation is crucial in determining the costs of certification. For example, when conventional timber extraction is very cheap due to a poor enforcement of environmental laws, there are high opportunity costs attached to switching to sustainable forestry.

The paper argues that the focus on industrialised countries has led scholars to neglect the importance of government policies for the effectiveness of non-state market-driven (NSMD) governance systems. As a result, a re-evaluation of the relationship between public and private governance efforts may be crucial for protecting the global environment.

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[2] This paper is based on a more extensive research project (Ebeling 2005) which includes additional variables investigated during field research. It also situates forest certification and the empirical findings within a larger theoretical framework by considering the legitimacy of non-state market-driven rule-making. Comments on both papers are highly welcome.

# 1 Introduction – Global environmental governance

Global environmental problems, such as climate change and the loss of biodiversity, pose increasingly great challenges for today's societies. As these environmental problems proliferate, it has become obvious that national governments alone cannot solve them. Globalisation has led to an increase of worldwide interdependencies and may erode the regulatory capacity of nation states. Many observers expected that the competition for investments between countries would undermine national sovereignty and predicted a "race to the bottom" in social and environmental standards (e.g. Greider 1997).

However, globalisation has also contributed to a complementary development: the rise of a "global" civil society and the evolution of new regulatory arrangements that together might be able to address the increasing complexity of global interactions. A system of "global governance" as an empirical and normative concept has been described by scholars. Arrangements between national governments, international and supranational organisations are significant components of global governance. In addition, there are a variety of "transnational" setups which include or exclusively consist of non-state actors, such as firms or civil society organisations (Keck and Sikkink 1998; Zürn 1998; Messner 1998; Cutler et al. 1999; Keohane and Nye 2000).

The environment appears to be a particularly dynamic field in this regard. International civil society actors, especially international non-governmental organisations (NGOs), try to influence national and international public policy and the behaviour of companies. To promote their case, NGOs have organised boycott campaigns and spearheaded "green" labelling initiatives (Breitmeier and Rittberger 1998; Lipschutz and Fogel 2002). These efforts rely on markets rather than governments. By pursuing strategies that circumvent traditional public policy processes, NGOs add an important non-state component to the emerging system of global environmental governance.

However, these non-state market-driven (NSMD) governance systems face challenges, in the process of moving beyond awareness-raising to rule-setting and to eliciting rule-compliance. Since there is no central authority in "governance without government" (Rosenau and Czempiel 1992), systems that rely entirely on arrangements between private actors cannot hierarchically enforce their rules. Actors have to be persuaded in other ways to adhere to regulations and to grant them "legitimacy".[3] Certification of sustainable forest management by the Forest Stewardship Council (FSC) is a particularly advanced example of NSMD governance. The present study examines the challenges forest certification faces in two tropical countries, Ecuador and Bolivia.

If market mechanisms and civil society actors are to be integral components of global environmental governance, it is crucial to understand the conditions under which they can effectively promote conservation. Most studies of forest certification have focused on industrialised countries in the North, where issues of law enforcement play a minor role (e.g. Cashore et al. 2004), while tropical countries did not appear on the research agenda until very recently. This work is innovative in that it attempts to elucidate the complex

[3] Cashore (2002) adds to the legitimacy literature (see e.g. Scharpf 1999; Risse 2004) and suggests to analyse the special case of NSMD governance systems by focussing on three types of legitimacy – "pragmatic", "moral", and "cognitive" – which have particular features in these systems and rely on specific legitimacy achievement strategies.

interplay of factors influencing success and failure of forest certification in the tropics by looking at both market *and* policy aspects and by comparing two countries that show different degrees of success. Any governance effort designed with a global reach can only accomplish its objectives if it is effective on a local level. By confronting abstract considerations with empirical findings, this study complements existing research that analyses FSC certification theoretically as a form of private rule-making (Meidinger 2003b; Bernstein and Cashore 2004; Pattberg 2004; Kern 2004).

This paper gives a brief overview of forest certification as an NSMD governance system, with a particular focus on the FSC. It also discusses several problems of forest certification in the tropics. The next section outlines the research design and case-study methodology. Following this, the research results with respect to the individual study variables are presented and evaluated. The conclusion summarises causal pathways that influence the prospects for forest certification in the tropics, discusses several policy recommendations, and turns back to the question which role non-state market-driven instruments can play in global environmental governance.

## 2 FSC forest certification

Tropical deforestation sparked discussions about global environmental problems in industrialised countries like few other issues did. Rainforests and other types of forests in tropical countries are disappearing at an alarming rate of about 10 million ha per year. Additionally, many of the remaining forests are severely degraded (FAO 2001; FAO 2005). Logging is one major driver of deforestation and forest degradation in the tropics (see Burgess 1993; and Sierra 2001). This has lead civil society actors and policy makers to promote international agreements and boycotts of tropical timber. However, effective agreements have not been reached and boycotts, though raising awareness, did not have the desired impact (Bass 1997; Gulbrandsen 2004).

Forests that have no commercial value are at a greater risk to fall prey to other land uses. Commercial timber extraction may conserve more of the environmental value of an ecosystem than conversion to alternative land uses, such as agriculture (Gullison 2003). Considering that wood products play an important role in today's economies, it is unrealistic to hope for a complete stop of logging. The task at hand is rather to manage timber extraction in a way that is more compatible with a sustainable use of our natural resources.

The concept of forest certification was developed based on this reasoning. Its rationale is to use market forces to improve forest management, in order to reduce forest degradation, or even deforestation. To become certified, producers must meet rigorous social and environmental standards. In most cases, these standards are developed by international NGOs. Companies are audited by an accredited, independent third-party certifier, thereby creating accountability of individual forest managers. Chain-of-Custody (CoC) certificates trace the timber from the forest to the finished product. In conjunction with a label (eco-seal), products from certified production thus become identifiable in the marketplace. Consumers and retailers can then reward producers who meet certain social and environmental standards, either by paying a price premium, or by preferential purchase. A sufficient demand can provide an incentive for more companies to introduce

sustainable forestry management (SFM) (von Kruedener and Burger 1998; FAO 2000; Meidinger et al. 2003).

A number of studies consider forest certification to be one of the most advanced cases of global environmental governance by civil society. They regard the institutional setup of the certification scheme of the Forest Stewardship Councils (FSC) as a model for governance efforts in other areas (e.g. Haufler 2003; Meidinger 2003a; Kern 2004). An additional appeal of certification arguably arises from the fact that it uses the mechanisms and forces of liberalised international markets, which are often suspected to be a driver of resource exploitation, to serve benign goals and to promote conservation.

Worldwide, several dozen forest certification schemes were developed, corresponding to different stakeholder interests. The FSC standard, however, is by far the most relevant in the tropics and the only scheme with broad global civil society support (Joint NGO Statement 2001; Atyi and Simula 2002). The FSC's ten "principles" and more detailed "criteria" include compliance with national laws and international agreements, clear land tenure and usage rights, rights of workers and indigenous people, management plans and economic viability, environmental impact monitoring, and the protection of biodiversity and old growth forests (FSC 2004). These international standards have been adopted to local conditions by a number of regional and national standard setting processes, of which about a dozen have been approved by the FSC (Meidinger et al. 2003). As of April 2005, almost 700 Forest Management (FM) certificates have been issued, covering an area of over 53 million ha in 65 countries. An additional 3600 companies had received CoC certification (FSC 2005b). Global sales of FSC-certified products are estimated to exceed US$ 5 billion (FSC 2005a), which would amount to about three percent of the global trade in forest products (see WRI 2003).

The FSC was formally founded in 1993, after a series of meetings between environmental NGOs, business and social organisations. The initiative partly grew out of the failure of governments to reach a binding international agreement on the protection of forests at the 1992 Earth Summit in Rio de Janeiro (Gulbrandsen 2004; Pattberg 2004).[4] Thus, from the very beginning, the FSC was conceived as a global governance effort by transnational civil society actors aiming to compensate for government inaction.

Virtually all tropical forests are located in developing countries where environmental regulations are often poorly enforced. Ensuring compliance with environmental certification standards could potentially compensate for an insufficient enforcement of environmental laws (Gulbrandsen 2004; Richards 2004). This notion of circumventing states and using market forces to implement rules established by civil society is implicit in the genesis of forest certification.

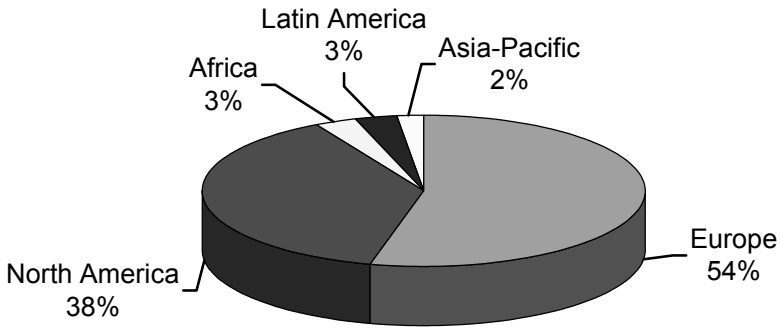
## 2.1 Problems of certification in the tropics

However, the current state of forest certification does not live up to these expectations. Its success has largely remained limited to temperate and boreal forests in industrialised countries (Stoian and Carrera 2001) (see Figure 1). Thus, ironically, it has

[4] The official title of the declaration finally agreed upon in Rio – "Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests" – is self-explanatory.

mainly been successful in countries with a high level of enforced environmental regulation and where deforestation is not a major issue.

**Figure 1 – Certified Forests by Region**




Source: Adapted from Atyi and Simula (2002).

Note: This graph includes several forest certification schemes.

The fact that forest certification is a market-based approach does not mean that government regulation is unimportant. While markets provide most of the incentives, government policies determine some of the costs of certification. Especially when illegal logging is common, the opportunity costs to sustainable harvesting are high. In many countries a weak legal framework and law enforcement make unsustainable production a more lucrative option (Forest Trends 2003; Richards 2004).[5] Hence, the factor that provided much of the *raison d'être* for forest certification, namely poor environmental protection by governments, may turn out to be one of its main roadblocks in the tropics.

In addition, sizeable eco-sensitive markets that demand certified forest products (CFPs) currently only exist in Europe and North America and even in these regions, CFPs account for a relatively small market share. Domestic demand for CFPs is virtually inexistent in most tropical countries (Rametsteiner 2002). Contrary to original expectations, consumers in importing countries generally seem unwilling to pay a higher price for CFPs (Rametsteiner 2002; Forest Certification Watch 2005). The lack of a price premium results in great difficulties to compensate for the higher costs of SFM, a relationship that is particularly problematic in tropical countries. Insufficient law enforcement is thus coupled with limited market incentives, which are the basis of any market-driven governance instrument.

This conjunction of market and policy-related factors has so far been understudied. In order to evaluate the potentials and limitations of forest certification as a non-state market-driven (NSMD) governance tool, it is necessary to assess its interdependence with public policy measures. Even though, by definition, governments are no formal participants in non-state governance systems, they might play a crucial role in influencing their success. Can NSMD governance systems compensate for insufficient law enforcement or does their success depend on a certain level of government regulation? Finding an answer to

[5] Opportunity costs are even higher when there are strong pressures towards land-use conversion. It is hardly possible for SFM to provide equal or greater short-term benefits than an extraction of all harvestable timber, combined with subsequent agricultural use of the land (Gullison 2003).

this question is not only important for the prospects of tropical forest certification but it could have wider implications for the ways in which civil society actors can effectively contribute to global environmental governance.

## 3 Research design and case study methodology

This paper evaluates how successful certification has been in achieving legitimacy with stakeholders in two South American countries: Ecuador and Bolivia. South America disposes over the world's largest remaining tropical forests but these forests are disappearing at an astonishing rate. Government control of the forestry sector is low in many countries in the region, and poor forestry practices and illegal logging are common (Keipi 1999b; FAO 2001). Interestingly, certification has spread very unevenly across the continent. Ecuador is an example of countries with a very small certified forest area, whereas Bolivia now has the largest area of certified tropical forests worldwide. Both countries have adopted innovative forestry laws but they differ with respect to the quality of their enforcement (FAO 2003; FSC 2005b).

This study seeks to elucidate market and regulatory conditions that facilitate a success of forest certification and therefore assesses several market and policy-related variables. The relationships outlined above suggest that access and export shares to eco-sensitive markets, forestry regulation and law enforcement play crucial roles. I examine here the values of these variables in Ecuador and Bolivia by using a set of empirical indicators. My central hypothesis is that:

- *Forest certification, as a market-based approach, can only succeed and gain legitimacy when sufficiently large external markets for certified forest products are coupled with a minimum of environmental law enforcement.*

In this research design the size of and access to eco-sensitive markets on the one hand, and the quality of forest legislation and enforcement on the other hand are the independent variables (IVs).[6] The dependent variable (DV) is represented by the success of forest certification, measured primarily by the amount of certified area. In accordance with the hypothesised relationships, I expect an increase in forest certification when a strong demand pull for certified products from external markets coincides with high levels of enforcement of environmental regulation. I focus on the level of law enforcement rather than on the level of environmental legislation because previous studies suggest that there is a significant gap between formal forest legislation and effectively implemented regulations in many tropical countries (see Keipi 1999a). Whereas I expect that high values of the IVs should lead to a high value in the DV, it is conceivable that high values of only one of the IVs (i.e. a strong market pull coupled with low enforcement and vice versa) should not suffice for a success of forest certification. It remains to be seen, however, whether exceptionally high values of one IV, possibly limited to a few producers, can potentially compensate for lower values in the other IV (for example an exceptional business opportunity for one company, or selective, very strict law enforcement).

[6] I use the term „independent variable" even though it is clear that no variable is completely independent. Labelling variables in this way does by not mean that I will not analyse their interdependence, influences of other variables on IVs, or feedbacks of the dependent variable.

The present paper is based on a larger research effort which considered the importance of other framework conditions and investigated a number of additional variables. The aim was to determine whether the two IVs in this study are sufficient or merely necessary explanatory factors (see Ebeling 2005). Additional variables included security of land tenure, predictability of forest legislation and enforcement, and government attitude towards certification – complemented by business perspective (short or long-term), size of land tenure or usage rights, as well as information about eco-sensitive markets and certification.[7]

In order to operationalise the variables of interest, I determined indicators for each. To increase the confidence level of the results, more than one indicator was chosen for several variables. Table 1 provides an overview of all the variables and indicators used in this study. The bottom half includes additional variables which were considered in the original study but are not discussed in depth in the present paper.

**Table 1 – Case study variables and indicators**

| Variables | Indicators |
|---|---|
| **Success of certification** | - certified forest area (absolute number and share of total forest cover)<br>- number of CoC certificates<br>- share of CFPs in total timber exports<br>- perception of appropriate production segment for certification, of limits, and of alternative instruments<br>- prominence of certification in general discussion about forestry practices |
| **Size and quality of eco-sensitive markets** | - main markets for producers<br>- export share of country / certain producers<br>- destination of exports, customers<br>- importance of certification to enter export markets |
| **Industry structure and access to eco-sensitive markets** | - participation of different actors in production chain<br>- sourcing of timber by producers, number of intermediaries<br>- access to (certain) export markets |

[7] Land tenure security and, to a lesser extent, predictability of forest legislation and enforcement determine how strongly future profits from forestry operations have to be discounted by producers. The discount rate affects whether actors have a long-term business perspective or focus on the short-term extraction of profits. Governments might perceive certification as a competition and threat to their rule-making authority and therefore try to limit its influence, especially because control over natural resources is concerned. On the other hand, they could welcome certification as a support for their controlling and conservation efforts. The size of land tenure or usage rights of producers, as well as the degree of vertical industry integration have implications for the costs of certifying a forest management unit and the production chain. Fragmented land tenure or usage rights increase the per-unit cost of FM certification, and partitioning of the production chain between many actors (for example land-owners, processing companies, exporters) increases the transaction costs of establishing a certified chain-of-custody. Access to eco-sensitive markets might be difficult for some producers as a result, and thus limit their export options. Information about eco-sensitive markets and certification clearly are a prerequisite to opting for certification and might not be available to some actors.

| | |
|---|---|
| **Forest legislation** | - requirements by forestry laws<br>- compatibility of forestry laws with FSC certification |
| **Quality of enforcement** | - organisational setup of enforcing agency, funding sources<br>- pervasiveness of corruption in controlling agency<br>- effectiveness of control at different steps of production, number of staff<br>- extent of illegal logging |
| **Security of land tenure** | - existence of land titles or usage rights for area with timber harvesting<br>- respect of issued land titles or usage rights by government<br>- prevalence of invasions by farmers, illegal harvesting by third parties |
| **Predictability of forest legislation and enforcement** | - frequency of changes in legislation<br>- level of fluctuation of key personnel<br>- degree of variability in enforcement<br>- existence of a comprehensive long-term strategy for the forestry sector |
| **Government attitude towards certification** | - official government support for instrument<br>- preferential treatment of certified producers<br>- resistance against influence of NGOs<br>- resistance against influence of international actors |
| **Business perspective (short or long-term)** | - time-scale of planning by producers<br>- years till return on investments is expected by producers<br>- interest rate on loans, inflation rate |
| **Size of land tenure** | - size of forest property units or usage rights of different producers /landowners |
| **Information about eco-sensitive markets** | - knowledge of producers about eco-sensitive markets |
| **Information about certification** | - knowledge of different actors on principles, costs and benefits of certification |

I focused my investigation on supply-side economic interests, environmental NGOs, and the government. In addition, official development assistance (ODA) agencies, and representatives from the standard-setting organisation were incorporated. My selection of actors from supply-side economic interests includes certified and non-certified, big and small timber companies and communal landowners, as well as business associations. Government actors are represented by the agencies in charge of forestry law enforcement. Most interview partners have key positions in their respective organisation (e.g. company owner, community leader) or special knowledge about the field in question

An overview of the number of interview partners in each category is given in Annex 1. A total of 78 semi-structured interviews were conducted, of which 36 were with actors in Ecuador, 28 in Bolivia, and 14 with external experts from different countries. Stakeholder-interviews lasted between 15 minutes and four hours, with an average of slightly over one hour. They were conducted during four months of field research in Ecuador and Bolivia. The information thus obtained was complemented with information from primary documents and secondary literature.[8]

[8] For details regarding methodology, especially case selection, interviews, and data analysis, see Ebeling (2005).

# 4 Results of case studies

To place the study results into context, Annex 2 provides a brief sketch of each country's socio-economic background and forestry situation.

## 4.1 Success of certification – Ecuador

The numbers leave little room for interpretation: In Ecuador, a mere 21,300 ha are FSC-certified under two certificates, translating into approximately 0.2 percent of the national forest cover. There are no additional Chain-of-Custody (CoC) certificates, underlining the virtually non-existent impact on the country's timber industry. Although no data was available on the production of the two certified operations, it can be assumed that their contribution to Ecuador's total production and exports is minuscule, especially because the larger of the two does not produce timber for international markets.[9]

A closer look at the individual certificates does not make these figures look any more promising. 20,000 ha of the total certified area subsumed under one group certificate which comprises numerous small plantations. These plantations were created as part of a carbon-sequestration project of a Dutch NGO, which was planning to sell carbon "credits" under the Clean Development Mechanism (CDM) of the Kyoto Protocol. Over 130 individual contracts were signed with communal and private landowners. FSC certification was carried out as an "add-on" because it was hoped that landowners could achieve a price premium when selling timber from the plantations, thus enhancing the economic viability of the project.[10]

The second certificate comprises a mere 1,300 ha of plantations in a patchwork of small plots on agricultural lands. It is held by an agro-industrial conglomerate that includes one of Ecuador's biggest producers of banana. Although timber is only a side product of overall production, FSC certification fits well into the company's strategy of demonstrating good social and environmental practices to its worldwide customers. All of its banana production is certified to follow "good agricultural practices" under one of two schemes, and the certified wood is used to produce palettes for exporting the fruits.[11]

In contrast to the low number of actually certified operations there have been a number of attempts. Most of them were or are projects involving forest communities, and all are heavily subsidised by NGOs or ODA organisations. At present, two projects with indigenous communities are in advanced stages and could achieve certification within two years, according to interviewees.[12] Another industrial operation, involving 8,000 ha of plantations was undergoing its final evaluation at the time of the study.[13] No further timber companies show any serious interest in pursuing FSC certification.[14]

9 Interviews no. 8, 27
10 Interview no. 19; see http://www.profafor.com.
11 Interview no. 3; (Rainforest Alliance 2000; EUREP 2005)
12 Interviews no. 16, 25, 26; 31, 32.
13 Interview no. 5.
14 Interviews no. 1, 2, 8, 9.

### 4.1.1 Success of certification – Bolivia

The success of forest certification in Bolivia is in stark contrast to the situation in Ecuador. 16 operations with a total of over 1.9 million ha currently have FSC certification, all of which are natural forests. This is almost four percent of the country's forest cover and 22 percent of the area for which legal harvesting permits exist. On a global scale, Bolivia accounts for 38 percent of all FSC certified tropical natural forests. In addition, there are 23 CoC certificates, of which 10 belong to companies with CoC certification that are not associated to any forest areas (CFB 2005; CFV 2005; FSC 2005b). It is estimated that the share of certified timber in Bolivia's total wood exports was 45 percent in volume and 60 percent in value in 2004 (up from 23 percent in 2001). No data for its share in overall timber production is available.[15]

Almost the entire certified area in Bolivia consists of company concessions in public forests, a land-use option that does not exist in Ecuador. While certificates vary significantly in size, they cover an average forest area of almost 120,000 ha, with the biggest one extending over 365,000 ha. In addition, there is one certificate over 51,000 ha held by an indigenous community (FSC 2005b). The vast majority of all timber produced in certified operations enters the export market. Even in the community operation, much of the timber harvest is bought by a company which is processing the wood for overseas markets.[16] The certified area has been rapidly expanding and one further certification of 300,000 ha was expected for 2005.[17] However, some observers expect a much slower growth rate from then on because most of the well-established large firms already were certified, whereas many of the remaining concessions are managed by companies in less favourable economic conditions.[18]

While the overall indicators are certainly impressive, certification has so far taken hold mainly within a well defined segment, namely extensive private concessions. There is only one certified community operation. It received strong external NGO and ODA support and obtained its certificate just one year ago.[19] In general, certificates are issued with a list of conditions attached to them that have to be resolved within a five-year period. One earlier community project lost its certificate in 2001, after the first five years, because a range of requirements of the certifier were not met (Raessens 2004). Some other community certification projects ended due to NGO funding constraints.[20] Several timber companies indicated that they partnered with communities to work towards certification, or intended to do so, but it was controversial whether these plans constituted serious efforts.[21]

[15] Interview no. 46.
[16] Interviews no. 45, 55, 59.
[17] The latter would concentrate 800,000 ha of certified forest in seven concessions in the hands of one company (Interview no. 40).
[18] Interview no. 55.
[19] Interviews no. 49, 54, 64.
[20] Interview no. 59.
[21] Interviews no. 40-42, 58; 64.

## 4.2 Size of eco-sensitive markets – Ecuador

The main markets for wood harvested in Ecuador are domestic. Although several informants suggested that the export share of timber production was 50 percent,[22] it is indeed impossible to make any confident assessment because no reliable estimates of the total timber production exist. Complicating factors are the lack of any statistics for several 10,000 small businesses and unknown quantities of timber leaving the country illegally (mainly to Colombia and Peru) before even entering the processing-chain. Overall, most of the wood seems to be consumed by small enterprises, though, whose sales are virtually confined to local or national markets.[23] Considering that only one of the few big timber companies exports significantly more than half of its production, an export share of far less than 50 percent for the whole country seems plausible.

Most of the officially registered timber exports are accounted for by the sales of seven timber companies.[24] The United States are by far the most important customer, accounting for more than one third of these exports, followed by Ecuador's neighbours Colombia and Peru, which receive one sixth and one tenth respectively (AIMA 2004). Adding up the individual country shares it becomes apparent that Ecuador's export markets are predominantly regional, with Latin American countries accounting for over half of all exports (see Table 2).

**Table 2 – Destination of Ecuadorian timber exports**

| Country | **average annual export value**, 1999-2003 (in US$ 1000) | **percentage of total** |
|---|---|---|
| United States of America | 30,350 | 37.3 |
| Colombia | 14,124 | 17.3 |
| Peru | 8,132 | 10.0 |
| Venezuela | 7,815 | 9.6 |
| Mexico | 6,253 | 7.7 |
| *Zona Franca* (Japan) | 4,447 | 5.5 |
| Chile | 2,189 | 2.7 |
| Cuba | 2,150 | 2.6 |
| Panama | 1,157 | 1.4 |
| India | 1,116 | 1.4 |
| Germany | 1,020 | 1.3 |
| Canada | 673 | 0.8 |
| Taiwan | 584 | 0.7 |
| Bolivia | 556 | 0.7 |
| France | 488 | 0.6 |
| Spain | 402 | 0.5 |
| TOTAL | 81,463 | 100.0 |
| **Latin America total** | 42,379 | **52.0** |
| **USA and Canada** | 31,024 | **38.1** |
| **EU total** | 9,558 | **2.3** |

Source: Author's elaboration of data provided by AIMA (2004).

[22] Interview no. 8.
[23] Interviews no. 6-9, 23.
[24] Interviews no. 8, 9.

Based on official numbers, 40 percent of Ecuador's timber exports reach so called eco-sensitive markets. However, this share accrues almost entirely to North American markets, while all European countries combined only make up for two percent of total exports. Considering that certification plays a much more limited role in purchasing decisions of US versus EU customers, the resulting market pull for certified forest products (CFPs) is probably rather weak. This assessment matches the experiences of exporters who described the North American market as "more liberal" and not very demanding regarding certification. Several company interviewees expect certification to become a more important factor in this market in the future, although far enough away to not give the issue too much thought.[25]

Customers of Ecuadorian timber exports within the North American market are very diverse, ranging from big importers who distribute the merchandise to other companies, through retailers, to individual business customers. Most interviewees from exporting firms stated that they sell products to a variety of foreign customers. Yet, there is one notable exception. The company with the greatest export share (about 70 percent) sells half of its exports to one single North American customer: Home Depot.[26] This retailer is committed to a medium-term "100 percent FSC only"- purchasing strategy and, along with Ikea and B&Q, is frequently cited as one of the most significant global buyers of FSC certified wood (e.g. WWF 2000). It is probably no coincidence that the same Ecuadorian company is making great efforts to obtain FSC certification for its plantations.

Ecuador's favourable geographical situation might be expected to lead to a more successful export situation; but a closer look at what the country is selling provides a possible explanation for why this is not the case. Boards, sawn-wood, and woodchips represent 92 percent of Ecuador's timber exports (ITTO 2004; AIMA 2004); products with a higher added value make up merely a fraction of the total. As one informant succinctly described it: "Ecuador only produces junk!",[27] which is not in very high demand overseas. Beyond this rather proximate explanation, some of the results discussed below might further elucidate the reasons for the composition of export products. As the Bolivian example will demonstrate, markets are not static and can change in response to a modified supply structure.

### 4.2.1 Size of eco-sensitive markets – Bolivia

Markets for Bolivia's forest products are fairly equally split between domestic and foreign markets. An export share of 50 percent seems to be a realistic estimate because it is based on far more reliable data regarding total production than in the case of Ecuador. Also, there is less illegal trafficking of timber to neighbouring countries (mainly to Brazil). Domestic markets are primarily served by a great number of small companies and producers, while bigger firms clearly are export orientated. An estimated 70 to 80 percent of the production of concessionaries (private companies with concessions in state forests) are sold to foreign markets.[28]

[25] Interviews no. 2, 5, 8; 76.
[26] Interview no. 5.
[27] Interview no. 30. All citations from interview sources were translated into English by the author.
[28] Interviews no. 45, 52, 55.

Exports are divided between a much greater number of firms than in Ecuador, with 130 companies exporting timber products worth more than US$ 10,000. Nonetheless, there is a considerable amount of concentration in the exporting timber industry. Nine companies account for half of total timber exports, and 30 companies for 80 percent.[29] The United States are by far the most important buyer of Bolivia's exported forest products, receiving 50 percent of the total in 2003, followed by the United Kingdom with 17 percent. All Latin American countries combined account for only 12 percent, illustrating the rather unique structure of the Bolivian forest industry (see Table 3) (CFB 2005; Quevedo 2005).

**Table 3 – Destination of Bolivian forest product exports**

| Country | **export value** 2003 (in US$ 1000) | **percentage of total** |
|---|---|---|
| United States of America | 55,013 | 49.8 |
| United Kingdom | 19,271 | 17.4 |
| Chile | 4,383 | 4.0 |
| Mexico | 3,701 | 3.4 |
| Germany | 3,141 | 2.9 |
| Netherlands | 2,519 | 2.3 |
| France | 2,499 | 2.2 |
| Argentina | 2,406 | 2.1 |
| Italy | 2,225 | 2.0 |
| Australia | 1,976 | 1.8 |
| Canada | 1,299 | 1.2 |
| Others | 11,979 | 10.8 |
| Total | 110,410 | 100.0 |
| | | |
| **USA and Canada** | 56,364 | **51.1** |
| **EU total** | 31,788 | **28.8** |
| **Latin America total** | 13,690 | **12.4** |

Source: Author's elaboration from CFB (2005).

These numbers mean that 80 percent of Bolivia's exports of forest products are sold to environmentally-sensitive markets. In contrast to the situation in Ecuador, European countries account for almost 30 percent of total exports, with the remaining half accruing to North American markets (CFB 2005). This is a very important result in view of the demand for certified products in Europe and indicates a substantial market pull towards certification for Bolivian exporters. Industry informants repeatedly pointed out that they felt certification to be an important issue when selling their products to European customers, while demand in North America was much more sporadic. Several interviewees expected FSC certification to effectively become an entry requirement for European markets in the medium-term.[30]

Customers for Bolivian timber exporters in North American and European markets are diverse but B&Q and Carrefour, both of which have strong preferences for FSC-

[29] Interview no. 46.

[30] Interviews no. 38-40, 43, 45.
Sales of certified timber to other countries (e.g. Mexico, Indonesia, China) seemed to be destined towards re-exports of processed products to Europe or the US.

certified wood, account for a sizeable share of European demand. In addition, public procurement in European countries is a factor.[31] Many Bolivian timber exporters sell products to a variety of countries, often on different continents. The very dissimilar valuation of certification in these regions can lead to strongly diverging market "pulls" for producers. One non-certified exporter, selling mainly to an Italian and several Chinese firms told me that his Italian client was extremely interested in certified products and even offered to pay the certification fees for his concession. In contrast, "when I talked to my Chinese customers about certification they laughed their heads off! They couldn't get it, they told me that I was crazy!"[32]

It is difficult to explain the remarkable export orientation towards North America and Europe without considering several factors. One striking feature is the nature of export products. Approximately 50 percent of timber exports in 2003 represented items with high added value, such as doors or furniture (CFB 2005). This is very different from the situation less than ten years ago when almost all exports were simple sawn-wood (FAO and MACA 2004). Since then the Bolivian forest industry experienced a profound transformation, leading to greatly increased productivity, which was coupled to a shift in markets. In addition, whereas the United States have been a major customer for many years, important traditional markets in the region collapsed and had to be replaced. Sales to Argentina, which before accounted half of Bolivia's forest exports, permanently dropped by 90 percent due to the economic crisis in the country.[33]

As a parallel process, the requirements of a new forestry law, such as management plans and a diversified production, led big producers to produce more efficiently, at the same time as forest certification emerged as a factor on international markets. Several Bolivian firms perceived certification as an opportunity to access attractive new markets. Since Bolivia was the first country to offer certified tropical timber, there was a partly "desperate demand" for almost "any certified product" at times.[34] Several trade fairs for certified products and marketing efforts of several organisations have boosted this demand.

The combined result of all these factors was that regional export markets for unprocessed timber were replaced by expanding European and North American markets for more elaborated, frequently certified products. An important finding in this context is that the spread of certification in Bolivia had an impact on the country's export orientation. Markets changed because of certification, in addition to certification being a response to international market demand.

## 4.3 Structure of forest industry and access to eco-sensitive markets – Ecuador

The degree of vertical industry integration has implications for the transaction costs of establishing a certified chain-of-custody. The partitioning of the production and marketing chain between different actors (such as land-owners, processing companies,

[31] Interview no 45.
[32] Interview no. 38.
[33] Interviews no. 45, 55, 56.
[34] Interview no. 63.

exporters) might thus limit the export options of producers and hamper their access to eco-sensitive markets.

#### Vertical integration of the forest industry

In Ecuador, very few big timber processing companies own forests and even those that do in fact obtain most of their raw material through one or several intermediaries.[35] For their part, almost all small timber companies rely entirely on wood obtained from intermediaries. Interviewees also stated that there were hardly any links between small and big timber companies and that the industry was practically split into two camps.[36] As I discuss below, many logging activities are carried out by intermediaries illegally and in part without the landowners' consent, likewise resulting in a fragmented production chain.

At the same time, the vast majority of landowners only have the capacity to perform very basic processing steps, such as cutting logs into boards using chainsaws. Many landowners in fact sell the wood as standing trees and intermediaries or large timber carry out the felling (ITTO 2004). Communities are the only actors with large connected forest areas in Ecuador and could, in theory, play a key role in the country's production of forest products.[37] However, along with small private landowners they are only marginally integrated into commercial supply-chains. Fundamental limitations of communities' entrepreneurial capacity and internal organisational problems make it unlikely that this situation will change in the foreseeable future.[38]

Taking into account generally fragmented land tenure and production processes, establishing controlled supply chains appears to be a highly challenging task. Together with the high transaction costs of combining a reliable supply from well-managed sources with marketing channels to customers that value sustainable timber, these structural factors might amount to a formidable barrier for forest certification in Ecuador.

#### Access to eco-sensitive markets

Since there is currently no domestic demand for certified forest products (CFPs) in Ecuador,[39] the ability to export is a pre-condition for accessing eco-sensitive markets. As I have described in the section on markets for Ecuadorian forest products, exports are concentrated in the hands of a relatively small number of big firms. These firms sell the great majority of their exports to markets with no or only limited demand for CFPs but it is not apparent that they would not be able to access European markets or segments of North American markets where certification plays a significant role. The currently low share of processed products in timber exports could represent a certain limitation but this should not be an issue precluding access to eco-sensitive markets. The reasons for the obviously limited appeal of FSC certification for exporting producers in Ecuador have to be related to different factors.

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[35] Some interviewees from big timber companies indicated that a share of 30 percent of their timber comes from own lands and 70 percent from third parties (interviews no. 2, 5). However, other informants suspected timber companies to not harvest any timber in their own forests but to keep them as a reserve for a future when most other forests will have been logged (interviews no. 24, 31).

[36] Interviews no. 6, 7.

[37] Interview no. 33.

[38] Interviews no. 11, 14, 17, 31-34.

[39] Interviews no. 4, 9, 22, 25, 29.

Owners of small timber processing companies consider it very difficult to access export markets, even though they are generally interested in exporting part of their production. The main hurdles for small firms appear to be insufficient production volumes and limited marketing infrastructure.[40] All communities in this study sell timber from their forests to local markets in their immediate surroundings. In cases where products are traded over longer distances, for example to processing firms in big cities, ODA or NGO actors provide crucial logistical assistance.[41] While the resulting business contacts might enable a few communities to sell timber to companies with broader market access on their own account, this is likely to remain an exception rather than the rule. There are, for example, frequent difficulties to comply with the quantity and quality of timber supplies specified in sales contracts.[42] Moreover, given a long history of unequal benefit-sharing and delicate trust issues between community and industry actors, it is uncertain how stable these company-community relationships would be without the vigilance of NGO or ODA actors.

It would certainly be possible to improve access of some communities to domestic markets and potentially to international markets with continued external support. However, this is unlikely to be a viable solution for community producers in general. Several NGOs and ODA agencies in Ecuador are evaluating plans to combine the supply of forest products from a number of communities and other small producers via producer networks in order to reach greater marketable quantities.[43] Nevertheless, in the medium-term, the only producers in Ecuador that can realistically be expected to access eco-sensitive markets are large timber companies.

### 4.3.1 Structure of forest industry and access to eco-sensitive markets – Bolivia

The split between timber companies with an export-oriented production and other producers serving domestic markets was mentioned above.

#### Vertical integration of the forest industry

Unlike in Ecuador, there is a considerable number of big, vertically integrated timber companies in Bolivia. The more than 80 industrial logging concession rights are owned by several dozen firms. This means that the forest area to which individual companies have direct access is actually much bigger than the average concession size of 60,000 ha. Industrial concession holders are usually highly vertically integrated, performing all steps from designing management plans, over timber harvesting and transport, primary and secondary processing, and selling the timber to foreign or domestic customers themselves. Because of the dynamic development of timber exports in recent years some exporting companies have difficulties to satisfy the entire demand for timber products with production from their concessions. Partly as a consequence of this development, many

[40] Interviews no. 6, 7.
[41] Interviews no. 10-18, 26, 34.
[42] Interviews no. 16, 17, 25, 34.
[43] Interviews no. 25, 34.

concession holders additionally source timber from third parties, generally through intermediaries.[44]

The situation is very different for the small timber industry, which in its majority, has no direct access to forests. As a result, most companies in this segment are obliged to buy their timber from intermediaries who frequently already perform primary processing steps. In Bolivia, the division between small and big timber companies does not seem as strict as in Ecuador. Some small processing companies sell products to exporting companies, resulting in a certain amount of flux between the different production chains.[45]

Most communities and private landowners only have very limited capacities to process timber products. They either sell wood as standing trees to intermediaries or limit their participation in the productive chain to the felling of trees and the sale of roundwood. There seems to exist an increasing number of communities which elaborate management plans themselves, often with technical assistance provided by NGOs, and in some cases carry out the harvesting as well. Most communities and smallholders, however, appear to leave harvesting activities and also the process of obtaining harvesting rights to intermediaries.[46]

The possibilities to establish integrated production chains appear to be better than in Ecuador because of the higher degree of vertical integration of timber production alongside the relatively large forest areas covered by land titles or usage rights. Most of the timber volume is currently sourced through intermediaries. However, the separations between different producers and landowners in the forestry sector are not insurmountable and there seem to be potentials for a participation of a variety of actors in certifiable production chains.

#### Access to eco-sensitive markets

Although there are isolated reports of a sporadic domestic demand for CFPs,[47] accessing eco-sensitive markets for Bolivian producers still means exporting to Europe or North America. As the distribution of exports between different companies indicates (30 firms account for 80 percent of timber exports), a much greater number of actors than in Ecuador are able to access international markets. Far more than 100 firms export timber products which means that not exclusively big, vertically-integrated concession holders can access export markets in general. As I have described above, product fluxes between different industry segments can be significant, which implies that also a certain production share of smaller producers finds its way to international markets. Nevertheless, the timber export industry is dominated by few relatively big firms and most small producers are restricted to domestic markets.

Communities, in their great majority, produce timber for local markets. According to interviewees, most NGOs do not attempt to directly link communities with international markets, a paradigm shift from goals in former years. Most projects are instead directed towards facilitating links with Bolivian timber companies, which can then process and

[44] Interviews no. 40, 45, 46, 62.
[45] Interviews no. 41, 43, 44, 55.
[46] Interviews no. 47-50, 58, 59, 64.
[47] Interview no. 63.

export timber bought from communities.[48] There are indeed examples of such company-community "partnerships" and some interviewees from certified firms declared that their companies want to increasingly incorporate timber from communities into their production. These firms may be willing to support certain communities in obtaining certification so that the companies can expand their supply of certified timber.[49] In addition, there are about 10 processing companies with CoC-certification that do not dispose over own forest resources. These firms are obliged to acquire certified timber from third parties and there is already one example where the supplier is a community with certified forests.[50]

At the present time, large timber companies with forest concessions are the only producers in Bolivia that can directly link certified forest management operations with eco-sensitive markets. There seems to be a certain potential for other landowners and producers to access eco-sensitive markets via these companies or via processing companies with CoC-certification. It remains to be seen, however, whether these potentials can be translated into reality in more than a few isolated cases.

## 4.4 Forest legislation and quality of enforcement – Ecuador

Land titles for forested land in Ecuador are held by a multitude of actors and state ownership is limited largely to protected areas.[51] Nevertheless, the forests itself, that is the trees on this land, are legally the property of the Ecuadorian people and the state has to permit their harvest. Without this official permission, legally no trees can be logged and no forest can be converted to other land-use forms, such as agriculture (MAE 2004a).

### Requirements by forestry laws

In order to obtain the legal right to harvest, the law states that a forest management and harvesting plan has to be elaborated by the landowner and approved by the government. The norms regulating the harvesting practices are clearly defined and they have been adapted and specified repeatedly in recent years, the stated overall goal being a sustainable management of the country's forests (see Congreso Nacional 2004; MAE 2004b). It is not possible here to discuss in detail the formal regulations, such as harvestable timber volumes, restrictions in riparian zones. However, almost all interviewed experts agree that the law, elaborated in parts with input from foreign technical assistance, demands an ambitious level of Forest Management (FM), both for larger-scale, industrial harvesting, and for small-scale harvesting, carried out mainly by small landowners and communities.

### Compatibility of forestry laws with FSC certification

The compatibility of the formal legal requirements with FSC principles and criteria is judged to be fairly high in that no major contradictions seem to exist between the two. However, the level of management and especially its documentation demanded by the law is thought to be a considerable step away from certification standards. The same

[48] Interviews no. 55, 58, 59, 62, 63.
[49] Interviews no. 39-42.
[50] Interviews no. 46, 58, 62.
[51] Interviews no. 21, 33.

applies to social and economic aspects of forest management for which no equivalents to FSC standards exist in the law.[52]

#### Organisational setup of enforcing agency

Since a law reform in 2000, Ecuador has a complex, multi-stakeholder apparatus to enforce forest legislation. The government entity responsible for regulating the forestry sector is the *Dirección Nacional Forestal* (National Forest Agency), which is part of a sub-secretariat within the *Ministerio del Ambiente* (Ministry of Environment). The Forestry Agency issues transport permits for harvested timber. The management plans needed to obtain these permits, however, are verified by *Regentes Forestales* ("Forest Stewards"), independent foresters accredited by the government. The control of transport permits on the road is carried out by the *Vigilancia Verde* ("Green Surveillance"), an organisation made up of a number of public and private entities, including industry associations. The law further provides for contracting out of major parts of the government's supervision functions to an independent private supervisory organisation. This organisation is supposed to oversee and verify the control carried out by the *Regentes Forestales* and the Vigilancia Verde, operate a data-clearing system to track all timber and the permits accompanying it. It should also take over the government's function of approving harvesting plans and transport permits, and of collecting logging fees (GTZ 2004; Congreso Nacional 2004). However, a contract with a firm to take on these responsibilities is currently suspended, leaving a large gap in the control system.

The organisational setup of the forest control, as set forth by the law, is thus quite innovative and has won international claim (FAO 2003). Ecuador has been described as having "a modern, coherent legal framework for forestry, geared toward making forest management transparent, clear, simple and predictable", establishing "a sound basis for encouraging the sustainable management of natural forests and preventing illegal or destructive logging" (ITTO 2002).

More important than the written law itself, however, is the question whether it is implemented in practice. "We are in Ecuador….!" answered a company owner to this enquiry, with a laughter.[53] The controlling organisations are seriously under-funded and under-staffed, corruption is endemic, important aspects of forest use and timber production fall outside the supervisory framework, and powerful actors are boycotting an effective functioning of the system.

#### Funding of enforcing agency and number of staff

The National Forest Agency receives a yearly budget of under US$ 1 million from the Ministry of Environment, a sum barely sufficient to pay for its administrative costs in the national and provincial offices. In contrast, the stumpage and transport fees collected for each cubic metre of timber accrue to the Ministry and in fact make up two thirds of its total income. An informant described this situation as creating an interest in high levels of logging with the government itself, while it does not generate more resources for the agency actually in charge of the forest sector.[54] The *Regentes Forestales* likewise increase

[52] Interviews no. 25, 29, 35. For a detailed analysis of the gaps between legal FM requirements and FSC standards see Villacrés (2004).
[53] Interview no. 6.
[54] Interview no. 21.

their income by authorising many harvesting plans, for which landowners pay them volume-based fees, while they have no financial interest to actually verify plans in the field. Finally, the *Vigilancia Verde* is financed through a trust that receives money from the state-owned oil firm, the auctioning of seized illegal timber and other sources. At present, however, the organisation is practically without funding, as the financing accord is being renegotiated, and only very little illegal timber seized and sold.[55]

Due to the desolate funding situation there insufficient field staff to carry out controls. In all of Ecuador, the *Vigilancia Verde* currently operates merely four control posts in fix locations, run by eight persons working in shifts who are formally assisted by police forces. There are no mobile units operational and most posts can easily be evaded by transports using alternative routes. Staff in the controlling posts are confronted with frequent threats by loggers and at several occasions they and their equipment have been exposed to physical violence. While there are 40 to 60 *Regentes Forestales*, they are formally responsible for vast tracts of forests, which are often hard to access, and, most importantly, they are not monitored themselves. In practice, very few harvesting plans are verified in the field. Finally, there is no government staff to verify legal compliance in areas for which no harvesting permits have been issued (but in which there is widespread illegal logging). There is effectively no personnel to control the legality of timber that has reached processing centres, either.[56]

#### Pervasiveness of corruption in controlling agency

In addition, there is widespread corruption at almost every level of the control system. While stakeholders that were interviewed blame different actors for this, all of them describe corruption to be extensive and consider it a big problem. Most cases of corruption seem to occur during the process of obtaining harvesting and transport permits. Harvesting plans are frequently made up from blueprints in the offices of *Regentes Forestales*, existing plans are simply photo-copied, and signatures of *Regentes* are forged. Sometimes, they refer to land areas where there is not even any forest (any more). In cases where no harvesting plans exist at all, transport permits are frequently bought from local officials of the forest agency. It is a very common practice to log trees illegally, without going through any of the administrative processes, and obtaining all documents necessary for transporting them "posthum". In some regions, relatively fixed prices per cubic metre exist for obtaining permits in this manner. While the government attempts to withdraw the professional licences of particularly corrupt *Regentes*, this amounts to not much more than a symbolic gesture considering that "99.9 percent"[57] of these foresters are described as corrupt. Government employees may be particularly susceptible to accepting bribes because they are poorly paid.[58]

The situation is not any better at the level of on-the-road controls where officials are frequently bribed to let timber pass without transport permits. "If you have to pay five dollars per cubic metre (as fees for permits) and you have a transport with 40 than that makes 200 dollars. Unfortunately you can do a lot of things with this money here…", one industry informant described the incentive to not bother about legal transport documents.

[55] Interviews no. 21-23, 25, 26, 29.
[56] Interviews no. 20-24.
[57] Interviews no. 4, 6.
[58] Interviews no. 6, 22, 24, 25.

Considering the physical danger for officials that actually attempt controls, accepting bribes is certainly the more attractive option. Apart from this there are cases where timber that was seized by the *Vigilancia Verde* was illegally sold by employees for private profits.

### Effectiveness of control

But even if there were fewer cases of corruption in controlling agencies, there would still be considerable flaws and loopholes in the existing system. Officers responsible for controls on the roads can do little more than check the simple existence of a transport permit. Since no data system exists that allows to match these permits with management plans or harvesting areas. As a result, an illegally purchased transport permit works as well as a regular one, permits can be copied or re-circulated, and they can be used for any kind of transported timber, as long as the volume indicated on paper matches the volume on the truck. In addition, there is no mechanism to control the legality of timber once it has reached the processing centres.[59] "I don't ask where the wood comes from, if it is stolen or properly produced",[60] said one interviewee, presumably describing a common attitude of factory owners.[61]

An especially controversial issue in Ecuador is the suspension of a contract with the Swiss company SGS which was to function as the supervisory organisation of the control system described above. The official reason for suspending the agreement in 2004, after five months of operation, was concerns about the constitutionality of transferring government control powers to a private entity. Opinions strongly diverge as to the real causes of the current stalemate. Company representatives claim to be very interested in the system's functioning but said the associated costs are far too high and would make the industry uncompetitive. In contrast, environmental NGOs directly accuse influential industry actors to have brought the system to a fall in order to prevent an effective control because "they are happy with the chaos" and "they like the illegality because it is much cheaper".[62] In addition, there seems to have been a strong resistance from within the Ministry of Environment because the new system would have brought with it a reduction of the stumpage fees directly accruing to the Ministry, thus jeopardising its income base (see above). Fears of a loss of control or importance might have contributed to this position. However, according to one informant, this resistance by government employees was largely instigated and organised by industry actors.[63]

"Concerns" over a potentially effective forest control seem well justified because the risk of an image loss could lead an international company to strive for a well-functioning, non-corrupt system. The experiences from the short operational period of the scheme seem to point into this direction.[64]

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[59] Interviews no. 20, 24, 32.

[60] Interview no. 6.

[61] From a different point of view, the situation is even more worrying. All the control instruments described thus far concern the legality of wood that is destined for the market and enters the production chain. Much deforestation in Ecuador, however, is due to land-use conversion for agriculture outside of any formal logging areas (FAO 2003; ITTO 2004).

[62] Interviews no. 22, 24, 29, 33.

[63] Interview no. 25.

[64] Interviews no. 23, 24, 29.

#### Illegal logging

Illegal logging is notoriously hard to quantify (Guertin 2003; SCA and WRI 2005). In light of the difficulties to even measure formal timber production in Ecuador, it is not surprising that there are no useful estimates on the share of illegal timber. Several informants suggested that 70 percent of timber harvests are illegal; however, all agree that there is no base on which to make reliable assessments. An indication of the pervasiveness of illegal logging might be the fact that landowners and producers at best obtain marginally higher prices for legal timber. Organisations trying to source only legal wood have great difficulties to achieve this objective, and the oversupply of timber from obscure sources depresses timber prices on local markets.[65]

While small producers are likely responsible for an important share of illegal timber production, big timber companies are also involved, despite affirmations of the opposite. In order to not be directly associated with illegal practices, firms acquire timber from forests by outsourcing the task to third-party intermediaries. An NGO representative described this method with the words: "Here you have two tractors and 50,000 dollars. Go, get wood and sell it to me!".[66] The great majority of the timber used by small and big processing companies is obtained from intermediaries who either fell trees themselves or buy them from small landowners and communities. As a consequence, almost the entire industry is to a certain degree involved in sustaining illegal forest practices, either by tolerating them and profiting from cheap wood, or by actively engaging in illegal logging and bribing officials. The claims made by certain sectors of the industry that only small companies and farmers engage in illegal activities seem hardly credible. Nonetheless, representatives of several big companies (who refer to themselves as the "formal sector") affirm that there exists "a lot of control" for them, and that "the fixation on control" is an inefficient use of resources. They also denounce the "myth of control in this country" which would distract attention from more pressing issues in the sector.[67]

In conclusion, it seems fair to say that Ecuador has a fairly demanding forestry law which is compatible with FSC certification. However, its implementation faces severe problems. To say that "there is no forestry control in the country"[68] hardly appears to be an overstatement.

### 4.4.1 Forest legislation and quality of enforcement – Bolivia

Not only Bolivia's export situation gives grounds for optimism regarding the role of forest certification. Also the state of forest legislation and enforcement is clearly more advanced than in Ecuador.

The Bolivian state still disposes over extensive areas of virtually unsettled forest, a situation that is mainly due to the country's low population density. In addition, all natural forests on private or communal lands belong to the government and any harvesting activities require an official permission. For the majority of the area under forest management, harvesting rights are granted in the form of long-term concessions.[69]

[65] Interviews no. 13, 14, 17, 24, 26, 31, 34.
[66] Interview no. 33.
[67] Interviews no. 4, 8, 9.
[68] Interview no. 33.
[69] Concession rights remain valid for 40 years, if all requirements are fulfilled, and can be renewed.

Apart from concessions, different kinds of harvesting plans for smaller areas are approved (Congreso Nacional 1996; FAO and MACA 2004).

#### Requirements by forestry laws

Since a fundamental reform of the forest legislation in 1996, the law demands very high standards for timber harvesting and provides for an effective enforcement of regulations. The stated objective of the law is to "enforce the sustainable use and the protection of forests for the benefit of present and future generations, thereby harmonizing the social, economic, and ecological interests of the nation" (Congreso Nacional 1996). The reform was the result of a broad national, participatory process, involving industry, as well as civil society actors, while there were also important contributions from international NGOs.[70] In order to legally harvest timber, producers have to demonstrate sustainable management practices by carrying out a detailed census of the commercially valuable tree species in the forest, and by establishing an annual harvesting plan. A government permit is then issued for transporting the timber to processing centres. While a detailed description of the regulations is not possible here, it is worth noting that the fees paid by producers are generally calculated on the basis of the management area, as opposed to the harvested timber volume. This demonstrates the law's focus on actual forest management because it encourages the use of a forest's full potential rather than the extraction of a few highly valuable species. The latter frequently leads to the economic devaluation of the remaining forest, making it more susceptible to a conversion to agriculture (Congreso Nacional 1996; Putz et al. 2000; Quevedo 2005).

#### Compatibility of forestry laws with FSC certification

What is remarkable about the legal forestry standards in Bolivia is not only their stringency but also how close they are to FSC certification standards. Environmental and economic requirements of the two regulatory systems are so similar that it is "only a small step"[71] for producers complying with the law to achieve certification standards (Nittler and Nash 1999; see Jack 1999). Social aspects of forest certification, such as workers benefits and community relations, have no equivalent in the law but nevertheless, most interviewees agree that the resulting "standards gap" (Richards 2004) is very small. This outcome is certainly no coincidence. Forest certification emerged as an international issue at the same time as the Bolivian forestry reform process began. Important participants in the law reform, notably international NGOs, were also involved in the certification discussion, and a working group formally started to develop national certification standards in 1995.[72] FSC standards thus contributed to the definition of legal criteria of

[70] Unfortunately, it is not possible to discuss the factors contributing to a success of the reform process in depth. Interviewees considered the strong support by key government officials, including the personal commitment of the former president to be decisive, along with a very efficient and concerted lobbying effort by ODA and NGO actors. In addition, there appears to have been strong pressure from broader civil society and dissatisfaction with logging practices. While the timber industry in general opposed the reform, there were notable exceptions of certain companies who perceived commercial opportunities in the reform. The industry also was keen to improve its image and to obtain a reliable access to resources. The acceptance of the law was greatly promoted by the long and broad participatory process of the reform, and by the possibilities it created for a broader variety of actors to access forest resources within a legal framework. For a description of the process in the literature see Contreras-Hermosilla and Vargas Ríos (2002).

[71] Interview no. 55.

[72] Interviews no. 39, 56, 63, 64.

sustainable forest management.[73] Voluntary certification is in fact actively promoted by the law through tax cuts and reduced monitoring obligations for certified producers (Jack 1998; SF 2003) (see Section 6.2.2.).

An important exception from the formally high forestry standards and the compatibility with FSC certification are legal requirements for small (below 200 ha) and very small (below 3 ha) areas. Special regulations were developed after it became apparent that the elaborate planning and documentation requirements of the law were hard to fulfil for small producers. Those regulations were intended to be temporary exceptions, facilitating the transition of small producers to formal management methods but, instead, they appear to have become permanent features of the system. As a result, only simplified management plans or no plans at all are required for a part of the forestry sector which by now accounts for a significant share of overall timber production. For these areas, as well as for authorised forest-clearings for agricultural purposes, fees are paid per volume of harvested timber.[74]

#### Organisational setup of enforcing agency

The *Superintendencia Forestal* (Forest Superintendence) is responsible for enforcing the forestry law. The Superintendence is a semi-autonomous agency, linked to the *Ministerio de Desarollo Sostenible* (Ministry of Sustainable Development). It has its own, direct funding sources of tax incomes and is independent in its operational management. The superintendent is nominated and elected directly by the national parliament and the president and can only be removed from office by the supreme court. While the president's mandate lasts for four years, the superintendent stays in office for six years. This creates an administrative continuity that is very unusual in the Bolivian political landscape, and allows the Superintendence to work on a technical level, largely independent from changing political currents. Another remarkable feature is the level of transparency demanded from the agency. It has to publish annual reports of all its activities and financial situation which are presented to the scrutiny of the public at local meetings. The Superintendence carries out controls in the forest and on the road with its own staff and is – or ought to be – assisted in this task by local governments and their police forces.[75]

On an organisational level, there are important conditions in place to allow for an effective forestry control. In fact, all interviewees described a drastic improvement compared to the situation prior to the forestry law reform. "Before it was a total disaster",[76] whereas the new Superintendence gained the respect of industry actors and NGOs alike. Many informants stressed the professionalism and high personal integrity of its staff which they regard as a highly exceptional feature compared to other government agencies. At least an important segment of the forestry sector, namely companies with large forest concessions, seem to have accepted to comply with the law in view of credible enforcement. Interestingly, many industry actors perceive the planning efforts associated with compliance as beneficial for their economic efficiency, greatly reducing the costs legal

[73] How voluntary standards, as part of non-state governance systems, influence public policy processes is a fascinating issue but not the focus of this study. For an overview, including details of the reform process in Bolivia, see Segura (2004).

[74] Interviews no. 59, 64. The significance of this production is also reflected by official data (SF 2004).

[75] Interviews no. 52, 55-57; Quevedo (2005).

[76] Interview no. 63.

compliance. The fact that the Superintendence does not simply enforce the law but has adopted a cooperative approach, offering technical support to producers, appears to be an influential factor both on a practical and psychological level. Finally, the location of the Superintendence's head office in Santa Cruz,[77] in close contact with the majority of the forest industry, has contributed to a situation in which it is seen as a "partner" by important producers.[78]

However, this positive description is only one part of the whole picture. The Superintendence is responsible for overseeing an enormous forest area, which is difficult to access in many parts, but only has very limited human and financial resources. "I just talked to a guy from the US Forest Service and they have 30,000 people for their forests, we have 171",[79] a government official described part of the dilemma.

#### Funding of enforcing agency and number of staff

The low number of staff can be easily explained by the agency's financial situation. Taxes and fees from harvesting rights and transport permits are the only significant source of income for the Superintendence. There are no additional contributions from government funds. Furthermore, the tax receipts are shared with local governments and only 30 percent remain with the Superintendence. While the local governments are supposed to use their share for a range of forestry and control activities, "most of them do absolutely nothing".[80] In addition, tax receipts vary with the area under forest management and the harvested timber volume from small areas and clearings. Especially area-based tax receipts decreased dramatically over the years as concession areas declined and the fee-base was modified in order to reduce the financial burden for the timber industry. Meanwhile, most of the harvesting fees accrue from volume-based receipts (half of the total from clearings and another third from small logging areas) (Congreso Nacional 1996; SF 2003; SF 2004; Bolfor II 2005).

#### Effectiveness of control

Many informants described a significant decline of effective control from a high level which had been reached a few years after the law reform. "The Superintendence is doing its best to be transparent, and that is very good, but its whole nature is transparency now when it should also be effective!",[81] one forester remarked. A rather effective control of forest management seems to exist in large concessions, where access roads exist, and where concession-holders usually provide transport for Superintendence officials. However, staff and resources for transportation are clearly insufficient to control the majority of smaller management areas or of forest areas which are under no official management. In fact, controls frequently cannot be carried out simply because of a lack of fuel. Moreover, the ease with which clearing permits for forested land can be obtained was considered to seriously undermine otherwise existing control efforts.[82]

[77] Virtually all other government offices are concentrated in La Paz, and it was a deliberate, novel step to establish the new forest agency in a different location (Interview no. 56).
[78] Interviews no. 38, 40, 41, 45, 52.
[79] Interview no. 52.
[80] Interview no. 59.
[81] Interview no. 57.
[82] Interviews no. 39, 41, 53, 64.

Control of harvested timber on the road appears to be effective enough to curb the transport of strictly illegal timber for which no permits exist. There are now five permanent control posts at central roads in the country, complemented by 16 mobile units.[83] However, fix posts can be easily evaded using alternative routes, and the mobile units are limited in their operation due to resource constraints. More importantly, funding limitations prevented the implementation of a computerised data system to track permits and harvested timber. At present, only the volume of transported timber can be verified.[84] This is a major flaw because loopholes in the law developed for small logging areas, which pay for and receive permits based on timber volumes. It has become a common practice to greatly inflate the estimated volumes of harvestable timber when soliciting logging rights and to complement the amount actually harvested in the legal areas with wood from other sources. The timber "legalised" through this mechanism amounts to significant amounts (see Cronkleton and Albornoz 2004). Despite these shortcomings, it has to be stressed that the Superintendence appears to maintain an effective control over transport permits issued, that these permits cannot be easily falsified and that there are no reported cases of a sale of these documents.[85]

#### Pervasiveness of corruption in controlling agency

The level of corruption in the Superintendence was described by all interviewees as being extremely low, or "not measurable".[86] This is very remarkable in a country with overall pervasive corruption in the political arena (TI 2004a; TI 2004b). In fact, "the Superintendence is probably the only public agency without corruption" [87] in Bolivia. Respect for the agency and the effectiveness of controls greatly benefit from this. The fact that officials are personally liable for irregularities in management plans that they approve, their aforementioned commitment and professional attitude, and the comparatively high wages they receive are considered to explain the virtual eradication of corruption in the sector. In addition, the high level of transparency – which includes a right for the public to access all official documents and annual public accounts, not only of the government agency but also of timber companies and producers – certainly contributes to this achievement.[88]

The clean functioning of the Superintendence cannot be taken for granted, however. Substantial wage cuts in recent years are thought to increase the susceptibility of officials to corruption. Besides, limitations of resources and management issues within the agency are said to have lowered the motivation of staff and led to the loss of qualified personnel.[89] Some informants also considered the approval of obviously inflated harvesting plans for small areas to be a form of corruption.[90] In addition, there is a strong pressure from small producers to not insist on a strict interpretation of regulations. Furthermore, the security of controlling staff in local offices and in the field is not guaranteed. There were cases of armed threats and attacks directed at officials, while police support is very insufficient.

[83] Interview no. 52. This is a significant reduction from earlier years when there were 12 fix and 24 mobile units (SF 2004).
[84] Interviews no.41, 59, 63.
[85] Interviews no. 49, 50, 60, 64.
[86] Interview no. 45.
[87] Interview no. 57.
[88] Interviews no. 38, 41, 55, 57, 63.
[89] Interviews no. 41, 55, 63.
[90] Interview no. 50.

Informants reckon that this situation leads many officials to limit their activities to administrative processes and to not react to reports of illegal logging.[91]

#### Illegal logging

There are no current estimates of the extent of illegal logging. It seems plausible that illegal timber amounts to a share of less than 50 percent because most of the production destined towards export, about half of overall timber production, can be assumed to be legal. In contrast, many informants consider the majority of timber on the domestic market to be from illegal sources. The local timber price in important producing regions dropped significantly over the last few years, a development interviewees associated with an oversupply of timber, much of it from illegal sources.[92]

In sum, Bolivia disposes over an exemplary forestry law which is very compatible with certification requirements. Enforcement of the law varies for different segments of producers but is credible for the majority of timber production. On the other hand, the quality of enforcement, which is currently high compared to many other tropical countries, is threatened. The controlling agency still enjoys a "credibility bonus" from earlier years. However, "if the developments continue like this, then (….) we will, in some years, return to conditions as they existed before the reform.",[93] which would resembled the current situation in Ecuador.

## 4.5 Comparative overview of case studies findings

Table 3 summarises the study results discussed in the preceding sections. In addition it includes the results for a number of additional variables that were included in the original study (see Ebeling 2005), as elaborated above.

**Table 3 – Results of case studies, overview**

| | **Ecuador** | | **Bolivia** | |
|---|---|---|---|---|
| Success of certification | Low | - 21,300 ha (all plantation)<br>- 2 FM/CoC certificates<br>- 0 additional CoC certificates<br>- 0.2 % of total forest cover | High | - 1.9 mio ha (all natural)<br>- 16 FM/CoC certificates<br>- 10-23 additional CoC<br>- 4 % of total forest cover, 22 % of FM area<br>- 60 % of timber exports |
| Size and quality of eco-sensitive markets | Low | - Export share unknown<br>- 52 % Latin America, 38 % North America, 2 % EU | High | - Export share ca. 50 %<br>- 12 % Latin America, 51 % North America, 29 % EU |
| Vertical integration of forest industry | Low | - Few vertically integrated companies | Low – High | - Majority of FM area managed by vertically integrated firms |
| Access to eco-sensitive markets | Low | - Only exporting companies<br>- Few firms export | Medium | - Only exporting companies<br>- > 100 firms export |

[91] Interviews no. 41, 64.
[92] Interviews no. 41, 43, 59, 60.
[93] Interview no. 63.

| | | | | |
|---|---|---|---|---|
| Forest legislation | Medium | - Strict legislation<br>- Intermediate compatibility with FSC | High | - Very strict legislation<br>- High (but variable) compatibility with FSC |
| Quality of enforcement | Low | - Insufficient funding<br>- Widespread corruption<br>- Ineffective control system<br>- Illegal logging widespread<br>- 4 control posts | Medium | - Insufficient funding<br>- Very low corruption<br>- Strong controlling agency, effective control system for parts of production<br>- Illegal logging substantial and increasing<br>- 5 control posts, 16 mobile |
| Security of land tenure | Low – Medium | - Formal legal security for most FM areas (widespread corruption in land titling)<br>- Frequent invasions and illegal logging | Medium | - Formal legal security for FM areas<br>- Occasional invasions and illegal logging |
| Predictability of forest legislation and enforcement | High | - Predictably low enforcement | High | - Very transparent regulation and control |
| Government support for certification | Low | - Officially supportive<br>- No effective support/resistance | High | - Strong official support<br>- Effective tax measures |
| Industry support for certification | Low | - Generally sceptical (favour no or non-FSC certification) | High | - Supportive (especially big industry) |
| ODA support for forestry | Low | - Isolated projects | High | - Coordinated efforts, especially at critical time |
| Size of land tenure or usage rights | Low | - < 50 ha on average | Low – High | - Highly variable<br>- Concessions > 60,000 ha, certified areas ~120,000 ha |
| Information about certification | Low (- High) | - Variable, only high with NGO, ODA, and some companies | (Low -) High | - Variable, high with NGO, ODA, government, and most companies |
| Transparency of sector | Low | - Limited data or accessibility | High | - Generally higher quality, accessible data |

Note: Data as of May 2005. See text and Ebeling (2005) for interview and literature sources.

# 5 Implications and conclusions

"Certification: a future for the world's forests." (WWF 2000) – Is this more than a publicity statement by an environmental NGO? Can certification realistically be expected to protect forests in those regions of the world where they are exposed to the greatest threats? This paper has investigated the question whether forest certification[94] in the tropics can achieve what governments have not been able to accomplish: the conservation of highly endangered tropical forests while continuing their use as an economic resource. The analysis of the two case studies in South America shows that this is an extremely difficult task. The situation in Ecuador and Bolivia provides strong evidence for the hypothesis that forest certification cannot compensate for poor environmental law enforcement. However, beneficial synergies between this market-based tool and public

[94] As in the remainder of this paper, „certification" refers to FSC forest management certification.

policy are possible. Certification can complement environmental laws and provide important incentives to comply with them. If specific conditions are in place, certification can thrive even in the difficult socio-political environment of tropical countries.

### Causal pathways and interdependence of variables

The results from the two case studies demonstrate that certification on its own cannot be expected to provide sufficient incentives for sustainable forest management. Certification can offer market benefits, notably access to attractive eco-sensitive export markets. However, these eco-sensitive markets are currently small and only accessible for certain timber companies. Most producers in the two countries serve domestic and regional markets which do not demand certified forest products and therefore cannot gain any market-related economic advantages by becoming certified. Even for exporters that can access eco-sensitive markets, certification is only one aspect in a whole bundle of factors that influence their competitiveness, and usually not the most important one. When the current quality of forest management is low and, accordingly, timber extraction is cheap, it is not in producers' economic interest to make the significant investments certification requires.

As long as the political conditions allow for a general culture of poor forestry practices and illegal logging, certified forest management is not a competitive land-use option. The comparative advantages of certification only become sufficient incentives when the gap in standards, which exists compared to conventional forestry practices, is reduced by an enforcement of environmental laws. Thus, public policy measures are necessary to make forest certification economically feasible for most actors. These results, in principle, confirm the central hypothesis of this thesis: *Certification can only succeed when there is a minimum level of enforcement of environmental laws*. Success is most likely when the enforced laws are very compatible with certification standards.

This is not to say that policy factors alone determine the success of certification, nor that law enforcement by itself is likely to lead to sustainable forest management. It is also important to note that the quality of enforcement varies strongly for different segments of producers in the case study countries. This factor alone could arguably lead to a limitation of certification's attractiveness to a clearly defined group of producers, such as, in the case of Bolivia, big timber companies with forest concessions.

Several examples from Ecuador demonstrate that, under certain circumstances, a small number of producers opt for certification even in the face of deficient law enforcement. Such conditions can be an extremely strong market pull when traditional customers begin to insist on certified products, or an assumption of certification's costs by third parties, as is the case in projects funded by official development assistance (ODA) agencies. However, these mechanisms only lead to insular effects and convince few individual producers; they are unlikely to have measurable effects on a larger scale.

Certification offers market benefits for important producers and the synergies that arise from government policy and market incentives together can jointly create conditions in which it becomes economically rational to practice sustainable forest management – and to comply with environmental laws. Certification can provide significant incentives for producers to abide by the legal framework and thus, in turn, facilitate law enforcement. Furthermore, it is conceivable that certified firms develop an interest in maintaining the legal framework that contributed to their decision to opt for certification

in order to remain competitive. They also lobby for *policy incentives*, such as tax benefits, that do not only affect them but that create spill-over effects for all producers. Since certification involves a transparent control of forest management by private actors, more certified areas also mean a lessening of the state's control burden and allow for a more efficient allocation of enforcement capacity. Governments can therefore find it beneficial to promote certification in order to reach their own objectives. Thus, once a critical mass of certified actors has been reached, certification may develop its own momentum and lead to a win-win situation for private and public stakeholders.

There is another possible interaction between markets and policy that becomes apparent from the results of this study. Even when no strong market pull for certification exists initially, a sufficient level of law enforcement makes it rational for producers to actively seek out new market opportunities that reward their compliance with good forestry standards. Exporting to eco-sensitive markets allows producers to reap economic benefits from a sustainable production and can compensate for their costs of compliance. A market drive thus arises from the reaction of producers to enhanced law enforcement. In this case, however, certification does not compensate for a low level of enforcement.

All these results point to fascinating possible interactions between private and public rule-making. Nevertheless, even though market incentives and law enforcement appear to be necessary factors for a spread of forest certification, they almost certainly are not sufficient as explanatory variables. In order to create favourable conditions for certification, they have to build on a set of other factors. Ebeling (2005) found that structure and security of land tenure, as well as the structure of production chains are particularly important additional variables. For example, security of land tenure is essential for the long-term planning perspective that sustainable forest management and certification require. The lack of security with respect to tenure and usage rights seems to be an additional difficulty for certification in Ecuador and the threatened security may turn into a major challenge for the continued success of certification in Bolivia.

In the same way as law enforcement and market benefits have different values for different producers in one country, additional variables, such as land tenure and industry structure, also vary for different actors. The combined effect of all these factors is that the legitimacy producers grant to certification is highly variable even within a country. Sufficient incentives are likely to exist only for some economic actors. This means that certification can only be successful if credible law enforcement and sufficient market incentives can build on a favourable combination of additional factors – and this situation, in all likelihood, will only arise for a limited segment of the forestry sector.

#### Implications for tropical forest certification and international policy

The two case studies analysed in this paper demonstrate that the success of certification depends on complex interactions between a number of variables that can all have different values between countries and within one country. This is already a result in itself because it means that the settings in which certification can thrive are highly case specific. It also implies that favourable conditions probably cannot be created everywhere. Therefore, great care must be taken when attempting to generalise the findings from this study to a larger class of tropical countries. Nevertheless, several tentative conclusions can be drawn with respect to certification in the tropics:

- Political framework conditions, especially the enforcement of environmental laws, cannot be ignored when evaluating the feasibility of certification. Insufficient levels of law enforcement, combined with fragmented and disputed land tenure, dramatically diminish the prospects for a spread of certification in the tropics beyond small, clearly delimited "enclaves". Markets do not function as a realm devoid of any government involvement; instead, the benefits they can provide and the costs which market actors incur in order to reap these benefits strongly depend on government activities.

- The pull for certification that international timber markets exercise cannot compensate for unfavourable policy factors. Even if the demand in eco-sensitive markets increased dramatically in the near future, an unlikely scenario, this would only affect a portion of all timber traded internationally, while it would have no influence on the large share consumed domestically. This means that even if more consumers in current eco-sensitive markets began to demand certified forest products (CFPs), only a fraction of the total production in tropical countries would be affected. As long as domestic users of tropical timber do not demand CFPs, market-based certification will not be able to protect a significant share of tropical forests.

- Insufficient market and policy incentives can be balanced by external assistance and producers can be convinced to seek certification in this way. However, certification ceases to be a market-based instrument under these conditions. Replacing market benefits with external subsidies means that producers will only support certification as long as subsidies are available and this severely limits the prospects for a long-term conservation impact. Nevertheless, in certain cases it may be appropriate to reduce the start-up costs of certified operations with external funds.

- Under the current conditions, certification as a market-based tool is only attractive for fairly large, industrial operations because only they can access eco-sensitive markets. Small producers and communities generally do not dispose over the necessary entrepreneurial capacity and can generally not supply products in a sufficient quality and quantity to be attractive for overseas customers.

- There are opportunities for international stakeholders and civil society actors to influence the conditions under which certification, as a non-state market-driven system, operates. In particular, if they succeed in reducing the "standards gap" by influencing the domestic public policy framework, they can have considerable impact on the economic attractiveness of certification in the eyes of producers. Furthermore, they can facilitate the entry of producers into legal and certified production by providing technical and organisational assistance.

The general conclusions listed above contain a number of implicit policy recommendations for international and transnational actors. As a first step, it is necessary to distinguish between direct conservation impacts of certification and more indirect effects. The latter can arise from an increased awareness and discussion of environmental issues, capacity building and diffusion of good forestry practices, and other factors. Certification also entails social benefits, besides environmental ones, and these can by themselves provide ample reasons to promote certified forest management. If external actors pursue such indirect effects of certification, then isolated projects may be an adequate outcome of cooperation efforts because these projects can have impacts that go far beyond the area which is actually certified.

If, however, the goal is a direct, large-scale conservation impact and widespread certified forest management, then political framework conditions have to be addressed. It is certainly not possible for external actors to shape public policies and political processes on their own. The will to implement policies and the commitment of key actors are necessary conditions for an effective outcome, as numerous unsuccessful policy "counselling" efforts in the past have demonstrated. On the other hand, many domestic actors in a country may be prepared to support change in policies and their enforcement but may need support to overcome resistance by other stakeholders. International actors have demonstrated that they can influence national policies very effectively in other issue areas, such as fiscal and trade policy. When there is a sufficient support base with domestic actors, using influencing measures outside of the environmental policy sector, such as credit or trade conditionalities, can be a necessary and effective strategy. The example of Bolivia demonstrates that an involvement of outside actors can be particularly effective in shaping domestic policy when "windows of opportunity" open up. It is important to recognize situations when reform processes are possible and have a large domestic constituency, and to react swiftly. Combining outside support with the efforts of domestic actors, be they NGOs or government actors, is likely to yield the best results.

Additionally, and apart from the enforcement of legal regulations, there could be relatively easy ways to convince governments to create direct incentives for certification, for example through tax benefits, but also through public procurement. In fact, the latter could be a highly effective way to foster domestic demand for certified forest products and thus have impacts for a much greater portion of a country's forests.[95]

#### Future research needs and global environmental governance

This study explored causal pathways in which several potentially explanatory variables influence the success of certification. It could usefully be complemented by further case studies which involve tropical countries with different combinations of variables, that carry out a more in-depth analysis of certain factors, or that compare the importance of a larger number of factors by conducting large-n studies. In addition, the issue of variable enforcement for certain actors merits further investigation. In the cases included in this study, higher levels of enforcement coincided with favourable values of other variables but this need not be true in other cases and the implications for certification cannot easily be predicted.

High hopes are attached to the ways in which civil society actors and markets can contribute to global conservation efforts via non-state market-driven (NSMD) governance systems. The example of forest certification demonstrates that global civil society can design governance mechanisms that effectively use market forces for their goals. Forest certification is still a young instrument and cannot be expected to achieve on its own what neither governments nor previous NGO campaigns have accomplished. Its growth in

[95] There is a wide range of additional ways in which outside actors could foster the spread of certification in the tropics. Recommendable strategies include measures to increase the international demand for certified tropical timber, for example through marketing campaigns or public procurement in industrialised countries. Coupling certification with legal timber sourcing programmes could also be highly effective, as certification at present is the only reliable way to demonstrate the legal origin of wood products. Finally, certification could be combined with payments for ecosystem services, such as carbon sequestration or the conservation of biodiversity, to increase its monetary benefits. For a detailed discussion of several of these options see, e.g. (Stoian and Carrera 2001; Ferraro and Kiss 2002; Landell-Mills and Porras 2002; Richards 2004; Scherr et al. 2004; ProForest and ERM Ltd 2004).

recent years is impressive and forest certification certainly has had important direct and indirect conservation impacts. However, this study shows that there are limits to what civil society actors can reach without the cooperation of national governments.

NSMD systems by definition exclude governments as members. Their focus on rule-setting and the success of green labelling in industrialised countries has led researchers to suggest that the market dynamics on which NSMD governance relies work detached from government regulations. However, governments determine the framework in which markets work, and in which economic actors in these markets make decisions and thereby shape the way in which NSMD governance functions. Governments thus play a decisive role in determining whether *non-state* market-driven governance systems can achieve compliance of private sector actors. The conditions under which rules of NSMD governance systems seek compliance are public policy dependent. The extent to which these conditions depend on government actions has not been adequately considered by previous studies carried out on forest certification in industrialised countries, where the quality of law enforcement is generally high.

While forest certification can promote sustainable forestry practices with certain producers in the tropics, it cannot be expected to lead to a widespread implementation of good forest management and it almost certainly cannot prevent tropical deforestation. In order to affect logging practices in the majority of tropical forest areas and to tackle agricultural land-use conversion and deforestation, authoritative rule-enforcement is indispensable. This does not mean that civil society actors have to wait for governments to take the initiative. There are numerous ways in which non-state actors can influence and complement public policy processes. But it suggests that governments have to be included in effective governance efforts. How non-state market-driven governance can be combined with rule-making by national governments and intergovernmental organisations is a question that demands further research. Let us hope that academics continue to grant "intellectual legitimacy" to such efforts to establish comprehensive systems of global environmental governance.

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## Annex 1 – Interviews conducted for this study

| Audience Ecuador | Audience sub-group | No. of interviews | Audience Boliva | Audience sub-group | No. of interviews |
|---|---|---|---|---|---|
| | | | | | |
| **Supply-side** | Big industry, not cert. | 2 | **Supply-side** | Big industry, not cert. | 2 |
| | Big industry, certified / cert. process | 3 | | Big industry, certified | 4 |
| | Small industry, not cert. | 2 | | Small industry,not cert. | 2 |
| | Business association | 2 | | Business association | 2 |
| | Community, not cert. | 3 | | Community, not cert. | 5 |
| | Community, cert.process | 6 | | | |
| | Landowner, certified | 1 | | | |
| **Government** | Govt. forest agency | 3 | **Government** | Govt. forest agency | 2 |
| | Forestry control | 2 | | | |
| **ODA** | | 2 | **ODA** | | 1 |
| **FSC-NI** | | 1 | **FSC-NI** | | 1 |
| **Env. NGO** | | 9 | **Env. NGO** | | 9 |
| total Ecuador | | 36 | total Bolivia | | 28 |
| **External experts** | | 14 | | | |

## Annex 2 – Country background

| | Ecuador | Bolivia |
|---|---|---|
| Population size (million inhabitants) | 13 | 9 |
| Average population growth rate (%) | 2 | 2 |
| Population density (persons per $km^2$) | 50 | 8 |
| Gross Domestic Product (GDP) (billion US$) | 27 | 8 |
| GDP per capita (value in Purchasing Power Parity) (US$) | 1,900 (3,600) | 900 (2,500) |
| Percentage of population with an income of less than US$ 2 per day | 40 | 34 |
| Human Development Index (HDI) value[96] | 0.74 | 0.68 |
| Primary exports as percentage of total exports | 90 | 80 |
| Official Development Aid (ODA) as percentage of GDP | 1 | 9 |
| ODA per capita (US$) | 17 | 79 |
| Transparency International (TI) corruption index (of 10)[97] | 2.4 | 2.2 |
| TI corruption index rank (among 146 countries) | 112 | 122 |
| Land area (million hectare) | 26 | 109 |
| Forest cover as percentage of land area | 35 – 45 | 50 |
| Forest plantations (hectare) | 160,000 | 40,000 |
| Deforestation rate (% per year) | > 1.2 | 0.4 |
| Deforested area (hectare per year) | 140,000 – 250,000 | 200,000 – 300,000 |
| Contribution of forestry sector to GDP (%) | < 2 | 3 |
| Forest products as percentage of total exports | 1 | 6 – 7 |

Notes: Approximate values. Various sources.

[96] The UNDP index assigns values between 0 and 1, with 1 representing the highest Human Development.

[97] In the TI rating, an index value of 10 is equal to no corruption.