

## 30 Timber Certification Prospects

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### 30.1 INTRODUCTION

The expansion of sustainable development initiatives in the 1990's reflected an emphasis on integrated solutions to economic development, socio-political stability and environmental health in the global community. The Brundtland Commission (WCED 1987) and the 1992 Earth Summit in Rio de Janeiro, Brazil, formed the springboards for many of today's initiatives. In the forestry sector, a myriad of efforts to achieve sustainable management of forest resources have emerged. It is perhaps a subjective and debatable endeavor to assign a level of quality to any type of resource management system; yet, one such initiative, timber certification, has been put forth as a viable alternative to existing regulations, codes and practices which strive to do so. Although sustainability has many definitions, in most cases it reflects a development paradigm to balance the temporal and spatial existence of resources and the needs of a society to use those resources. The potential impact of timber certification on the sustainability of forest resources is difficult to predict; however, the emergence of timber certification into the forest policy and forest management arenas around the world is indisputable and requires examination.

Timber certification involves the evaluation, monitoring and labeling of wood production from stump to end use. First, the management of a forest area must be certified according to a set of standards or principles of sustainable forestry for a particular forest region. This process is known as forest certi-

fication. The production and distribution of products from the stump to the final consumer must be confirmed through the chain-of-custody associated with the final product. Finally, the label attached to the final product must reflect the degree or scope of the certification proclaimed. Given that worldwide forest products trade was valued at more than USD 128 bill. in 1995 (FAO 1997a), the potential impacts of certification on markets cannot be ignored.

The following discussion will present an overview of the status of timber certification globally, with an emphasis on Europe and North America. First, a brief summary of the development of the certification movement is presented. Second, the identities and roles of different stakeholders in timber certification are discussed, followed by an evaluation of certified forest areas and the implications of specific issues on certification trends such as the costs of certification and international trade linkages. In summary, an outlook is presented concerning the future of certification, and several leading research questions are raised.

### 30.2 EMERGENCE OF TIMBER CERTIFICATION

The idea of timber certification can be traced to the mid-eighties. The United Kingdom delegation to the International Tropical Timber Organization (ITTO) presented a proposal to require that the forest management practices of the producer countries, prima-



rily tropical forest areas in developing economies, be evaluated as sustainably or unsustainable managed sources of wood (Crossley 1996). The producer countries followed immediately with the assertion that the evaluation be applied to all of the ITTO countries and that temperate forest countries should also be held to high standards of sustainability and global environmental responsibility. Concurrent attempts to reduce the logging of tropical forests through import bans and public disapproval campaigns in Europe were gradually replaced with the current system of independent, third-party certification by internationally recognized auditing agencies. First-party (internal assessment) and second-party (client assessment) certification activities were also developed which offer alternative, less transparent assessments of forest management performance.

Two alternative international schemes have been put forward as options for timber certification: The Forest Stewardship Council (FSC) Principles and Criteria of Sustainable Forestry and The International Organization of Standardization (ISO) 14000 series for environmental management systems. The FSC's certification scheme measures the state of the forests and the quality of management according to pre-described performance standards. Products which originate from FSC-certified forest areas and are distributed through FSC-certified chain-of-custody channels can be marketed as ecologically sensitive products (sometimes referred to as ecolabels) under the FSC logo. Label recognition and trust by consumers are essential characteristics of products in certified markets. The FSC has certification readiness developed especially for large tracts of forest. Representatives of economic and environmental interests are on the FSC Board of Directors, although environmental non-governmental organizations (NGOs) form the primary active component of the FSC (Oliver 1996).

The ISO is a worldwide organization which provides standards for consumer products and services based on international agreements. The ISO 14000 series evaluates the existence of, and commitment to the achievement of internal goals under an environmental management system in a business. This type of evaluation is not an actual performance assessment and does not carry an environmental labeling claim, although independent, third-party auditing of an EMS (the environmental management system) for internal use is an option (Bass 1998). Currently, applications for EMS certification under the ISO 14001, are beginning to emerge, although they are not widely documented. The ma-

majority of both trade and industrial concerns prefer the ISO system to the FSC system. Forest owners consider the FSC system to be inappropriate for small forest owners, and the dialogue between these owners and promotions has been different. On the other hand, NGOs regard the ISO system as ineffective in that performance is not specifically evaluated (Government of Finland 1997). Nevertheless, these two systems are not necessarily mutually exclusive. As certification continues to evolve, it will include experiments in combining the FSC and ISO approaches, as well as other sustainable forestry initiatives, to monitor and evaluate forest management practices.

Other efforts offer a diverse set of options for national and regional assessments of forestry practices that are not certification systems per se, but do offer some system of evaluation and monitoring. International intergovernmental bodies address broader policy issues through negotiated protocols of criteria and indicators of sustainable forestry. Examples of these include the Montreal Process for temperate and boreal forests, the Helsinki Process for European forests, and the Tarapoto Proposal for the Amazon (Upton and Bass 1995). NGOs and independent working groups have tended to support local sustainable forestry and forest certification efforts including The Rogue Institute for Ecology and Economy, the Sigurd Olson Environmental Institute, and the Good Wood Alliance (formerly known as Woodworkers Alliance for Rainforest Protection – WARP) in the U. S., the Indonesian Ecolabeling Foundation, the Imported Tropical Timber Group of New Zealand and the Bolivian Council for Voluntary Forest Certification (Crossley 1996). Source of origin claims, which allow the consumer to identify with the geographical origin of a minimum proportion of the raw material input of a product, include the Brazilian System for Certification of Origin of Forest Raw Material (CERFLOR) in Brazil, Swiss Wood in Switzerland and Woodmark of the Forest Industry Council of Great Britain (Upton and Bass 1995). These latter claims do not constitute timber certification, but they are additional examples of marketing attempts to capitalize on the worldwide call for sustainable forest management.

### 30.3 STAKEHOLDER ROLES IN THE CERTIFICATION PROCESS

There are several points of production and consumption along the flow of wood from the forest to the mill to its end use. Certification is best understood

through a discussion of the various players affected throughout the process. These roles may change over time as certification matures into an established market tool for forest products. In the meantime, the potential impacts of certification becomes apparent through the roles of the diverse stakeholders.

**Consumers**

It is particularly important to understand the roles of different consumers in the market for certified wood products. Today's consumers exhibit awareness of the degradation of the global environment, at home and abroad. Changing consumer attitudes suggest that retailers and wholesalers have the opportunity to capture consumers' preferences for environmentally friendly products by marketing certified wood products. Given the choice of wood products from random sources or wood products from forests that have been certified by reliable, independent evaluations as sustainably managed, today's consumers are expected to choose the latter. More precisely, however, end-consumers do not create demand directly, by refusing to purchase wood products if not of a specific type, rather, they exercise their preference once a choice is available through the substitution of certified wood products for non-certified products.

The actual demand for certified wood products is driven primarily by organized groups of wood purchasers (predominantly wholesalers and retailers) (Table 30.1). The purchasers' groups are supportive of the FSC certification system and normally pledge that a certain proportion of their wood purchases will be certified by the FSC system in the future. The purchasers' groups are often identified by a name which reflects that target period, for example the UK 1995 Plus Group or the Belgium Club 1997. These purchasers are not, as yet, offering price premiums

to producers of certified wood, although certification does add some cost to its production (Carter and Merry 1998). In addition, the original goals (social and environmental) of the certification movement do not entirely drive the purchasing decisions (market position and environmental image) of these primary demand sectors of certified wood markets. This parallel, although disengaged, development of certification between intentions and behavior raise concerns about the long-run impacts of certification on forest resources management.

Consuming almost 550 mill. m<sup>3</sup> of roundwood equivalents in 1994 (Howard 1997), U.S. consumers have yet to show substantial demand for certified wood outside of specialized niche markets. Although interest is increasing, the scarcity of certified wood, and the belief that wood resources, to a large degree, are already managed sustainably, contribute to the low to moderate measurable demand for these products from individual consumers (Merry and Carter 1997; Stevens et al. 1998). Europe's apparent consumption of sawnwood and wood-based panels amounted to 131.8 mill. m<sup>3</sup> and paperboard to 73.1 mill. tonnes in 1995. Despite its large forest resources, Europe (minus Scandinavia) is a major net importer of forest products and the second largest destination for forest products globally, accounting for about 27% of global inter-regional trade. Results of a consumer survey in the United Kingdom, Germany, Italy and France show that the majority of European Community (EU) consumers regard sustainably managed forests as environmentally friendly and of significance to them (Rametsteiner et al. 1998). Environmental friendliness, as a product feature, is nevertheless of secondary importance, warranting only a small increase in price for certified products. This somewhat contradictory nature of consumer behavior and consumer attitudes is not uncommon.

**Table 30.1 : Approximate market shares of European purchasers' groups**

World Wildlife Fund Purchasers' Groups		
Year Established	Number of members	Market Share
United Kingdom	1991	82
the Netherlands	1992	401
Belgium	1994	75
Austria	1996	25
Germany	1997	26
Switzerland	1997	7
		15% wood usage in UK
		< 1%
		> 50% of wood trade
		> 4% of wood market
		< 1%
		< 1%

Source: Schwarzbuizer (1998)

In 1997, European buyers' groups accounted for the consumption of approximately 9 mill. m<sup>3</sup> of roundwood equivalents. The volume of certified timber which will be traded in Europe in 1998 is estimated at 2 mill. m<sup>3</sup>, with projections to 15 mill. m<sup>3</sup> of total certified forest products demand in 1998 (Rametsteiner et al. 1998). The primary reason for the probable market expansion for certified wood products in Europe is the projected increase of membership in the buyers' groups, particularly in the paper sector. This expansion includes a market pull factor by European companies, particularly by large German publishing companies.

There is also expected to be a market push factor, created by the supply of certified timber products from Scandinavia and Canada. Canadian companies, for instance, have announced plans to certify about 20 mill. ha of forests under the Canadian Standards Association (CSA) with an output of about 25–30 mill. m<sup>3</sup> of timber per year over the next few years (Rametsteiner et al. 1998). At the time of writing, no one system had been approved for Canada. Nonetheless, the CSA, which is considered compatible with the principles and criteria of the Montreal Process criteria and indicators, and the FSC, which has established a national working group in Canada, are making efforts which could potentially generate a significant supply of certified wood products in North America. A significant step forward in the certification arena has recently occurred in Sweden. In late 1997, the representatives of forest industry and environmental groups negotiated an agreement on certification and ecolabeling (Swedish Forest Industries Association 1997). This level of cooperation was the first to occur between the environmental community and forest industry of a leading industrial forest resource nation.

### Timber Producers

The producers of forest products include public agencies, private corporations, individuals, and communal landowners who extract timber from the forest through primarily industrial logging operations or subsistence use. Landowner patterns, forest fragmentation and the opportunity costs of certified forest management are some of the factors which will influence producer decisions to certify or not to certify. Where land tenure is under public ownership, exploitation and subsistence rights are often given to communities and companies. Even where traditional community land rights are given precedence over public ownership, property ownership is rarely an individual private right. It is rather a

community or collective obligation to determine distribution and usage patterns. Therefore, pressures to "regulate" forest land use through market mechanisms such as certification are often not under the control of those who would bear the cost of meeting these standards.

On the other hand, where land ownership or tenure rights are clearly defined, the cost of certification is borne by the owners of those rights, be they private persons, institutions or industry. For example, non-industrial private forest (NIPF) owners maintain forest land for a variety of reasons, many of which may not reflect any particular timber management objective. With little intervention in the forest, certification may easily be gained. However, even small amounts of management will require additional costs that many NIPFs may not want to bear without compensation. A survey made by the European Forest Institute, found that many private forest owners either operate on very low margins or lose money from their forests. This is likely to prevent private forest owners certifying their forests (Rametsteiner et al. 1998).

The 12 mill. landowners in Europe and the nearly 10 mill. NIPF land owners in the United States present a particular challenge to certification systems relative to the impacts of cost (Kiekens 1997; National Research Council 1998). In the United States, more than 85% of the private forest ownership areas were less than or equal to 20 ha in size. The potential for the cumulative loss of small-sized or marginal forest land must be considered in future timber supply projections. Thus, the fragmented nature of forest ownership in North America and Europe raises the question of whether certification can be applied to all forest areas. Many smaller areas of forest land cannot individually return benefits high enough to cover the direct and indirect costs of certification. One option which might allow cost-effective adoption of certification standards is group certification by a collection of landowners.

Forest industries have taken the initiative to develop sustainable forestry programs, based on the demands of their consumer base and the traditional goals of sustained maximization of profits for member firms. This is an example of first-party certification only, yet it represents the industry's willingness to participate in the development of sustainable forestry concepts. Environmental and sustainable management programs have been instituted in the United States, Europe and other regions through forest industry associations and partnerships such as the American Forest and Paper Association, the Netherlands Timber Trade Association, the United

Kingdom Timber Trade Federation, the Mexican Council for Sustainable Forestry, the Imported Tropical Timber Group of New Zealand, and the Malaysian Timber Industry Board (Crossley 1996).

Environmental “image” and “credibility” are essential issues for the forest industry. From the industry’s perspective, for instance, the competitiveness of forest products against steel, plastic, glass and other products, calls for a globally accepted forest management regime. Certification secures access to markets and can also create competitive advantages for firms in the short run. Certification is therefore an important tool for marketing. A recent report of the European Forest Institute regarding potential markets for certified forest products in Europe provides clear evidence of the demand from forest industries for a timber certification system in order to provide environmental guarantees of sustainable forest management and use. It is interesting to note that 75% of Finnish, 68% of British and 60% of German companies considered that a widely implemented timber certification system was needed. In all three countries, the ISO was the first choice (60%) as a governing body for a certification system. The second choice was an intergovernmental organization such as the EU (25%). Very few companies wanted an international environmental organization such as FSC (12%) to be the certifying body (Rametsteiner et al. 1998).

### **Governmental and Non-governmental Organizations**

Non-governmental organizations have played a crucial role in the global development of timber certification. The concerns and actions of environmental organizations reflect a lack of trust in governments or forest industries to adequately protect the environment or manage forests on a sustainable basis. European NGOs led the initial lobbying for import bans on tropical wood and the eventual modification of those bans have become today’s certification systems. The Worldwide Fund for Nature (WWF) is a key supporter and originator of FSC initiatives (Kiekens 1997). Many NGOs are international in scope and very influential. They conduct effective campaigns to raise the consciousness of societies and populations to prevent continued destruction and degradation of the earth’s resources. The financial and human resources of these organizations represent strong local, national and international networks which lobby for significant changes in the management of forests and the production of timber.

National and local governments often find them-

selves on both sides of the certification debate. In many countries, governments are the forest land-owners who issue the right to exploit forests to industrial entities, individual farmers or community groups. At the same time, incentives and regulations for the sustainable management of forests also come from the public sector. For example, in the United States, several states have initiated certification activities. Minnesota and Pennsylvania are actively certifying state and county forest lands, while New York, Michigan and Wisconsin are investigating certification possibilities (Ritchie 1997).

The question arises as to whether governments should be involved in the certification process at all? In most forest rich countries, the diversity of forests alone makes the adoption of national standards extremely difficult to design and even more difficult to implement. Public agencies can set standards and principles of sustainable forestry through public input on the socio-economic, bio-physical and institutional aspects of a forest area. Independent, local decision-makers can use this wealth of public input to develop an equitable and effective system of certification. When the views of different interest groups hinder the choice of a leading system of certification, however, national initiatives have been launched. For instance, in Finland there has been the idea to develop a system that is compatible with both the FSC and ISO systems, but that is also adapted to the Finnish situation, where small-scale forest ownership dominates the forest landscape (Government of Finland 1997).

### **30.4 WHERE ARE WE NOW?**

The impact of the certification movement can be assessed by summarizing the forest areas that have been certified under the FSC and ISO systems. However, while the ISO 14001 standard has been adopted, it has not yet been widely applied in forestry sector. The forest industries of many countries are nevertheless favorable to the system, which can be expected to be increasingly used in the future (Kiekens 1997). The most readily available data on the FSC certification, is summarized below.

#### **Areas Certified by the FSC**

The initial rush of timber certification began soon after the introduction of the FSC program in the early 1990’s. Yet, the progress of forest certification in the first seven years has been slow if measured in terms of the area of forests certified (Table 30.2). By July 1998, a total of 10.3 mill. ha of forests were

**Tab 30.2: Areas of forests certified by the FSC and total forest area**

Region	1998 FSC areas certified mill. ha	1995 Total forest area mill. ha
Africa	1.7	520.2
Asia/Oceania	0.1	564.9
Latin America/Caribbean	0.9	894.7
North America	1.5	512.5
Europe (excluding former USSR)	6.1	146.0
<b>Total</b>	<b>10.3</b>	<b>2638.3</b>

Source: FSC (1998); FAO (1997b)

certified by the FSC process, of which 1.5 mill. ha were certified in the United States and more than 6 mill. ha were certified in Europe (approximately 4.2% of the forest area in Europe). The forest areas of the U.S. plus more than 3 mill. ha certified in Sweden, accounted for 45% of the total FSC certified forests by the middle of 1998.

In less than ten years, the average annual area of forests certified by the FSC has been approximately 0.5 mill. ha. The total area of FSC-certified forests has increased by approximately 12% each year (FSC 1997). The area of forests certified under the FSC almost doubled in the first half of 1998 when, for example Swedish forest companies completed the certification of over 3 mill. ha. In addition to regional concentrations of FSC certification, the majority of the areas have been natural forests with less than 10% of FSC certified forests being plantations or mixed natural/man-made tracts (FSC 1997).

### Trade Linkages to Certification

The precursor to certification in Europe involved boycotts and bans on tropical wood imports through international trade. Only a small proportion of raw timber and wood products enters international trade each year; therefore, the impact of certification worldwide on forest management must be considered relative to the trade flows within different regions. For example, in parts of Europe and in North America, forestry and forest products companies which depend less on external supplies, and can therefore easily meet performance criteria, are likely to be the first to utilize certification as part of their marketing strategies. Less obvious is the impact of demand in Europe for U.S. wood products. Although the market share of most U.S. companies may be small in Europe, the demand for certified wood may influence their decisions to an extent disproportional to their market power.

For other import-dependent countries (Western Europe), trade linkages to tropical countries provide potential supplies of certified wood. It has been estimated by the Economic Commission for Europe (ECE) that under the most favorable conditions, the market share of certified products could be 40-80% in the long run (Simula 1996); although a more likely scenario would probably suggest a smaller penetration of the market. A number of African countries, e.g., Angola, Nigeria, Mozambique and Congo, have large forest areas, but do not export any significant quantities of timber. Countries such as Brazil and Indonesia, although they participate in international timber trade, have significant portions of their production oriented towards their domestic markets. Furthermore, international tropical wood markets are dominated by consumer regions that must show increased demand for certified timber than seems apparent now (e.g., Japan, China, Taiwan, Thailand and South Korea). Although the direct impact of certification on tropical forest management through demand from North America and Europe is expected to filter through international trade linkages, the potential lack of impact can be demonstrated by the following examples.

In 1994, 81% of Malaysia's non-coniferous sawnwood exports were imported by five countries (Japan, China, the Republic of Korea, Thailand, Singapore and the Philippines) (FAO 1997a). The initial and current demand for certified wood has not led to a reciprocal response by these importers. Therefore, it can be assumed that unless consumer demand for green wood products becomes more evident in these demand markets, Malaysia may continue to export non-coniferous sawnwood from forests that are not certified. In addition, the 1994 exports of sawnwood from Malaysia accounted for 52% (4.6 mill. m<sup>3</sup>) of domestic production, suggesting that domestic markets, as well as international markets, must become more environmentally sensi-

tive before pressures to certify forestry operations occur in this country. On the other hand, environmental consumerism through certification may have a large impact on forest management in a country like Côte d'Ivoire. In 1994, this African country exported nearly all of its non-coniferous sawnwood to 12 countries in Europe (FAO 1997a). Demand for certified wood products from Europe can pressure countries like Côte d'Ivoire to provide certified timber. At the moment, however, FSC certification of forests in Africa amounts to less than 350 000 ha (324 000 of which are softwood plantations in South Africa) (FSC 1997).

Certification opportunities have also been debated within the EU. The EU has no position on forest certification and the views of member states on the EU's future role appear to differ from each other. In 1998, however, representatives, mostly of forest owners, of Austria, Finland, France, Germany, Norway and Sweden decided to start a common certification development project in order to establish a European certification framework. There have also been initiatives in many European countries to create a mark-of-origin for timber, e.g., "Wood from sustainably managed forests – from German forests".

From the trade policy standpoint, national or regional programs can easily become misleading. They give the consumers an unsubstantiated idea of the priority of the products and can thus create real barriers to market access. Imported goods should be offered a chance to demonstrate an equivalent standard of forestry. In the spirit of trade policy, certification schemes are more "fair"; they are open and transparent to the outside countries.

### Costs of Certification

One of the major arguments against certification has been that its costs may be significant; yet, direct price premiums will not be paid to producers. Forest certification would cause both direct and indirect costs for the forest owner and the costs to comply with certification standards vary among producers, as does the ability of producers to absorb these costs. Direct costs arise due to the auditing and follow-up inspections associated with certification, as well as by charges which maybe connected with the awarding of a certificate. Indirect costs are caused by changes in the management of forests necessary for satisfying the criteria of certification, and the creation and upkeep of the documentation system needed to establish credibility. Expenditures maybe caused, for example, by decreased yield (e.g., part of an area is not cut), the extra costs of increased training, or the

extra costs of silviculture and harvesting.

The total cost of certification is fundamentally affected by the level to which sustainable management standards are met relative to the pre-certification level. In Finland, it has been estimated that certification costs for an individual, 40-hectare forest holding are as much as 10 times higher than those of group certification (Standardityöryhmä 1997). In the U. S., early estimates of the direct costs of obtaining a certification review (application, initial inspection, annual auditing and fixed fees) are as low as USD 0.01 per ha for operations of several mill. ha to as high as USD 2.00 per ha for small operations of about 200 ha in size (Carter and Merry 1998). Indirect costs have not been quantified widely at this early stage in the development of certification. The long-run responses of producers to other market benefits (increased and secured market access, improved environmental image, sustainable resource) in the absence of price premiums to cover these costs will play a significant role in the sustainability of certified wood supplies.

### 30.5 FUTURE OUTLOOK

Here, at the close of the 20<sup>th</sup> century, the structure of the global timber certification movement has taken on some unexpected characteristics. The thrust of current timber certification initiatives is located in the activities of predominantly temperate and boreal forest countries in North America and Europe, rather than in tropical forests where the specific impact of certification was originally intended. The net change in forest management practices in the temperate regions, due to certification, will probably be minimal because of the existence of near sustainable conditions in most pre-certification forests. With the exception of established national programs in Indonesia, Malaysia and Brazil, most tropical countries are not likely to institute consistent and effective sustainable forestry programs simply because of pressures from international third-parties. Further, a lack of noticeable environmental consumerism in leading tropical wood importing countries such as Japan, the Republic of Korea and China will create further challenges to the growth of certification. Long-term, measurable impacts may result, however, from the efforts of national, regional and global sustainable forestry initiatives.

The demand for certified timber has developed into a "created" market by wholesale and retail buyers mainly in European countries. Even so, demand remains tied to small niche markets with limited expansion into wholesale industrial vol-

umes. Even the most optimistic outlook for certified wood consumption in Europe amounts to only 15 mill. m<sup>3</sup> roundwood equivalents in a market with an apparent consumption of more than 400 mill. m<sup>3</sup> of total roundwood products. Nevertheless, the relative infancy of the certified wood markets limits reasonable projections of its future.

The success of certification will be contingent upon the ability of supply to meet demand. Market access and market expansion, not price premiums for producers, are expected to influence forest management decisions and bring more supplies of certified wood products on-line. If supply shifts too slowly, there is the risk of inadequate supply to meet demand and the resultant negative image of retailers promoting a product that does not exist. On the other hand, if areas are certified too quickly, there is perhaps a more damaging risk of lowering the credibility of all certification assessments. Currently, the total area of forests certified under the FSC system is little more than 10 mill. ha, about half of which is in Europe and North America. This amounts to less than 0.3% of global forest area in the first seven years of implementation. Additional timber supply issues are related to the potential loss of forest land to the cost burdens of certification on small-scale forest landowners.

Perhaps the issue is not whether certification will continue to progress, but to what extent and by whom will it be implemented. Currently, it seems that certified forest products will be marketed in the future under at least two internationally recognized arrangements: the Forest Stewardship Council logo and the International Organization of Standardization 1400 Environmental Management Systems certificate. The FSC system is the only third-party, independent process so far which provides a clear marketing tool, the FSC logo, with the support of many non-governmental environmental organizations. Yet, the ISO system has stronger and wider support from forest industry and forest landowners in North America and Europe. In addition, national and regional schemes, such as the international agreements and protocols for criteria and indicators of sustainable forestry, address sustainable forestry goals in a national policy context.

In Europe, both forest owners and forest industries generally view timber certification as a potentially beneficial system. However, they have very serious reservations regarding its costs, administration and implementation. This is likely to mean that for small private forest owners and the industries they supply, timber certification in its present state is unlikely to be widely implemented. In the United

States and Canada, FSC certification is only one of several options available to forest land owners and timber producers. Forest industry initiatives, the ISO system and local standards for forest management practices offer alternatives for achieving sustainable forestry goals.

### 30.6 RECOMMENDATIONS

Research into global certification systems will undoubtedly affect the ways in which these systems develop. At this point in time, the important research questions and issues would seem to be:

- What are the costs of certifying forestry operations, and how are the costs of certified timber products distributed along the supply chain? Some initial studies are underway, but increased emphasis in this area is required.
- What is the impact of certification on the management of tropical forests—the original concern of sustainable forestry initiatives? Is certification the most efficient and effective system for improving tropical forest management compared to programs and investments which may help to remove other constraints to the development of sustainable forestry, e.g. flawed institutional systems?
- What is the effectiveness of timber certification in improving the long-term value and integrity of global forest resources? Even in temperate forest areas, where certification has mostly occurred so far, will the net impacts of certification be significant given the already high average quality of forest management in most temperate forest areas?
- There are now FSC standards for plantation forests. Plantations were excluded initially from consideration by the FSC due to claims they could not meet some of the biological diversity and social-cultural standards of sustainable forestry. How will the certification of plantation forests affect investments of natural forest areas with their lower financial returns? In an age of environmental awareness, what implications are there for the stability of global fiber supplies if plantation forests are not certified?

It has been argued that sustainable forest management can take place without timber certification. Indeed, the extent to which certification will improve forest management remains unclear. With a lack of consensus on an optimum certification system, little practical experience and many competing initiatives, it will be important to establish clear guidelines on how the issues of harmonization and mutual recognition will be solved. Failing this, there is a risk that certification will become a trade barrier with selective effects on individual producers, primarily in tropical countries. In the long run, the





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