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# Barriers to Forest Certification in Developing Countries

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## **Abstract**

In the decade since the conception of forest certification, Forest Stewardship Council (FSC) certification has emerged as the most globally recognized scheme. However, the area of FSC certified forests in the highly forested, developing countries of the tropics has remained relatively small. In this paper, direct and indirect barriers to achieving certification in highly forested (>10 million ha) tropical nations are identified. Direct barriers are defined to be those that alone can stop the establishment of forest certification in a country, whereas indirect barriers negatively impact forest certification. Criteria and indicators for these barriers are developed and used as a tool in determining the presence or absence of each barrier. The analysis indicates that the most significant direct barriers are a lack of land and/or tenure rights; ineffective legislation or policies; poor governance; a weak institutional environment; the high cost of certification; and an inability to sell certified forest products. Indirect barriers, such as international influence; political will; consumer buy-in; FSC's mandate and forest management standards, and forest operation size, have hindered certification of forests in the studied countries.

**Key words:** Forest certification, FSC, tropical forests, criteria and indicators, non-state market mechanism

## **1. Introduction**

Forests provide important environmental services and values to global stakeholders, but they also supply essential direct benefits to groups and communities. Since forests play such a significant role, concern by governments, environmentalists, forest industry and the public over the sustainability of the world's forests have led in recent years to the signing of international conventions and the exploration of new strategies to ensure the continued health and productivity of forests. Regulatory or 'command and control' mechanisms for promoting sustainable forest management are giving way to non-state market mechanisms. Forest certification is the most developed and long-standing of these in use today. Implemented over ten years ago as a means of promoting the protection and conservation of tropical forests, there is growing concern for the unequal distribution of certification and its dominance in the temperate and boreal forests of the developed world. Tropical forests are one of the most valuable ecosystems in the world but they are located mainly in developing countries that are unable or unwilling to support forest conservation and responsible management.

At first glance, the success or failure of forest certification in a country appears to be based on a random and varied set of political, environmental and social pre-conditions. However, some factors seem to have a stronger impact on the status of certification in any given country. The goal of this paper is to identify these pre-conditions and determine why the expansion of Forest Stewardship Council (FSC) forest certification<sup>1</sup> has not been gaining

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<sup>1</sup> The Forest Stewardship Council (FSC) developed the first forest certification scheme in 1993. It will be the only scheme examined in this paper, as it is the only one found in all tropical regions, has the most stringent standards, a transparent process, and accountability through its reporting system. FSC is also generally recognized in the scientific literature (Guilison, 2003), by NGOs (World Wildlife Fund, Greenpeace, Friends of the Earth, The Nature Conservancy) and by forest product suppliers as the most globally relevant certification scheme.

ground in developing tropical regions as quickly as in boreal and temperate forests. Based on the elements of sustainable forest management (SFM) on national level, we derive criteria and indicators that are used to identify the direct and indirect barriers to certification. The identified barriers as well as criteria and indicators can be used to assist stakeholders in evaluating a country's potential for certification and to find practical solutions for overcoming these barriers. The paper is organized as follows. First, forest certification is introduced, followed by the theoretical framework for analyzing the barriers and the criteria and indicators. The methodology used in the paper is then presented and, finally, the results and conclusions.

## **2. Forest Certification**

In the mid 1980's, consumers and environmental non-governmental organizations (NGOs) were increasingly disillusioned with the failure to improve forest management through the use of agreements, policies and legislation. Action was seen to be most important in tropical zones where staggering rates of deforestation threatened some of the world's most biologically diverse and valuable natural resources. It was following the 1992 United Nations Conference on Environment and Development (the Earth Summit) held in Rio de Janeiro that the concept of forest certification was first conceived as the potential instrument through which a market for sustainable forest management (SFM) could be created.

Forest certification is a voluntary and market-based instrument whereby products that originate from a well-managed forest are identified by a recognized label or trademark. Managed forests are evaluated using rigorous standards by an independent third-party called a certifier, or a certification body, for their environmental value, social impact and the economic realities of those dependent upon them. Compared to previous approaches to SFM, market instruments such as certification are hoped to lead to increased efficiency, effectiveness, and equity in the distribution of costs and benefits (Pagiola et al., 2002). The ability for forest certification to work as a conservation strategy is in its ability to provide a financial incentive and value for SFM versus other land uses (e.g., cattle ranching, agriculture).

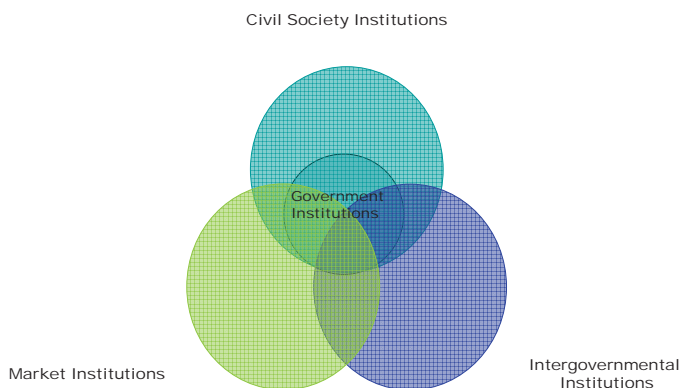
The current global state of forest certification is one of growing importance and influence. With over 76 million ha of forests certified in 72 countries (as of June 2006) (FSC, 2006a), they still represent a small fraction (about 2%) of the world's forested area (3,869 million ha) (FAO, 2001). This area however, is increasing at a rapid rate, stakeholders are increasingly involved in forest management decisions, SFM is better understood and more widely applied, and markets for certified forest products are growing. The geographical distribution of certified forest area is indicative of its disparate impact so far. Over 82% of all certified areas are found in Europe and North America, and over half (53%) of all FSC National Initiatives are in Europe alone (FSC, 2006b). Today, tropical forests make up only 12.77% of all FSC forests certified (FSC, 2006c). In fact, all of the forests in Latin America, Africa and Asia-Pacific make up only 18% of certified forests, despite the fact that all of the world's tropical forests (2 billion hectares) and 61% of its forests are found there (FAO, 2001). Within tropical regions, Latin America has the greatest area certified and the most established FSC presence (e.g. eight National Initiatives).

Most forests that are FSC certified are large and publicly owned; almost half (47%) of certificates are awarded to public lands, while less than 3% of the total certified area belongs to community managed properties (FSC, 2006d). Forest tenure rights and ownership in the developing world are changing; Indigenous and rural communities own or administer more than a quarter of the world's forest estate (White et al., 2002) and are increasingly influential players in forest certification. Certificates on public lands also tend to be of a greater size than those for private lands, and communal ones are the smallest of all.

### 3. Analytical framework

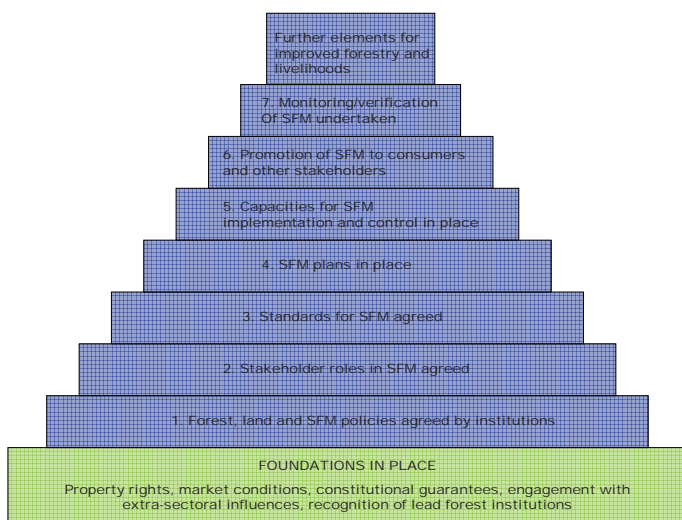
Forest certification falls among the new institutions described as non-state market-driven governance systems. In addition to forestry, these systems have also emerged in, e.g., food sectors, fisheries and tourism, and they have been gaining legitimacy. Cashore et al. (2004) have studied forest certification widely and they argue that there are three structural factors that affect the support the FSC certification can gain from forest companies and forest owners; (i) the place of the country/region in the global economy, (ii) the structure of the domestic forest sector, and (iii) the history of forestry on the public policy arena.

In order to analyze the barriers to a governance system such as forest certification, the system needs to be analyzed as a part of a larger institution. Since forest certification was created to promote sustainable forest management, it shares the same political and institutional linkages with SFM. Sustainable development policy processes, including SFM, require all stakeholders to work closely together. Recognizing this broader institution, Bass (2003) suggested that certification is one instrument that is helping the SFM meta-institution to form, defining its objectives, rewards and attempting to include many players (figure 1).



**Figure 1.** The SFM institution

The barriers to certification of tropical forests should, however, be analyzed on a national level. The necessary framework for studying forest certification at the national level can be derived from the essential elements of SFM by Mayers and Bass (2000). They developed a pyramid of elements that are needed for SFM at the national level (figure2). According to them, there are some foundations that are necessary for certification, as well as elements (tiers 1-6) that are required to help certification function well. Certification may be possible to some extent without them and, in turn, certification may help to strengthen them. The most significant impact certification could have on standards for SFM, is in the promotion of SFM to consumers and in monitoring and verification of SFM. Both of these foundations and elements were used to develop the criteria and indicators for direct and indirect barriers in this paper.



**Figure 2.** Elements of SFM at national level

#### 4. Materials and methods

In this study, based on the analytical framework, the barriers to forest certification in developing tropical countries were identified. To qualify each barrier, criteria and indicators were developed to allow for identification of the key characteristics and components of the barriers. The criteria were the desired conditions or states of the barrier, and the indicators were the measures of these. Where possible, indicators that are used by international monitoring agencies were selected. The developed criteria and indicators are presented in Appendix 1.

A barrier was defined to be any element whose presence greatly hinders the establishment of forest certification in a particular country or region, and the barriers were further classified as ‘direct’ or ‘indirect’. Direct barriers are those that are explicitly and singly responsible for the inability of forest certification to be launched in a country, and should be addressed first in any implementation strategy. If even one direct barrier exists, then the ability of forest certification to progress will be seriously affected. Indirect barriers are those that play important roles in limiting certification but alone are unable to block its development. When two or three indirect barriers are present they can act as a significant obstacle to certification. The data for identification was collected by examining previous literature and case studies, conducting interviews<sup>2</sup>, and an analysis of statistical data<sup>3</sup> for highly forested (>10 million ha) developing tropical countries, both with and without established certification. Even a larger sample of countries would have been beneficial but was unfortunately out of the scope of this study.

<sup>2</sup> Survey of National Initiatives of FSC Latin America Regional Office. August 2004. Maia Becker, FSC Bonn, Germany. Countries surveyed were Argentina, Bolivia, Brazil, Chile, Colombia and Ecuador, as well as Indonesia.

<sup>3</sup> FAO (FAOSTAT) and World Bank (World Development Indicators) data for 65 geographical, forestry, political and socio-economical variables corresponding to the developed indicators for Brazil, Bolivia, Guyana, Peru, India, Indonesia, Malaysia, Myanmar, Democratic Republic of Congo, Tanzania, Zimbabwe, and Zambia.

## 5. Results and discussion

The establishment and/or expansion of forest certification will depend foremost on the existence of strong, stable land ownership and/or tenure rights; the presence of legislation and policies supporting sustainable forestry; a government that is democratic, fair and accountable; an institutional environment promoting markets and trade; the cost effectiveness of certification; and ultimately the ability for a producer to sell certified forest products. These are the direct barriers to the establishment of forest certification (table 1). Other factors that will impact forest certification, the indirect barriers are: whether a country values its forest resources; the nature of the FSC's certification process; the role of international players in a country and in certification; a government's will to promote sustainable practices; the strength of demand for certified products; the size of a forest operation; and the empowerment of a nation's populace (table 1).

**Table 1.** Identified direct and indirect barriers

Direct barriers	Indirect barriers
1. Land ownership and/or tenure rights	1. National value of forests
2. Legislation and policies	2. FSC mandate and forest management standards
3. Governance	3. International influence and initiatives
4. Institutional environment	4. Political will
5. Cost of Certification	5. Consumer buy-in
6. Access to markets for certified forest products	6. Small scale of forestry operation
	7. Social capital

### Direct Barriers

*Land Ownership and/or tenure rights* - Developing tropical countries are plagued by complex and insecure land tenure conditions, and corrupt or ineffective political and legal systems unable to confront these. Lack of land ownership and/or tenure rights is a direct barrier to FSC certification for two reasons: the financial incentive for companies, individuals or communities to manage and sustain land in a manner consistent with forest certification would require them to have defined long-term rights and responsibilities for the land and the products derived from it; and qualification for FSC certification also requires proof of tenure and use rights and responsibilities (FSC Principle 2<sup>4</sup>) (FSC, 2000).

The determination of tenure rights is accomplished through legislation and policies put in place and enforced by governments and institutions. The essence of these is ensuring that the rights and responsibilities of landholders and users are identified, and support responsible practices. Delineating land boundaries can strengthen land ownership and tenure rights, particularly if accompanied by a fair dispute mechanisms to challenge encroachment, squatting or land use claims. Forest certification may play a unique role in this; in the Philippines landowners demonstrating sustainable forest management through certification have successfully negotiated new rights (Scherr et al., 2002).

Even where land ownership legislation does exist, this does not presuppose that such laws encourage responsible use of natural resources, or can be effectively enforced. For example, tenurial rules in Africa assign property rights over public forests to private parties on condition that such lands are 'developed' or 'improved'. These rules have facilitated the expansion by small farmers into forests, and in some countries have been used by wealthy

<sup>4</sup> The FSC system is based on ten internationally defined Principles and 57 Criteria for forest management which are the guiding framework for developing regional forest stewardship standards appropriate to local social, ecological and economic conditions.

parties to amass large holdings for speculative reasons (FAO, 2002). The rights of indigenous peoples and the unique management structure of operations (e.g. community) must also be specified in these agreements.

*Legislation and Policies* - Government legislation and policies can have a strong positive or negative influence on sustainable forest practices. Legislation is often considered the strongest instrument for policy implementation (Nilsson, 2004), and is made up of laws that deal directly with forestry, and those that are regulations outside of forestry, but affect it all the same.

If national legislation and policies are poorly developed, they are unclear, contradictory, or lack implementation mechanisms, they often work as financial or legal disincentives for long-term and sustainable forest management. Legislation that deals with tenure rights, property taxation and land-use responsibilities are particularly relevant to the establishment of forest certification. The opportunity cost of using land for forestry instead of agriculture will determine what land-use is most profitable for owners, and therefore how they manage land resources, as most landowners will choose the land-use and management method which maximizes their return. For example, in Latin America high opportunity cost of land caused by, among other things, agricultural subsidies have a significant impact on forests (Haltia and Keipi, 1997).

The issue of what constitutes 'good' forest policy is to some extent subjective. Policies that help establish 'good' practices are often defined to be those that are based on sound science; require the development of a forest management plan and use of low impact harvesting; place limits on the size and location of forestry infrastructure; forbid clearing of natural forest for plantations; require reforestation of harvested areas, preferably with native species; protect watercourses with buffers in riparian areas; utilize wildlife habitat or corridors; and encourage forest product industries to invest in local wood processing capacity (Kilgore and Blinn, 2003).

*Governance* - A governance structure that does not promote an open and democratic dialogue, that is corrupt and prone to an inequitable distribution of benefits, or one in which there is no stability acts as an overwhelming roadblock to certification. Corruption is the most pervasive and crippling element of poor governance. Although found in all societies, its effects are most debilitating for developing ones, which lack the economic, social and institutional structure to withstand its negative consequences. Corruption impacts forest certification by promoting illegal forest activities, increasing business costs (due to bribes and other inequalities), lowering timber prices due to over-supply, and creating uncertainty for individuals of whether they will receive the long-term benefits of investing in SFM (e.g., Whiteman, 2003).

An open and fair governance system depends largely on the democratic nature of the government. Measures such as requiring governments to publicly provide information, audits, training of public servants, and reforming the justice sector are key elements of improving transparency and accountability. While a forest governance approach should look at government structure, it should also allow a role for civil society, forest users and other government agencies to determine the direction and nature of how forests are used (RECOFTC, 2004).

*Institutional Environment* - Without a strong institutional environment - the framework for political, economic and social interactions within a country consisting of the 'size of government', the 'structure of the economy and use of markets', and the 'freedom to trade with foreigners' (Gwanney et al., 2001) - it is difficult for forest certification to establish itself. A study by van Kooten et al. (2005) found these characteristics to be influential in assisting or deterring forest certification, depending on whether the respective components of the institutional environment are high or low. High government participation



in the economy (low ‘size of economy’<sup>5</sup> index), as is found in major wood exporting countries such as Sweden and Canada, indicates companies are more likely to voluntarily seek certification. When the allocation of goods and services occurs entirely via markets (high ‘structure of economy’<sup>6</sup> index), there is a greater chance that a country will certify SFM practices. This is because the non-state nature of certification makes it dependent on the voluntary will of private enterprises. The better the ability for firms to produce and sell wood products abroad (high ‘freedom to trade’<sup>7</sup> index), the more likely it is that firms will certify forest management practices since they will be able to use it as an export marketing strategy.

*Cost of Forest Certification* - The high cost of forest certification is often a strong disincentive for producers, and more so to small or medium sized enterprises than large industrial ones. There are direct and indirect costs to certification. Direct costs of obtaining and maintaining certification tend to be higher in tropical countries where there are fewer locally operating certification bodies, and the road infrastructure needed to access forest management units poorly developed (Bass et. al., 2001). Guillison (2003) found that certification in the United States added about 2-3 cents per cubic meter to costs, while for tropical producers the cost ranged from 26-110 cents per cubic meter. In comparison, small producers in Latin America can pay up to 400 cents per cubic meter for certification (Guillison, 2003). Bigger companies also tend to have more in-house expertise and better forest inventories, therefore reducing costs of audits and management plans.

The second type of costs, the ‘indirect’ costs, are due to raising management practices to those required by the FSC standards. These are often the most difficult to overcome, particularly for producers in developing tropical countries. The management of tropical forests is more heterogeneous and complex than in temperate zones, sustainable management is less understood, and the current level of forest management is generally much lower than in northern forest regions that have been faced with strict environmental regulations and a watchful public for many years. The effect is that firms with already high management practices have lower indirect costs, and the forest operations which would actually benefit most from the improved management (i.e. poorly managed tropical operations) are actually the least likely to become certified (Ramesteiner and Simula, 2003). Compliance costs associated with altering procedures and practices to meet certification requirements are estimated to range from 10-20% of average tropical log prices for developing countries (Sikod, 1996). A study in Mexico (Chapela and Madrid, 2002) found that the cost of improving forest practices to reach certification standards was about US\$10,000 per year (during the five-year validity of certificates). The indirect costs can be so high as to eliminate any profit from certification. In Bolivia for example, calculations show that even if consumers paid 15% more for certified wood, this would not be enough to tilt the commercial balance in favor of SFM (Bojanic and Bulte, 2000). The barrier to certification posed by these higher costs is made all the worse by the fact that there is no or little credit available to these enterprises.

*Access to Markets for Certified Forest Products* - Market access is an important factor hampering forest certification in developing and tropical countries. Access to markets requires a demand for certified forest products; knowledge of where the demand is located

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<sup>5</sup> Size of the economy: constructed from data on government, consumption, expenditures as a percent of total consumption and on government transfers and subsidies as a percentage of GDP. (Gwanney et al., 2001)

<sup>6</sup> Structure of the economy: Constructed from the extent of public enterprises and public investment as a percentage of the economy; the extent of price controls; the top marginal income tax rate and the threshold at which it applies; and the degree to which a county’s military relies on conscripts. (Gwanney et al., 2001)

<sup>7</sup> Freedom to trade: Based on taxes on international trade (revenues from taxes as a percentage of exports plus imports, mean tariff rate, and variation in tariff rates), and the actual size of the trade sector compared to its expected size. (Gwanney et al., 2001)

and how to reach it; a cost effective and reliable manner of transporting the product; and price competitiveness. There is a lack of market knowledge and an inability of producers in developing tropical countries to connect with, and meet requirements of foreign buyers. Linking certified producers to buyers therefore requires information as to the real (vs. perceived) costs and benefits of certification, and a way in which producers can contact buyers, and vice versa. Quite often certification is ‘sold’ to producers as a way for them to acquire huge financial gains within markets, when in reality this is not a reasonable assumption for all producers, and should probably not be the main impetus for becoming certified. Communities in particular are negatively affected by the difficulty in identifying market opportunities, and are highly dependent upon intermediaries to establish market relationships (Markopoulou, 1999). CFP Buyers’ (and Producers’) Groups are the mechanism through which market networks are currently being built to assist in overcoming this barrier. The existence and location of demand for certified forest products is a much-contested topic. While demand is currently in North America and Europe, the ability to establish a niche for CFPs in domestic markets is viable as these markets increase in size and importance<sup>8</sup>. In the tropics, only Brazil currently has a significant domestic market. The sale of certified forest products to local consumers will also depend on their knowledge and understanding of certification, their interest in sustainable forest management and conservation, and ultimately their income level.

### **Indirect Barriers**

*National value of forests* - Forestry must be important to the economic and social prosperity of a country for forest certification to occur. In particular, those countries with a high percentage of export revenue and a high percentage of GDP generated from the forestry sector are more inclined to invest in sustainable forest management, and hence certification (e.g., van Kooten et al., 2005). High export revenue generated from forestry is also important as this indicates a relatively high dependence on international markets where environmental goods are more valued. Using forest certification to demonstrate legal and sustainable forest management is a way of maintaining existing export markets and potentially gaining new ones.

The value a country places on its natural resources can be seen, in part, by the area they have under protection, and their ratification of international environmental agreements or conventions. Pressure for the conversion of forests due to population growth also appears to act as a stimulus for forest certification as this often creates an incentive to re-visit or reform policies and legislation, or to institute environmental protection measures.

*FSC mandate and forest management standards* - The scope of support and strategic leadership provided by FSC, and the manner in which certificates are given are currently not sufficient to increase certification in developing tropical regions that face unique ecological challenges and political and social structures. For certification to firmly establish in these regions would require the FSC to create clear and measurable objectives to better focus and guide Regional Offices, National Initiatives and partners; work to coordinate activities and information within its network; improving communication between the FSC offices and creating a reporting mechanism for the organization to be better aware of the events on the ground. The role of raising forest certification awareness of forest certification, creating demand for CFPs, and linking producer and buyer markets must also be shared between the FSC, certified companies, and the various stakeholders. Due to the complexity and heterogeneity of tropical systems, the local managers and producers should be supported in

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<sup>8</sup> The demand for environmental goods and amenities typically increases as income rises (e.g., Panayotou, 1993; Barbier 1994).

gaining access to expertise and training on how to develop and attain management standards, and educational and research institutions should be approached to create partnerships that can facilitate the development of standards based on sound science, and to provide access to improved silvicultural methods.

Certification's effectiveness is also limited by its focus on the forest management unit (FMU) when many of the environmental and social services demanded of SFM arise at the landscape level. The conservation of regionally important biodiversity cannot be secured by FMU certification, unless the FMUs are very large, or unless many contiguous FMUs are certified.

*International influence and initiatives* - International markets, donors and governments are a powerful influence on forest certification. The role of funding or subsidies for the development of forest certification in developing countries is the impetus for many existing programs, which would not have developed of their own accord due to the high costs of certification. This has resulted in some small or community forestry enterprises becoming certified and trying to access international markets before sufficient domestic marketing expertise has been obtained (Richards, 2004).

The role of the World Wildlife Fund (WWF) in promoting FSC certification is particularly powerful. Many of the FSC National Initiatives are tightly linked financially and operationally to the WWF, and work out of their offices. As a proxy to determining the interest of international NGOs and governments in forest certification, one can look at the total number of international NGOs working in a country, and the amount of foreign aid that is being delegated to it. Traditionally, international funding from bilateral and multilateral sources in the form of official development assistance has remained the primary source of support to the forestry sector in developing countries. This has changed in recent years where most is from private sector investment (FAO, 1997).

Since the current demand for certified forest products is in international markets, the extent of a country's exports and their relationship with foreign ownership are an important motivation for investing in certification. Foreign direct investments (FDI) have increased rapidly in the forest industry since the 1990s and one of the main motivations for investments in the forest sector has been resource seeking, and therefore, certification could play a more significant role in the future (Laaksonen-Craig, 2004).

*Political will* - The biggest barriers to forest certification often fall at the government level. Majority of the direct barriers identified in this paper are the result, or lack, of government processes and policies (land ownership and/or tenure rights; legislation and policies; governance; institutional environment). Political will refers to the government's interest in instituting SFM incentive programs, but also their will to support forest certification. Governments' knowledge and understanding of forest certification and how it can potentially benefit the country may be a key element in overcoming these barriers. Many producer countries are skeptical of forest certification and see it as another way in which they are being excluded from international markets. Brazil's FSC National Initiative responded in a survey that it felt its government's attitude towards forest certification is 'open and accepting', and that its knowledge and understanding of certification is 'advanced' (FSC Brazil, 2004). Although this in itself is not conclusive, Brazil is the developing tropical country with the largest area of certified forest, 2.8 million ha (FSC, 2004), and no other country in Latin America indicated such strong government support or awareness.

*Consumer buy-in* - The role of the consumer in a market-based mechanism such as forest certification is important in its success. Certification is based on the premise that consumers will differentiate and perhaps be willing to pay a price premium for products originating from well-managed forest ecosystems. There is a serious concern that consumer confusion over the abundance of different certification will diminish their acceptance of

forest certification. Ultimately, if consumers are not willing to pay more for certified products, then there are fewer incentives for producers to pay the extra costs to produce them, or for retailers to supply them.

The likelihood of a consumer buying certified goods depends on their knowledge that the forest product is from a legal and sustainable source. Awareness of certification and recognition of the FSC logo or label is low in most countries. The FSC has renewed efforts to raise awareness of certification, and various FSC National Initiatives, particularly the UK, Germany, and the Netherlands have already achieved success in consumer awareness campaigns. Adding to this problem is the fact that most products that are certified do not bear the FSC trademark or logo. The reason for this in the past was a lack of Chain of Custody (CoC) certificates. As these increase in number, there are now over 3,300 issued, the situation is slowly changing.

A series of studies have indicated that a sizable portion of consumers would be willing to pay a premium for certified forest products (Anderson, 2003; Donovan and Nicholls, 2003; Vlosky et al., 1999; Ozanne and Vlosky, 1997, 2003). For example, about half of US consumers are willing to pay a premium of around 12% for certified wood products (Ozanne and Vlosky, 2003; Vlosky et al., 1999; Anderson, 2003). A study by Veisten (2002) looked at the differences in European consumer's estimated mean willingness to pay for certified forest products, and found it ranged from 1.4% in France to 4.9% in Austria, with approximately 60% of the survey respondents stating a positive willingness to pay. Since there is apparently a willingness on the part of consumers to purchase certified products once they are aware of what it means and implies, the main limitation to the existence of CFP markets may therefore be a lack of information and knowledge by consumers.

*Small scale of forest operations* - The size of forestry operations is a barrier since it results in higher costs to certification and lack of access to markets for smaller operations. Large industrial players are likely to benefit more easily from certification since they can access information, exhibit economies of scale, and are better able to bear risks and costs. The forest management standards used to assess forests also tend to be designed for larger management systems. The disadvantages for smaller producers are greater in developing and tropical countries where the costs of certification and ease of market access tend to be harder to achieve. As community and private ownership grows in these regions, creating incentives for sustainable forest management and making the process to become certified accessible will be all the more important.

The niche foreign markets for certified forest products also require high product quality, minimum product volumes and timely delivery, which many small or medium sized forestry enterprises cannot meet. Buyers in the U.K for example have cited difficulties in maintaining consistent product supplies from tropical or southern producers (Jenkins, 2004).

*Social capital* - Social capital is the extent to which a country's citizens are empowered. Without strong social capital, forest certification will have difficulty establishing. One important measure of empowerment is a country's overall literacy rate. Countries with higher rates of literacy are more likely to have a greater proportion of their forests certified (van Kooten et al., 2005). Perhaps more important than literacy in terms of its impact on forests and the environment is the role of women in society (Rodda, 1993). Forest degradation can have a largely negative impact on the poor in developing countries, and particularly on women, who depend quite heavily on a variety of products from forests (van Kooten et al., 2005). In countries where women are suppressed or simply have fewer opportunities than men, the level of social capital will be lower and women will have less opportunity as stakeholders to influence efforts to protect forests (van Kooten et al., 2005).

## 6. Conclusions

Economic, political and social pressures threaten the health of rich and extensive natural resources in developing tropical countries. Forest certification in these areas has not established or expanded as it has in industrialized regions. The main reasons for this are the overwhelming institutional, political and legislative barriers to effective and equitable resource management; the high costs of certification; and limited access to markets for certified products. As developing tropical nations often lack the motivation or ability to address this situation, action and support from international agencies, organizations, governments, companies, the media and the public are required. There are a variety of potential strategies that may help overcome the barriers discussed in this paper:

*A stepwise or phased approach* to certification can be used to address the high costs of certification. This approach involves an initial independent audit of the FMU to identify gaps between current practice and the SFM standard, development of an action plan that distinguishes levels of achievement (or steps) to tackle these weaknesses, and continual independent verification of progress. Once key phases in the progression are completed, incentives can be provided to producers in the form of tax breaks or access to suppliers who will buy 'transitional timber'. Making this system reliable and determining how to manage chain of custody verification is a significant challenge to be overcome (Richards, 2004). A variety of initiatives have also been created to help to lower certification costs, such as the FSC's SLIMF (Small and Low Intensity Managed Forests) standards; training of local auditors; group certification; price competition amongst certification schemes and inspectors; streamlining of audit procedures; focusing on outputs or environmental/social outcomes to permit flexibility for producers; and national working groups developing local standards.

*Linking producers and buyers* of Certified Forest Products (CFP) is essential for improving access to markets and lowering costs of certification. There is currently a lack of information on the type, specifications, quantity, quality, tree species, and characteristics of certified products, which must be available to buyers for certification to be effective as a market mechanism. Producers need more information who the buyers are, what they need, and how to do business with them. Increased research into markets for CFPs should be conducted. Buyer and producer groups are the method that could best support the demand and supply side of this market. Buyers' groups consist of retailers, wholesalers, brokers, distributors etc. that have made a commitment to buy, where possible, only certified forest products. Producer networks work together to create a product of the quality and volume demanded by the buyer and to lower costs. Efforts to link markets for certified forest products are being spearheaded by the FSC, the World Wildlife Fund (WWF), the Tropical Forest Trust (TFT), funding agencies, and various businesses and interest groups.

*Building good governance* requires a government and institutional structure that is free of corruption, transparent, accountable and has an unbiased and effective justice system. The battle for good governance tends to focus on developing integrated financial management systems, strengthening the justice sector, reducing the government's control over the economy, and training and technical assistance for audit institutions and anti-corruption institutions. Ways of overcoming abuses of the system are through deregulation, de-licensing, privatization, and competitive procurement. To minimize corruption requires commitment and support of governments and international agencies to establish general economic and political liberalization.

*Corporate involvement* in sustainable forest management should focus on strategic business partnerships, corporate social responsibility and timber procurement policies. Other innovative financing strategies that consider environmental and social sustainability are popping up around the world. For example, commitment to forest certification is now one of the criteria used when rating companies using the Dow Jones Sustainability Index (DJSI).

Investment banks worldwide are also using what they call the ‘Equator Principles’<sup>9</sup> to identify the risk associated with providing financing for a project (e.g., Citibank Inc, CIBC, HSBC Group, ABN-AMRO).

*Environmental service payments* (ESP) are an ever-growing sector, which includes forest certification (e.g., Powell et al., 2002). Certification has the potential to be used as an independent assessment and monitoring tool for justifying and attracting other ESPs.

*Government legislation and policy reforms* need to take place in the area of land rights and ownership, forest management, taxation, institutional structure, monitoring and enforcement. Better knowledge of forest tenure and disputes could be accomplished by mapping tenure, delimiting property, reforming legal frameworks, revising regulations and establishing new enforcement mechanisms. Laws should make explicit reference to basic criteria for decision-making, provide for public review and comment on legislation, create oversight bodies including members drawn from non-forestry sectors and civil society, and create a public right to information (Christy et al., 2000). Failures of the market to value forests and their services should be corrected by creating efficient incentive systems or economic instruments that internalize environmental costs. Most forest subsidies and tax incentives favor well-off landowners and large forest industry. These should be replaced with fee systems that reflect the real value of forest products and encourage forest activities.

Forest certification in developing tropical regions will have an impact only if more land is certified, a greater number of small and community enterprises are supported so they can reach certification, and the financial return of this market mechanism increases. There is a need for coordination and communication between the FSC and other international agencies and bodies to streamline development efforts. With limited financial and technical resources, these must be used in a more efficient and expedient manner. The trend towards greater corporate and government involvement in, and responsibility to, the environment and society must also be facilitated and promoted wherever possible. Governments provide the framework, regulations, and authority needed to make certification possible, and international and local companies are the financial engines and income providers of struggling economies in the tropics. Changes and advances made by these forces are often motivated by social pressure, unrest or activism. These require that the public and companies be educated about issues such as forest certification.

**Disclaimer:** This paper represents the views of the authors and should not be thought to represent those of the Forest Stewardship Council.

## References

- Anderson, R. 2003. Do forest certification ecolabels impact consumer behavior? Paper presented at CINTRAFOR’S 20th Annual International Forest Products Markets Conference, October 16–17. Seattle, WA.
- Barbier, E.B.1994. National capital and the economics of environment and development. In: Janson, A., M. Hammer, C. Folke and R. Costanza (eds.). *Investing Natural Capital: The Ecological Economics Approach to Sustainability*. New York: Columbia University Press.
- Bass, S. 2003. Certification in the Forest Political Landscape. In: Meidinger, E., C. Elliott and G. Oesten (eds.). *Social and Political Dimensions of Forest Certification*. [www.forstbuch.de](http://www.forstbuch.de), Remagen-Oberwinter, Germany.
- Bass, S., Thornber, K., Markopoulos, M., Roberts, S. and M. Grieg-Gran. 2001. Certification’s impacts on forests, stakeholders and supply chains. *Instruments for Sustainable Private Sector Forestry Series*. International Institute of Environment and Development: London, UK.

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<sup>9</sup> See [www.equator-principle.com](http://www.equator-principle.com)

- Bojanic, A., and E.H. Bulte. 2000. Financial Viability of Natural Forest Management in Bolivia: Environmental Regulation and the Dissipation and Distribution of Profits. The Netherlands.
- Cashore, B., G. Auld and D. Newsom. 2004. Governing Through Markets. Forest Certification and the Emergence of Non-state Authority. Yale University Press. New Haven and London.
- Chapel, F. and S. Madrid. 2002. La Certificación en Mexico: Los Casos de Durango y Oaxaca. Unpublished case study and background paper. Cited in: Molnar, A. 2003. Forest Certification and Communities: Looking forward to the next decade. Forest Trends, Washington, D.C.
- Christy, L., A. Mekouar, and J. Lindsay. 2000. Why Law Matters: Design Principles for Strengthening the Role of Forestry Legislation in Reducing Illegal Activities and Corruption. Food and Agriculture Organization (FAO). Rome, Italy.
- Donovan, G.H., and D.L. Nicholls. 2003. Estimating Consumer Willingness to Pay a Price Premium for Alaska Secondary Wood Products. USDA, Forest Service, Pacific Northwest Research Station Research Paper PNW-RP-553.
- FAO. 1997. State of the World's Forests. United Nations Food and Agriculture Organization. Rome, Italy.
- FAO. 2001. State of the World's Forests. United Nations Food and Agriculture Organization. Rome, Italy.
- FAO. 2002. December. Proceedings from: Workshop on Tropical Secondary Forest Management in Africa: Reality and Perspectives, Nairobi, Kenya, 09 - 13 December 2002. United Nations Food and Agriculture Organization: Rome, Italy.
- FSC. 2000. Principles and Criteria. Document 1.2. Revised February 2000. Forest Stewardship Council: Bonn, Germany.
- FSC. 2004. News + Notes. July 31 2004. Accessed Nov 2004 from [www.fsc.org](http://www.fsc.org). Forest Stewardship Council: Bonn, Germany.
- FSC. 2006a. FSC Forest Management certificates by continent. Forest Stewardship Council International Centre. Bonn, Germany. June 21 2006.
- FSC. 2006b. FSC National Initiatives, Document 5.1.2. Forest Stewardship Council International Centre. Bonn, Germany. May 15 2006.
- FSC. 2006c. Biomes. Forest Stewardship Council International Centre. Bonn, Germany. January 9 2006. [www.certified-forests.org](http://www.certified-forests.org)
- FSC. 2006d. Land Tenure. Forest Stewardship Council International Centre. Bonn, Germany. January 9 2006. [www.certified-forests.org](http://www.certified-forests.org)
- FSC Brazil. 2004. Personal Staff Communication. Email, Nov. 2004.
- Guillison, R.E. 2003. Does Forest Certification conserve biodiversity? *Oryx*, 37(2).
- Gwanney, J., Lawson, R., Park, W., and C. Skipton. 2001. Economic Freedom of the World: 2001 Annual Report. Cato Institute: Boston.
- Haltia, O. and K.Keipi 1997. Financing forest investments: the issue of incentives. No. ENV-113. Inter-American Development Bank, Washington, DC.
- Jenkins, A. 2004. Comments at the Workshop for FSC National Initiatives. FSC 10<sup>th</sup> Year Anniversary Conference. Bonn, Germany. September 2004.
- Laaksonen-Craig, S. 2004. Foreign direct investments in the forest sector: implications for sustainable forest management in developed and developing countries. *Forest Policy and Economics*, 6:359-370.
- Leiteritz, S. 2003. Market for Certified Forest Products. Forest Stewardship Council. Bonn. Germany.

- Markopoulos, M. 1999. Community Forestry Enterprise and Certification in Mexico—A Review of Experience with Special Reference to the Union of Zapotec and Chinantec Forestry Communities, Oaxaca. Oxford Forestry Institute: Oxford.
- Mayers, J. and S. Bass. 2000. The forest policy pyramid: planning and assessing step-wise progress to improved forest conservation, management and livelihoods at a country level. Paper prepared for the WB/WWF Forest Alliance. IIED. London.
- Ozanne, L.K., and R.P. Vlosky. 1997. Willingness to pay for environmentally certified wood products: the consumer perspective. *Forest Products Journal* 47(6):1–8.
- Ozanne, L.K., and R.P. Vlosky. 2003. Certification from the US consumer perspective: a comparison of 1995 and 2000. *Forest Products Journal*. 53(3):13–21.
- Pagiola, S., J. Bishop, and N. Landell-Mills. 2002. Selling Forest Environmental Services. Earthscan Publications Limited. London, UK.
- Panayotou, T. 1993. Empirical tests and policy analysis of environmental degradation at different stages of economic development, Working Paper WP238, Technology and Employment Programme. Geneva: International Labor Office, 1993.
- Powell, I., A. White, and N. Landell-Mills. 2002. Developing Markets for the Ecosystem Services of Forests. Forest Trends. Washington, D.C.
- Ramesteiner, E. and M. Simula. 2003. Forest Certification – an instrument to promote sustainable forest management? *Journal of Environmental Management*. 67: 87-98.
- RECOFTC. 2004. *About Forest governance*. [www.recoftc.org/forgov/info.html](http://www.recoftc.org/forgov/info.html)
- Richards, M. 2004. Certification in complex socio-political settings: Looking forward to the next decade. Washington, D.C. Forest Trends.
- Rodda, A. 1993. Women and the Environment. Zed Books, London.
- Scherr, S., White, A., and D. Kaimowitz. 2002. Making Markets Work for Forest Communities. Forest Trends. Washington, D.C.
- Sikod, F. 1996. Certification in Sustainable Forest Management: Economic Concepts and Indicators. Paper presented at the Conference on Economic, Social and Political Issues in Certification of Forest Management, 12-16 May, Malaysia.
- van Kooten, G.C., H. Nelson, and I. Vertinsky. 2005. Certification of sustainable forest management practices: a global perspective on why countries certify. *Forest Policy and Economics*, 7:857-867.
- Veisten, K. 2002. Potential demand for certified forest products in the United Kingdom and Norway. *Forest Science*, 48:767-778.
- Vlosky, R.P., L.K. Ozanne, and R. Fontenot. 1999. A conceptual model of US consumer willingness-to-pay for environmentally certified wood products. *Journal of Consumer Marketing*. 16(2):122–140.
- White, A., A. Molnar, A. Martin, A. Contreras-Hermosilla, S. Scherr, and M. Jenkins. 2002. To Johannesburg and Beyond: Strategic Options to Advance the Conservation of Natural Forests. Discussion paper for the Global environment Facility (GEF) Forest Roundtable. March 11, 2002. New York.
- Whiteman, A. 2003. Illegal activities in the forestry sector. Paper presented at the XII World Forestry Congress, September 2003. Quebec City, Canada.



## Appendix 1.

**Table 1A.** Direct barriers to forest certification in developing tropical countries.

<b>DIRECT Barriers</b>	<b>Criteria</b>	<b>Indicators</b>
<b>Land ownership and/or Rights</b>	<i>Legal and regulatory framework</i>	Legislation outlining rights and responsibilities of landholders or users.
		Regulatory mechanism and institution for implementing land tenure legislation or policy.
	<i>Clear and secure tenure rights</i>	Internal and external audit of the responsible institution.
		Independent judicial arbitration system.
		Mapping of land area and boundaries. Provision of official land title agreements.
	<i>Fair distribution of tenure rights</i>	Mechanism for filing and disputing land ownership or land use claims.
		Legal definition of stakeholder roles. Legal process required for involuntary removal from land.
<b>Legislation and policies</b>	<i>Respect for traditional or customary rights</i>	Rules guiding allocation of land licenses or concessions.
		Public access to information (transparency in activities). The percentage of land owned or managed by communities and Indigenous Peoples.
	<i>Policies that support responsible practices</i>	Recognition of Indigenous land treaties. Flexibility in land use policy to allow for more traditional or community management systems.
		Long-term concessions requiring management plans and regular audits.
	<i>Establishment of a relationship between forest stakeholders</i>	Create incentives for SFM (e.g. subsidies, tax breaks, technical support)
		Public consultation with forest stakeholders on policy and land tenure issues. Support for activities that involve public education, legal activism, or information exchange.
<i>Establish land user's responsibility for forest's long-term health</i>	For Forest management plan (short and long term).	
	Clear land use and/or tenure rights.	
	<i>Financial incentives for SFM</i>	Taxes or subsidies favoring forestry over other land uses.
		Streamline government policies. Taxes paid per area harvested. Tax deduction or credits for afforestation.
	<i>Promotion of sustainable forest practices</i>	Support research into SFM practices. Afforestation program(s).
Sustainable silvicultural methods. Restrictions on conversion of natural forests or clearing of old-growth forests. Protection of endangered plant and animal species. Protection of other land values (water, wildlife, biodiversity, landscape, aesthetics).		
<i>Monitoring and enforcement of forest practices</i>	Training of auditors, officers, personnel.	
	Regular field audits. Punitive charges for non-compliance. Unbiased dispute panel or court.	
<i>Support services for land users and owners</i>		Technical training program or access to expertise. Market development/access program or initiative.

<b>Governance</b>	<i>Open and democratic governance</i>	Government type (e.g. democracy, dictatorship etc.). Level of democracy or autocracy. Civil liberty. Fair and effective justice system.
	<i>Stable governance</i>	Political stability
	<i>Accountability and competence</i>	Transparency of government and forestry sector. Provision of information. Internal and external audit system. Training of public servants.
	<i>Fair and equal access to resources</i>	Corruption Perceptions Index (From Transparency International). Equal distribution of income (e.g. GINI Index)
	<b>Institutional environment</b>	<i>Strong forestry department</i> Sufficient staff and resources for forest area.
	<i>Ability for regions and municipalities to make decisions</i> Decentralization of government power.	
	<i>Right to trial of claims or disputes</i> Fair and unbiased legal system.	
	<i>Multi-stakeholder involvement in decision-making</i> Meetings, consultation and venues for public opinion.	
	<i>Role of government in economy</i> Size of government index (gvt. consumption expenditures as % of total consumption; gvt. transfers and subsidies as a % of GDP).	
	<i>Allocation of goods and services occurs via private enterprises and markets</i> Structure of the economy index (extent of public investment as % of economy; extent of price controls; top marginal income tax rate; degree of military's reliance on conscripts).	
	<i>Ability for firms to produce and sell wood products abroad</i> Freedom to trade index (taxes on international trade revenues as a % of exports and imports, mean tariff rate, variation in tariff rate).	
<b>Cost certification</b>	<i>Low fixed (direct) costs</i>	Cost of application, audit and monitoring conducted by certification body. Presence of certification body operating in the country or region. Net revenue of forest operation. Size of area harvested.
	<i>Low indirect costs (good management practices)</i>	Extent of alteration to procedures and practices that is needed. Number of conditions placed on the FM certificate.
	<i>Access to financing</i>	Availability of capital loans. Interest rates.
	<b>Access to markets for certified forest products</b>	Value of forest product imports vs. exports. Forest products as % of export revenue. Type of forest products exported (and % of total).
	<i>Forest product exports to North America and Europe</i> Percentage of forest products destined for North America or Europe.	
	<i>International demand for CFPs</i> Quantity and type of CFPs demanded by large retailers (e.g. IKEA, Home Depot) or governments. Number of CFPs on the market.	
	<i>Domestic demand for CFPs</i> GDP per capita. Population below the poverty line. Equal distribution of income (GINI index).	

<i>Ability to meet international requirements for certified products</i>	Volume of certified forest products available. Product compliance with international quality norms. Tree species harvested.
<i>Competitive prices</i>	Cost of certification. Percent change in price of tropical timber. Price of tropical timber relative to grain crops.
<i>Cheap and reliable transportation</i>	Presence of reliable port, rail or road infrastructure. F.O.B. shipping cost to North America and Europe.
<i>Access to information and to buyers</i>	Presence of national Buyer or Producer groups for certified forest products. Industry trade fairs held in the country or region. Market development programs from government or other source. Presence of FSC National Initiative or contact person.

**Table 2A.** Indirect barriers to forest certification in developing tropical countries.

INDIRECT Barriers	Criteria	Indicators
National value of forests	<i>Economic value of forestry sector</i>	Forestry sector as percentage of GDP. Forestry sector as percentage of export revenue.
	<i>Social value of forestry sector</i>	Forestry's contribution to employment. Percentage of private, Indigenous or community forest management. Forest area per capita. Percentage of population that is rural.
	<i>Pressure for exploitation placed on forests</i>	Population density. Human Development Index (HDI). Population living below poverty line. Net deforestation rate. Crop cover as percentage of land.
	<i>Environmental value placed on forests or natural resources</i>	Percentage of protected area as percent of total land area. Ratification of international agreements and conventions.
	FSC mandate and forest management standards	<i>Clearly defined goals for forest certification in tropical regions</i>
<i>Coordination of activities and information on forest certification</i>		Presence of FSC national Initiative or Contact Person. Regional Offices able to deliver services (e.g. training, marketing, communications) and coordinate projects. Regular reporting between FSC National Initiatives, Regional Offices and International Center. FSC information, standards, and guidelines in main regional languages (e.g. Spanish for Latin America, French for Asia). Networks of FSC suppliers, buyers and stakeholders.
<i>Raising awareness of FSC forest certification</i>		International, regional and/or national communication and/or marketing plans. Corporate, NGO, and government partnerships. Involvement of FSC national and international members.
<i>Access to training and expertise</i>		Number of certification bodies operating in the region. Availability of training or consultation for producers on forest management standards. Availability of training or consultation for producers on accessing funding, markets and business. Network of regional and national technical expertise. Partnerships with educational institutions, government ministries, and research groups.
<i>Country-specific forest management standards</i>		Existence of national management standard working group. FSC accreditation of forest management standard(s).
<i>Flexibility of standards</i>		Group certification number of certificates under the Small and Low Intensity Management (SLIMF) standard Establishment of research partnerships. Standard (e.g. stepwise or phased) that recognizes the complexity of tropical forests.

International influence initiatives	<i>Financial and political involvement of international NGOs</i>	Number of international Development Official development assistance (ODA) received.	per international NGOs. capita.
	<i>Presence of funding agency or NGO that promotes forest certification</i>	For example, World Wildlife Fund (WWF) or GTZ office.	
	<i>Foreign investment interest</i>	Foreign Direct Investment (FDI). GDP real growth rate.	
Political will	<i>Government knowledge and support for forest certification</i>	Institutionalization of forest certification.	
	<i>Government knowledge and understanding of SFM</i>	Scientific and technical expertise of staff. Programs supportive of SFM. Policies and legislation supportive of SFM.	
	<i>Promotion of SFM to forest stakeholders</i>	Meetings, training sessions and discussion groups.	
Consumer buy-in	<i>Consumer knowledge of forest certification concept</i>	Spontaneous recognition by consumers of FSC logo, and ability to state what it represents.	
	<i>Consumer willingness to pay a price premium for certified forest products</i>	A price premium for certified forest products is paid by consumers (generally more than 5%)	
	<i>Consumer's understanding (and lack of confusion) of the different certification schemes</i>	The consumer is able to differentiate between certification schemes.	
Small scale forestry operation	<i>Forest suitability: tenure, ease of management</i>	Ownership or management of operation (private or community vs. industrial). Intensity of forest management: rotation age; silvicultural method; stems harvested; harvesting technique etc. Road access to Forest Management Unit (FMU). Size of forest management area.	
	<i>Technical, marketing and production capacity</i>	Forestry knowledge of personnel. Developed and effective product distribution channels. Management and market knowledge of personnel. Financial and technical expertise to create new products and maintain high quality of standards.	

	<i>Economies of scale</i>	Low investment risk for improving capacity of operation. Costs are easy to absorb.
	<i>Access to information</i>	Size of business network, access to new information.
Social capital	<i>Empowered population</i>	Literacy rate. Population living below poverty line.
	<i>Population health and development</i>	Human Development Index (HDI) Infant mortality rate.
	<i>Role of women in society</i>	Disparity in literacy rate between men and women. Number of women in politics.