

FOREST CERTIFICATION IN THE TROPICS  
*IS THE GLASS HALF FULL OR HALF EMPTY?*

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## **Forest Certification in the Tropics**

### ***Is the glass half full or half empty?***

#### **Introduction**

According to Richards et al (2006) *"Of the 109 million hectares certified globally by all certification programs... only 3% are in tropical settings, and of this certified tropical area only a small percentage is in natural forest settings. Many have been disappointed by and critical of the limited impact of certification in this region, including donors, forest advocates and the forest industry."*

Is such 'disappointment' justified?

This report argues that an objective evaluation of forest certification in the tropics, and specifically Forest Stewardship Council (FSC) certification, shows that the impacts are more significant, quantitatively and qualitatively, than critics care to recognize. The evidence is that demand for certification is leading to an increase in sustainable forest management in the tropics. But certification is no quick fix, and it does not operate in isolation of more traditional efforts to support sustainable management. Greater governmental and intergovernmental support would enhance its impact.

#### **Certified area in the tropics**

A number of studies report that the total certified area in the tropics is a tiny percentage of the total certified area worldwide, and go on to argue, either implicitly or explicitly, that this is evidence for certification's failure to have its intended impact, or even that it is a barrier to trade with tropical countries.

Thus Markku Simula reported in 2003 that 95% of the world's certified forest was in North America and Europe *"...and only 2% in Asia-Pacific, 2% in Latin America and 1% in Africa."* In 2006 FAO reported that *"certification remains largely confined to the northern hemisphere's temperate and boreal forests, and to developed countries: 87% of certified forest is in the UNECE region (58% in North America and 29% in western Europe)."*

Although all these figures are significantly higher than the 3% quoted by Richards et al., they still present a picture of increasingly widespread certification by-passing the tropics. Is this picture correct?

#### **Comparing apples and pears**

One of the first important considerations for understanding the data is that they include information from all of the major forest certification programs, whether or not they are designed to be applicable in the tropics or support tropical forest management. This approach gives a misleading picture of the impact of certification - and of FSC in particular - in the tropics.

Most certification programs are simply not applicable in the tropics. The SFI<sup>1</sup>, CSA<sup>2</sup>, and American Tree Farm System are only accessible in North America. The Programme for the Endorsement of Forest Certification (PEFC) has only recently been opened up to non-European participation and at the time of writing has only one full tropical member (CERFLOR Brazil), which has issued two certificates (one plantation and one natural forest area).

Whereas the original impetus to establish the Forest Stewardship Council (FSC) was concern about tropical forest management, this was not the motivation for the establishment of SFI, CSA, PEFC or American Tree Farm System certification. These programs were established to support and promote locally produced timber in their constituent countries. Their success should not be judged on whether they succeed in promoting sustainable management in the tropics - that was not their objective. But equally, their failure to promote certification in the tropics should not be used to misrepresent the impact of FSC in these regions.

If one evaluates the impact of certification in the tropics on a 'like for like' basis, focusing on data from programs which are generally accessible to both tropical and non-tropical countries, a different picture emerges. This analysis necessarily focuses on the FSC program, since this is the only program which is currently accessible to all countries, whether they are tropical, temperate or boreal. The presence of FSC-certified forests in 76 countries<sup>3</sup> provides a broad set of data for evaluation.

**Table 1. FSC-certificates worldwide, by area and number of certificates**

*(data from FSC, December 2006)*

	Tropical countries		Non-tropical countries		World	
	by area (million ha)	by no. of certificates	by area (million ha)	by no. of certificates	by area (million ha)	by no. of certificates
<b>Non-plantation</b>	8.6 (11%)	144 (22%)	68.1 (89%)	515 (78%)	76.7 (100%)	659 (100%)
<b>Plantation</b>	2.8 (37%)	94 (44%)	4.7 (63%)	119 (56%)	7.6 (100%)	213 (100%)
<b>All</b>	11.5 (14%)	238 (27%)	72.8 (86%)	634 (73%)	84.2 (100%)	872 (100%)

<sup>1</sup> SFI refers to the Sustainable Forestry Initiative, more information is available at <http://www.sfiprogram.org/>

<sup>2</sup> CSA refers to the Canadian Standards Association, more information is available at <http://www.csa.ca>

<sup>3</sup> Data from FSC, December 2006

## FSC in the tropics

The full listing of FSC certified areas as of December 20th, 2006, showed 8.6 million hectares of certified 'non-plantation'<sup>4</sup> areas, and 2.8 million hectares of 'plantation' areas situated in tropical<sup>5</sup> countries (see table 1). This area represents fourteen percent of the total FSC certified area worldwide. Twenty seven percent of certificates by number have been issued in the tropics. The difference in these percentages is partly a result of the very large area covered by some individual certificates in Canada and Northern Europe.

Fourteen percent is considerably greater than the headline figure of three percent quoted by Richards et al, but what does it really signify? What figure should one consider to be a positive demonstration of certification's impact on forest management in the tropics? Would thirty percent be good or bad? What about fifty percent?

This study attempts to shed some light on this question.

## Setting the baseline

Table 2 shows how the basic figures for FSC-certified area compare to the total area of the world's plantations and forests<sup>6</sup>.

**Table 2. The world's forest area**

(data from *State of the World's Forests 2005*, FAO)

FSC certified area compared to the area of the world's forests				
	Tropical		Non-tropical	
	Total area /million ha	Percentage FSC- certified	Total area /million ha	Percentage FSC- certified
<b>Non-plantation</b>	1,815	0.5%	1,865	3.7%
<b>Plantation</b>	68	4.1%	119	3.9%
<b>All</b>	1,883	0.6%	1,983	3.7%

The most obvious observation is that the FSC-certified area is tiny, compared to the area of the world's forests and even to the world's plantations, in both tropical and non-tropical

<sup>4</sup> FSC classifies its certificates as 'plantation', 'semi-natural' or 'natural' forest area. A superficial review of the certified areas suggests that the distinction between these classifications is blurred outside the tropics. Moreover, 23% of the area of FSC certified plantations is allocated to 'conservation', and often comprises protected natural or semi-natural forest areas (Paulsen, 2004). This study is based on the FSC classification. The data are slightly 'noisy', but this does not affect the very general conclusions that have been drawn from them.

<sup>5</sup> 'Tropical' countries have been defined following the classification in 'State of the World's Forests 2005', FAO. Countries that have a mix of tropical and non-tropical areas have been allocated in accordance with the majority area.

<sup>6</sup> Data for world forest and plantation area are from *State of the World's Forests 2005*, FAO. The FAO data are referenced to 2000. FAO and FSC definitions of 'plantation' are not the same.

countries. However, this comparison does not take account of the fact that much of the world's forest area is inaccessible and/or inappropriate for commercial management. As a market-based tool, one would not expect certification to have a great impact on these non-commercial forests, in the tropics or elsewhere in the world.

More interesting is to compare the FSC-certified area with areas that are potentially eligible for commercial management. Table 3 shows categories of management presented in the ITTO study '*Status of Tropical Forest Management 2005*'. The ITTO study covers ITTO producer countries comprising 80% of the tropical forest area, so the figures in Table 3 have been scaled up for direct comparison with FSC's data. The table shows that the FSC-certified area comprises only 1.9% of the permanent production forest estate (i.e. excluding protected areas), but as much as 7.2% of the area that is covered by a management plan, and 27.5% of the area that ITTO considered to meet a reasonable definition of 'sustainable management'.

**Table 3. FSC certified area compared to different management categories for forest in the tropics, adapted from ITTO, 2005<sup>7</sup>**

	Natural forest		Plantation	
	Total area /million ha	Percentage FSC-certified	Total area /million ha	Percentage FSC-certified
<b>Total Forest Area (FAO, 2005)</b>	1815	0.5%	68	4.1%
<b>Total Permanent Production Forest Estate (ITTO, 2005)</b>	441.25	1.9%	56.25	5.0%
<b>Area with management plans (ITTO, 2005)</b>	120	7.2%	17.5	16.0%
<b>Sustainably-managed (ITTO, 2005)</b>	31.25	27.5%	8.75 <sup>8</sup>	32.0%

What these data highlight, above all, is the very small area of natural forest in the tropics which could be considered sustainably-managed. But of that area a high proportion is FSC-certified. Crude comparisons of the certified area between the tropics and other parts of the world ignore this obvious difference in the underlying supply of 'sustainably-managed forest'. There are many reasons for a relatively low area of sustainable management in the tropics including, but certainly not limited to, the difficulty of managing such diverse forests.

It should not come as a surprise to anyone that there is a dearth of sustainable forest management in the tropics. This was, after all, a major *raison d'être* for FSC's establishment.

<sup>7</sup> From ITTO Table 1, p.48. The ITTO study covers only ITTO countries, comprising about 80% of tropical producer countries. The figures have been increased linearly for comparison with the FSC data which include all tropical countries.

<sup>8</sup> For the purpose of comparison 50% of the plantations covered by a management plan have been considered 'sustainably managed' - twice the proportion of natural forest areas covered by a management plan.

At issue is whether FSC certification has contributed to an increase in the area of sustainable forest management, and/or its potential to contribute to further increases in the future.

But before addressing this question, do the data shed any light on the question of whether FSC is a barrier to the export of sustainably managed tropical timber? To try to answer this question one needs to turn to the trade statistics.

### Certification and trade

It is sometimes implied that the relatively low proportion of certified tropical forest compared to temperate forest is evidence for a barrier to trade.

To consider the impact of certification on trade you first need to look at the baseline consumption of tropical compared to non-tropical sources of timber in those countries in which there is significant demand for certified products. This can be translated very roughly into the forest area affected by that trade. Then, you can compare the observed ratio of tropical:non-tropical forest area affected with the ratio that would be expected if certification had no impact on the relative consumption of tropical vs. non-tropical timber.

The table below presents basic data<sup>9</sup> for such a calculation, assuming that the greatest demand for FSC-certified timber originates in North America and the European Union, so this is where an effect would be most visible.

**Table 4. Consumption of (non-pulp and paper) wood in selected countries**  
(data from *Annual Review and Assessment of the world timber situation 2005*, ITTO).

Domestic consumption of timber in Canada, the European Union and USA			
		Tropical non-coniferous wood	all wood
Logs	volume /1000m <sup>3</sup>	1,289	913,929
	RWE volume/1000m <sup>3</sup>	1,289	913,929
Sawn-wood	volume /1000m <sup>3</sup>	3,056	244,171
	RWE* volume /1000m <sup>3</sup>	6,112	488,342
Veneer	volume /1000m <sup>3</sup>	427	2,753
	RWE* volume /1000m <sup>3</sup>	854	5,506
Plywood	volume /1000m <sup>3</sup>	3,163	28,790
	RWE* volume /1000m <sup>3</sup>	6,325	57,580
Total	RWE volume /1000m <sup>3</sup>	14,580	1,465,357
Area conversion factor	m <sup>3</sup> /ha/yr	1	10
"Sustained Yield footprint"	1000 hectares	14,580	146,536
Footprint as percentage of total		9%	91%

\*A conversion factor of 2.0 has been used to convert sawn wood and plywood volumes to round wood equivalents.

<sup>9</sup> All data are from ITTO Annual Review and Assessment of the World Timber Situation 2005, unless otherwise stated.

The data suggest, if you assume that sustainable yield of wood from 'natural' forest is roughly ten times higher in temperate regions than in the tropics, that you would expect the (non-plantation) 'forest footprint' in the tropics to be about 9% of the area of the total (plantation and non-plantation) footprint in non-tropical regions.

In other words, very crudely, if 'northern' country demand for certified products affects tropical and non-tropical sources equally, one would expect to see approximately 9% of the certified forest area supplying North America and Europe being in the tropics, and 91% in other countries.<sup>10</sup>

This calculation should be treated with extreme caution. In order to focus on natural forest management in the tropics it has looked at non-coniferous tropical timber. In doing so, it does not consider the implications for the non-tropics of supply or demand for wood for pulp and paper. It ignores huge sources of variability in forest productivity and trade across the world. Nor would anyone assume that the pattern of supply of tropical timber is necessarily similar to the pattern of supply of non-tropical timber.

The fundamental point, however, is that 'the north' consumes more temperate timber than tropical timber, and has a bigger 'forest footprint' in the 'north' than in the tropics. To the extent that demand for forest certification is driven by consumer demand in the north, one would expect the 'certified forest footprint' to reflect this and this rough calculation helps illustrate how this relationship might function.

The supply of sustainable forest management is much lower in the tropics. The potential area needed to satisfy demand, mainly from 'northern' countries, is also smaller. Both factors would lead one to expect a lower percentage of certified area in tropical compared to non-tropical countries. But this is not evidence for a barrier to trade, so long as it is legitimate to distinguish between timber from 'sustainably' and 'non-sustainably' managed sources<sup>11</sup>.

Once again, the concern is not the currently low area of certified forest in the tropics *per se*, but what potential certification has to increase the area of sustainable management in the future. This is now considered.

### **Certification as a tool to drive sustainable forest management in the tropics**

The starting point for any discussion of the impact of certification on tropical forest management must be the extremely low area of tropical forest land which was considered to be managed sustainably at the time that forest certification was first developed.

Poore et al's 1989 study for ITTO famously concluded that less than 0.25% of *managed* tropical forest was managed sustainably, in terms of timber yield: *"The extent of tropical moist forest which is being deliberately managed at an operational scale for the sustainable*

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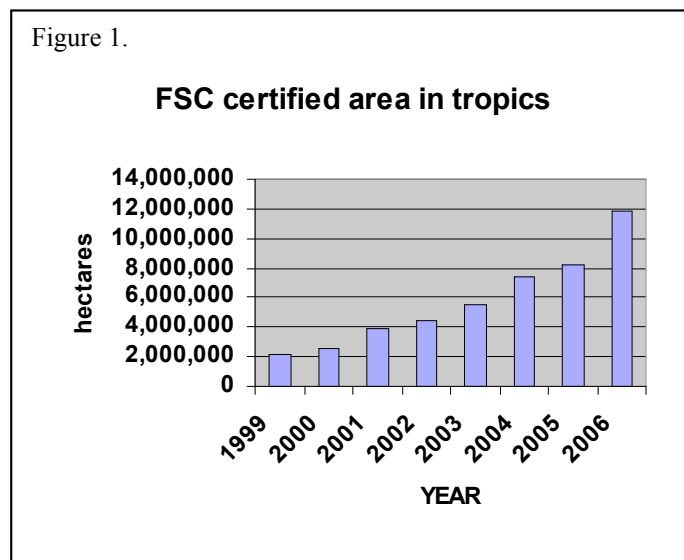
<sup>10</sup> If it is assumed that northern forests are less than 10 times as productive as tropical forests, then the expected percentage of certified forest located in the tropics is less than 9 percent.

<sup>11</sup> For more information, see Dovetail Report, "International Standards and Trade Barriers," June 2006. Available at: <http://www.dovetailinc.org/DovetailTradeStandards0606.html>

*production of timber is, on a world scale, negligible..... Progress in establishing stable sustainable systems is still so slow that it is having very little impact on the general decline in quantity and quality of the forest” (quoted from Synnott, 2005).*

Sixteen years later, using FSC-certification as one of its measures, ITTO estimated that 7% of the 'permanent production forest estate' in the tropics was managed sustainably, more than a quarter of which was FSC-certified. The FSC-certified area in the tropics is currently increasing by 1 or 2 million hectares per year (see Figure 1). More natural forest in the tropics is now certified every year, than the *total* 'sustainably managed' tropical forest when Poore et al. published their study more than twenty five years ago.

But has FSC certification contributed to the improvement in management of forests in the tropics, or does it simply reflect improvements caused primarily by other factors?



### Market demand for certification of tropical forest management

There is clearly a positive correlation between the efforts that companies are devoting to achieving FSC certification, the increasing (FSC) certified area in the tropics, and the increasing area which is considered (not least by ITTO) to be 'sustainably managed'. But correlation is not causation.

In a 2004 report for FAO (Market Access of Forest Goods and Services) Antti Rytkönen proposed, "*The effectiveness of certification in achieving its fundamental objective is not yet proven, i.e. (i) to improve forest management and (ii) to ensure market access.*" More than two years later, does FSC now pass either of these tests in the tropics?

Last year Yale School of Forestry and Environmental Studies published a comprehensive study, *Confronting Sustainability: forest certification in developing and transitioning countries* (Cashore et al, 2006) which sheds light on these questions. In relation to demand,



the authors concluded that in all the countries studied market access was a driving force behind companies seeking certification.

There will always be skeptics. But one can at least say that in the minds of forest managers, market demand for certified forest products is leading them to take concrete actions needed to achieve certification.

In terms of specific social impacts the Yale study concluded that:

*"Certification has had important social effects, especially in terms of community and workers' rights. Our case studies clearly reveal some consistency across regions and countries in these social effects, which include improved pay and conditions for workers, the development of community infrastructure, and the provision of training." (p.580).*

In relation to environmental impacts:

*"Our case studies identify numerous positive environmental effects of forest certification. These come under the headings of forest planning and inventorying, silviculture, biodiversity protection, and monitoring and compliance." (p. 584).*

While the authors note skepticism 'among a minority of industry and environmental groups', their own conclusions are clear - where forest certification takes place there are generally significant social and environmental benefits, in a wide range of tropical contexts.

The study adds to the growing body of literature showing that forest managers invest significant additional resources in delivering social and environmental benefits in order to achieve FSC certification.

Whether FSC-certified forest management is truly 'sustainable' can still be debated. However, many governments and institutions implicitly or explicitly recognize that the *FSC Principles and Criteria for Forest Stewardship* reflect widely acknowledged attributes of sustainable forest management. ITTO's use of FSC certification as a proxy measure for sustainable management is one example of this recognition.

It is not the case that all questions have been resolved. The costs of certification are certainly subject to economies of scale, and so certification is relatively expensive for small producers. Certification can be demanding from a technical perspective, creating particular challenges for small or community-based management. Group certification, SLIMFs<sup>12</sup>-based approaches and specific marketing for 'community' based forest products may ameliorate these effects, but will not eliminate them.

Moreover, the purely financial benefits of certification appear to be mixed. In situations where certification costs were originally subsidized, and these subsidies have subsequently

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<sup>12</sup> SLIMFs refers to FSC's "Small and Low Intensity Managed Forests" program, also referred to as the Family Forest Program in the United States. More information is available at <http://www.fsc.org/slimf>

been withdrawn, some participants have decided not to renew their certificates. These actions raise concerns regarding the long-term continuance and growth of certification.

However, notwithstanding the debate about what, exactly, 'sustainability' is, the kinds of improvements certification leads to are acknowledged as contributing to sustainability.

Certification does not operate in a vacuum, and cannot claim to be the only factor contributing to an increase in sustainable management. Nonetheless, it is clear that certification delivers on its fundamental premise - it *does* provide a mechanism by which the marketplace *does* drive social and environmental improvements in forest management, and this *does* contribute to the increase in supply of sustainable forest management.

In these terms, certification works - even in the tropics. So, what is its potential?

### **The challenges for certification in the tropics**

To date, about 11.5 million hectares of forest and plantation have been FSC certified in the tropics. The vast majority of 'managed' forest in the tropics is still being harvested unsustainably by most definitions. Certification may have made a start, but can its impacts be sustained and expanded? What are the current limitations on certification, and can they be resolved?

Of course certification alone is not *sufficient* to improve forest management and provide market access. Improved forest management requires investment, governmental support, and sustained commitment from forest managers. Access to markets requires that products be produced to meet a variety of market demands including quality, quantity, timeliness of delivery and price. Certification does not override these market realities.

Challenges for increasing the impact of certification in the tropics can be divided simply between problems relating to supply (of sustainable management), and problems relating to demand. On the supply side are the 'traditional' capacity problems of forest management such as the need for training, investment, and institutional support. Certification provides a structure and an incentive for the improvement of forest management, but sustained investment and support is still needed to achieve it. On the demand side of the equation are markets arising from environmentally and socially concerned buyers, manufacturers, finance institutions; institutional pressures, for example from national forest services or international agencies; and competition from alternative unsustainable or illegal sources of wood.

Governments and international agencies such as FAO and ITTO have the potential to have a positive or negative impact on both sides of the equation. They have potential both to build and support demand for certified products of sustainable forest management, and are in a position to help build supply through traditional training and institutional support projects.

## **The supply of sustainable forest management**

There is a major international service industry focused on improving the supply of sustainable forest management. This industry includes research institutions, national and international agencies and non-governmental organizations.

To date, with some notable exceptions, international institutions and national governments have provided surprisingly little support aimed directly or indirectly at helping or encouraging forest managers in the tropics to meet certification standards or achieve certification itself.

The cost of achieving certification is sometimes cited as a concern. Certification costs are clearly an issue for small producers. However, it is relatively simple to build structures to help reduce the cost of certification for small holders, if governments consider this to be important. The cost of certification itself is not a significant factor for the large management companies that dominate the market in the export of tropical timber. For large companies it is the cost of meeting standards of responsible forest management which is the main consideration. But the investment required to implement better long term forest management has to be met, one way or another, if sustainable forest management is to become a reality. These costs are not the costs of certification, but the costs of sustainable management.

Overall, it is something of a mystery why there isn't more institutional support for certification - even if that means FSC certification.

## **Demand for sustainable forest management**

Just as important as the supply side is the demand side. FAO rightly identifies government procurement and corporate social responsibility as two of the key drivers of demand for certified forest products.

Given that demand for certified products can translate into improvements in forest management in the tropics, this represents a major opportunity for policy makers. In order to support sustainable forest management in the tropics governments and international institutions can specify timber procurement requirements based on international standards and programs which are accessible to all tropical countries. The FSC program meets these requirements.

Moreover, it is time to move away from 'north' vs 'south' rhetoric and the assumption that this corresponds to 'consumer' vs. 'producer' interests. Forest certification is about promoting sustainable forest management, in all countries of the world. Brazil is simultaneously the world's largest producer and consumer of tropical timber. The southern and southeastern regions of Brazil together consume more than twice the total amount imported by the 15 countries of the European Union<sup>13</sup>.

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<sup>13</sup> Smeraldi, R., et al (1999) *Hitting the target: Timber consumption in the Brazilian domestic market and promotion of forest certification*

Sustainable forest management is supported in principle by governments of the South as much as by governments of the North. When it comes to the impact of government procurement in driving demand for sustainable (or unsustainable) forest management, governments and institutions of the tropics could have as big and in some cases a bigger impact than governments of the north.

Government procurement and social responsibility policies applicable to investment in the forest sector are relatively new, relatively uncommon and poorly implemented. Despite this, FAO believes they are having a significant impact on forest management. Government policies in tropical countries designed to help companies actually meet such standards are few and far between. There are no southern governments that actively promote the use of certified wood for domestic consumption or national government procurement. The potential exists.

### **Half empty or half full?**

This report began with a quote suggesting that donors and policy makers are (or should be) disappointed by certification's impacts in supporting sustainable management in the tropics.

They shouldn't be. The percentage of certified forest in the tropics, compared with certified forests in the 'north' is irrelevant to the success of certification in the tropics. What matters is the actual area of forest under sustainable management and certification's potential to increase it. The area is too low, for sure. But certification's potential to increase it is considerable.

Certification alone cannot solve the challenges of sustainable forest management in the tropics. But it is a tool which works. It is time for governments and international institutions that aim to promote more sustainable management of tropical forests to make more and better use of it.

Whether the cup is currently half empty or half full is the wrong question. The right question is how much further will it fill up - what is left in the jug?

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*This report was prepared by*  
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