A History of Forest Certification

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Introduction

Public concern for the environment has grown remarkably during the last few decades, both in developed and developing countries and, as a result, environmental issues are beginning to take more of a center stage in global economic and trade policies. The emergence of "eco-labeling"; a process that attempts to provide an indicator of how well a product is environmentally adapted, is a contemporary example of how consumer interests have driven information processes aimed at differentiating the environmental appropriateness of goods and services. Eco label provide information on environmental characteristics of a product, giving consumers the opportunity to use their purchasing power to promote environmentally friendly products. Relying on this market driven mechanism, the world's first eco-labeling program "German Blue Eco Angel" was created in 1977 (Rametsteiner, 2000). Ever since eco labeling has gained momentum giving rise to number of different eco labeling schemes operating throughout the world at present.

A recent development in environmental certification has been the emergence of "forest certification". This innovative concept with the objective of identifying products from well-managed forests came in to forefront, following the discussions on sustainable development issues in the United Nations Conference on Environment and Development held in Rio de Janeiro, 1992. At present, there are several leading certification programs in operation. This paper reviews the history of forest certification, development of different certification schemes, their progress and current issues.

The Emergence of Forest Certification

Labeling wood products with a mark of quality can be traced back in Europe to a French royal decree of 1637, which stipulated that members of the guild of cabinet makers had to mark the furniture they made (Pradere 1989). Other forms of labeling wood have emerged in 1990s under forest certification as market based response to address public concerns related to deforestation, mainly in the tropics.

Over the years, two main policy approaches have been adopted, i.e. top down and bottom up to protect forest resources. In the top down approach fundamentals of policies are formulated at higher levels of government, and implemented under the authority of the government. The success of these command and control methods heavily depends on strength of the governing body. The bottom-up approach on the other hand relies more on a participatory approach where the public agrees on the need for and forms of the policy and implements it by tradition, cooperative agreement or local rule. However, in modern complex societies, common interests binding the members of smaller communities are lacking, which hinders the success of this approach. Past experiences of ineffectiveness and failures of both these approaches have led to the third approach "certification"; one that introduces policy changes through commercial rather than central or local power and uses market acceptance rather than regulatory compliance as an enforcement mechanism (Naka et al., 2000).

Forest certification is a process which results in a written certification being issued by an independent third party, attesting to the location and management status of a forest which is producing timber (Baharuddin and Simula 1994). It involves assessing the quality of forest management in relation to a set of predetermined principals and criteria. Forest certification also gives consumers a credible guarantee that the product comes from environmentally responsible, socially beneficial and economically viable sustainably managed forest. In other words, forest certification promotes economical, environmental and social benefits.

Forest certification found its roots in the concern over rapid tropical deforestation in 1980s and 1990s (Merry and Carter 1996, Kiekens 2003). The majority of terrestrial biodiversity is found in forests, and half of it is considered to be located in tropical forests (Alfonso et al., 2001). As the human population increased, the pressure on the earth's tropical forests has also increased. Approximately 17 million hectares of tropical forests were cleared in 1990, at a rate of more than an acre per second (FAO, 1990). The strain on the forest resource comes on two main fronts, commercial use of wood and deforestation due to land use changes. According to FAO (1999), expansion of agriculture, expansion of ranching, weakness of tenure systems, uncontrolled fires, development of mining sector, construction of dams and irrigation schemes and logging have been identified as the primary causes of tropical deforestation. Poor forest management practices also create many threats to biodiversity and environment, and the impacts are diverse and widespread. In this background, stepping up efforts in maintaining biodiversity and environmental quality through improved forest management had emerged as an important part of an overall strategy (Rametsteiner and Simula, 2003).

With the intention of finding a solution to this growing issue, in 1988, several environmental groups urged the International Tropical Timber Organization (ITTO) to implement a labeling program to identify sustainably produced tropical timber. The proposal was forwarded in a background where a little progress has been made to implement the Tropical Forest Action Plan. Another proposal for a global forest treaty backed by the G-7countries had to be abandoned months before the Rio Summit due to oppositions by the G-77 developing countries (Kiekens 2003).

In 1992, a global effort to wrestle with environmental and sustainable development issues resulted in the United Nations Conference on Environment and Development, also known as the Earth Summit, held in Rio de Janeiro. Although no legally binding commitments were made, the Agenda 21 Forestry Principles set out an action plan to delve into sustainable forestry issues. While these formal processes of developing criteria for sustainable forest management were in progress, forest certification started to take shape through a non-governmental organization (NGO) channel. This innovative idea was developed during the parallel NGO Rio meetings. The concept was to develop a system for certifying and labeling forests and forest products. As a result, a voluntary non-profit organization called the Forest Stewardship Council (FSC) was launched in 1993 with the coalition of Worldwide Fund for Nature (WWF) and other leading environmental organizations. Since then, several forest certification organizations have come to the picture and at present, there's a growing competition among these certification programs to become the global leader in forest certification. The scope of forest certification was originally focused on tropical forests, but has now broadened to include temperate and boreal forests.

The Certification Process

Certification is a multi-faceted process involving retailers, consumers, producers, mills, environmental organizations, societies, and certification systems. The ITTO identifies three main requirements in any working certification scheme; 1) standard which are used as a basis in assessment of applicants; 2) a clearly defined certification process and rules regulating the use of certificates and labels and; 3) adequate institutional arrangements with qualified human resources. The certification standards and criteria are set by the certification body and, usually accredited independent third party auditors evaluate the organization's adherence to the established standards.

Certification schemes can be broadly categorized into two groups i.e. performance based and process based. Performance based standards define specific performance levels for various aspects of forest management. Process based schemes on the other hand provide a systematic approach to developing, implementing, monitoring and evaluating environmental policies; however, they do not stipulate performance standards.

A credible certification program should evaluate the integrity of the producer's claim and the authenticity of product origin (Baharuddin, 1995). Credibility is determined by the quality of forest management and chain of custody assessment, the absence of conflicts of interests, acceptability of key elements of certification schemes to all the main stakeholders and the positive impact of certification in improving forest management (Bass and Simula, 1999). Simula (1997) points out two essential components of any certification scheme; forest management certification and product certification, in order to provide the necessary information to the final consumer. Forest management planning, inventory, silvicultural practices, timber harvesting, forest road construction and other on-the-ground operations are assessed against predetermined principals and criteria under forest management certification. In addition, socio-economic and environmental impacts of forestry operations are also evaluated. Product certification includes the tracking of timber from forest to final consumer through various production phases of the supply chain such as transportation, storage, processing and distribution. This process is also known as 'chain of custody" certification.

Main Certification Programs

As the concept of certification began to take momentum, many certification programs have been evolved. Some of these programs are focused on global forestry while there is an increasing trend to develop national and regional certification programs as well. Some of the leading certification programs, their development and progress are discussed in this section.

Forest Stewardship Council (FSC)

The Forest Stewardship Council (FSC) is an independent non-profit organization formed as an effort to establish a global system for certifying that products come from well managed forests. The mission of FSC is to promote environmentally appropriate, socially beneficial, and economically viable management of the world's forests (FSC, 2005).

The history of FSC goes back to 1990 when a group of timber users, traders and representatives of environmental and human-rights organizations met in California, USA to discuss the need for a credible system to identify forest products comes from sustainably managed forests. In this meeting, the need for an independent global organization to facilitate the process of certification was emphasized. In 1992, Washington D.C., USA, the interim FSC board of directors was established and the FSC founding assembly took place in Toronto, Canada with 130 participants from 26 countries in 1993 (FSC, 2004). Since then, FSC has become the largest voluntary program for independent third-party forest certification in the world (Humphries, 1999).

FSC is a two-pronged process including a forestry performance audit and a chain of custody audit. FSC does not itself certify forests and instead it accredits qualified independent organizations known as certification bodies to carry out on-the-ground inspection and certification. The FSC certification standards are based on ten main principles. Timber comes from sources that meet the FSC standards are eligible to carry the FSC logo which denotes that

the product comes from well managed forests. FSC scheme has also developed a process to monitor certified timber from forests to the consumer. The chain of custody procedure monitors the wood products through every stage of their transport, conversion and further processing. A separate certificate is issued each time it passes from one production stage to the other. A paper trail audit is performed to see if products can be linked back to location of logging. Then, if a set percentage of the wood is clearly linked back to a certified forest a product eco-label is granted (FSC, 2003).

By mid 1998, FSC certified 10 million hectares of forests around the world. At present the total forest area certified to FSC standards is 67,159,644 hectares (FSC, 2005). While most forest certification activities occur in Europe and North America (Figure 1), a range of national certification programs that complies with FSC have been developed, or are in development, including in Australia, Chile, Brazil, Malaysia and Africa (Kiekens, 2003).

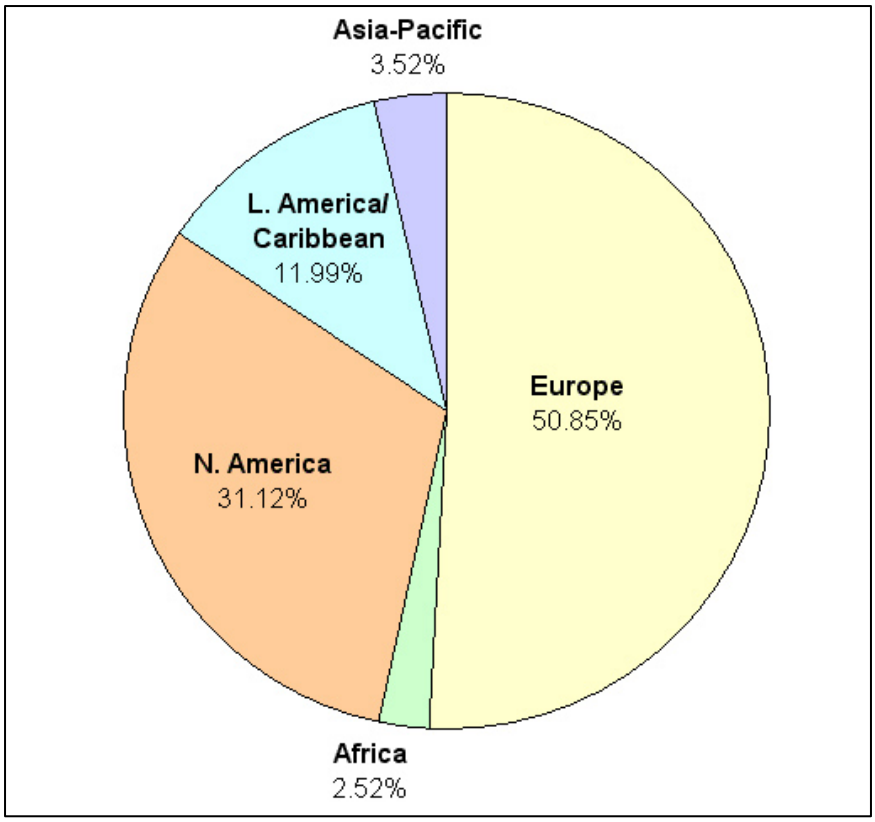

Figure 1: Percentage of certified forests endorsed by FSC in each region on 09-11-2005
(Source: FSC official website)

Pan European Forest Certification (PEFC)

The PEFC was founded on June 30, 1999 in Paris with the aim of promoting sustainably managed forests through independent third party certification. PEFC is an umbrella organization which facilitates mutual recognition among the numerous national certification standards developed in a multi-stakeholder process. Although initially developed to address the European situation, the PEFC Council's approach now has worldwide appeal. The unique feature of PEFC scheme is it encourages bottom-up approach to the multi-stakeholder development of

certification standards and respects the use of regional political processes for promoting sustainable forest management as a basis for certification standards (ITTO, 2002).

The PEFC is a certifier of certification processes and it assesses the various certification processes against the standards defined by the PEFC. Timbers from forests certified under an accredited national process are entitled to carry the PEFC label provided there is a chain of custody procedure in place.

The Finnish Forest Certification scheme, the Living Standards and Norwegian Forest Certification Scheme, and the Swedish PEFC certification scheme are the first schemes to be endorsed by PEFC in year 2000. At present, 21 national certification schemes have been endorsed by the PEFC Council. Since its establishment, PEFC has gained popularity (Figure 2) especially in Europe and so far, there are over 126 million hectares of forests certified under PEFC program (PEFC, 2005).

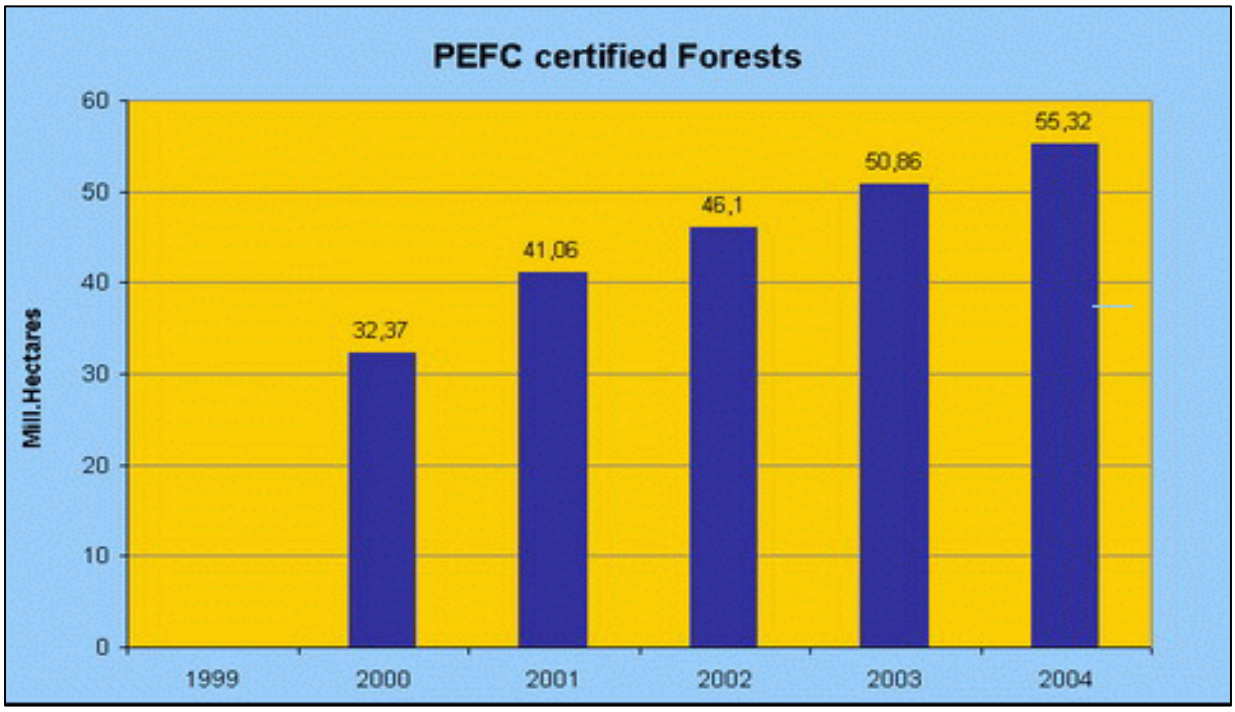

Figure 2: Progress of PEFC certification: 1999-2004 (Source: PEFC official website)

International Organization for Standardization (ISO)

The International Organization for Standardization (ISO) is an international non-profit organization establishes global standards for various products, production processes and services to ensure that they meet acceptable level of quality. After the Rio Summit, many national standards to ensure environmental safety have emerged which prompted ISO to also develop environmental standards. As a result, the ISO 14000 series of international standards on environmental management were introduced in 1996.

Of all the standards in ISO14000 series, ISO 14001 for Environmental Management Systems (EMS) is the only standard against which it is currently possible to be certified by an external third party certification authority (ISO, 2004). The certification process includes identification of environmental aspects of the operation which pose high risk to the environment,

setting objectives and targets to reduce the environmental impacts, identification of changes required to meet the goals and objectives, implementation of new practices and continuous evaluation of their effectiveness. This is more a process based certification system and is applied at the level of entire enterprises and it does not include specific, on-the–ground standards for forest management, but focused on improved environmental planning. The ISO 14001 system gained wide acceptance around the world largely due to the recognition of ISO and many companies prefer their forests to be certified under dual certification programs, often one being the ISO standards.

Sustainable Forestry Initiative (SFI)

The Sustainable Forestry Initiative program was established by the American Forest and Paper Association (AF&PA) in 1994 with the intention of promoting sustainable forestry practices in USA. It is a comprehensive system of principles, objectives and performance measures developed to integrate both responsible environmental practices and sound business practices (SFI, 2001). Compliance is a condition of membership in the AF&PA. The SFI verification includes both first and second party verification as well as independent third party certification of conformance to the SFI standards. The program also has an important education and outreach component geared toward all forest landowners and requires the public release of an annual progress report. Since its establishment, over 136 million acres of forestland in North America enrolled in SFI certification program (SFI, 2005).

Other Leading Regional and National Certification Programs

Certain countries involved in timber trading have found it difficult to comply with certification standards developed by different certification programs due to their inappropriateness to the political, cultural, economic and ecological realities of the particular country. As a result increasing number of stakeholders in countries around the world has focused on developing their own certification standards based on principles and criteria of well known certification programs. Several leading national and regional certification systems are discussed here.

Canadian Standards Association (CSA)

The Canadian Standards Association (CSA), the official standards setting body for Canada produced a Sustainable Forest Management standard based on a comprehensive set of internationally recognized sustainable forestry criteria in 1996. These standards are consistent with the ISO14001, and also require public participation and audits that verify performance. It covers six criteria (key environmental, economic and social values) and more than 80 indicators associated with sustainable forest management (CSA, 2005). This certification includes both a process (systems) component and performance (on-the -ground) measures. The first certification under this system was completed in June 1999 and so far, approximately 67.3 million hectares have been certified under this standard representing the second largest in Canada (SFMS, 2005).

Keurhout Foundation

The Keurhout Foundation with the support of Dutch government in the Netherlands has developed a system and a logo for timber from sustainably managed forests. It also assesses existing certification systems and provides a label for forest products produced from certified forests. The criteria are set by the Dutch government and other existing schemes such as FSC

and ITTO guidelines. At the end of 2003, the foundation ceased to exist but the Keurhout logo and the scheme that had been developed around it was taken over by the Netherlands Timber Trade Association. Currently 39,982,337 hectares of forests have been certified in various countries including Austria, Canada, Finland, Sweden and Gabon (Keurhout, 2005).

American Tree Farm System (ATFS)

The American Tree Farm System (ATFS) can be considered as one of the oldest programs established to promote sustainable forest practices. The system is more oriented for small private landowners. ATFS has established standards and guidelines for property owners to meet to become a certified Tree Farm. The first Tree Farm was designated in Montesano, Washington in 1941, and currently ATFS has 33.2 million acres of privately owned forestland and 80,000 family forest owners certified in 46 states of USA (ATFS, 2005).

Other Regional/National Systems

In addition to these certification schemes, many national and regional certification programs have been developed especially in the tropics, based on ITTO criteria and indicators for the sustainable management (SFM) of natural tropical forests. ITTO is an intergovernmental organization promoting the conservation and sustainable management, use and trade of tropical forest resources which includes 59 member countries. It was established under the auspices of the United Nations in 1986. The ITTO first published its criteria and indicators for SFM in 1992 and these were revised in 1998 and 2005. The purpose of the ITTO criteria is to provide member countries with a tool for monitoring, assessing and reporting changes and trends in forest conditions and management systems at the national and forest management unit (FMU) level (ITTO, 2005).

The National Timber Certification Council (MTCC) in Malaysia was established as an independent organization to operate a voluntary national certification scheme in January 1999. The Malaysian criteria, indicators, activities and standards of performance for forest management certification agreed in 2001, are based on ITTO criteria as well as the other leading certification schemes (MTCC, 2001). To date, nine FMUs covering a total of 4.73million hectares of permanent forest reserves have been certified under MTCC for forest management, while 55 timber companies have been awarded the MTCC chain of custody certificate, making it one of the most successful national initiatives developed (Buang, 2005). This scheme is recognized by many leading certification programs.

Indonesia also began working on developing an independent, third party eco-labeling certification system and as a result, the Indonesian Eco-labeling Institute (LEI) was established in 1994. It introduced a certification program to implement SFM in 1998. This system and its criteria and indicators are based on ITTO, FSC and ISO principles, criteria and guidelines. LEI certification scheme is also mutually recognized by FSC (ITTO, 2000).

The Brazilian criteria and indicators for natural tropical forest management were developed using the ITTO criteria and indicators for the sustainable management of natural tropical forests, as a framework. The African Timber Organization (ATO) with the assistance of the Center for International Forestry Research (CIFOR) has established the Pan African Forest Certification scheme (PAFC), which confirms to those of the ITTO criteria and indicators.

Emerging issues and trends in certification

Forest certification has gained wide acceptance ever since its introduction in early 1990s. The concept gained the strong support of many environmental non governmental organizations (NGOs), and by 2003 the total forest area certified under any certification scheme reached 117 million hectares (Kiekens, 2003). Despite its promising role as a market based mechanism in supporting sustainable forest management, many issues still remain to be addressed if certification is to gain a real momentum in the future. Some of the issues and emerging trends in global forest certification are discussed here.

Slow progress of certification in developing countries

Forest certification was initially introduced to reduce the tropical deforestation. However, vast majority of certifications at present have occurred in Europe and North America while developing countries where most tropical forests lie contributed a mere 8% (Figure 3) to the total certified forests in 2002 (ITTO, 2002). The overall direct impact of certification in timber-producing tropical countries has been very little.

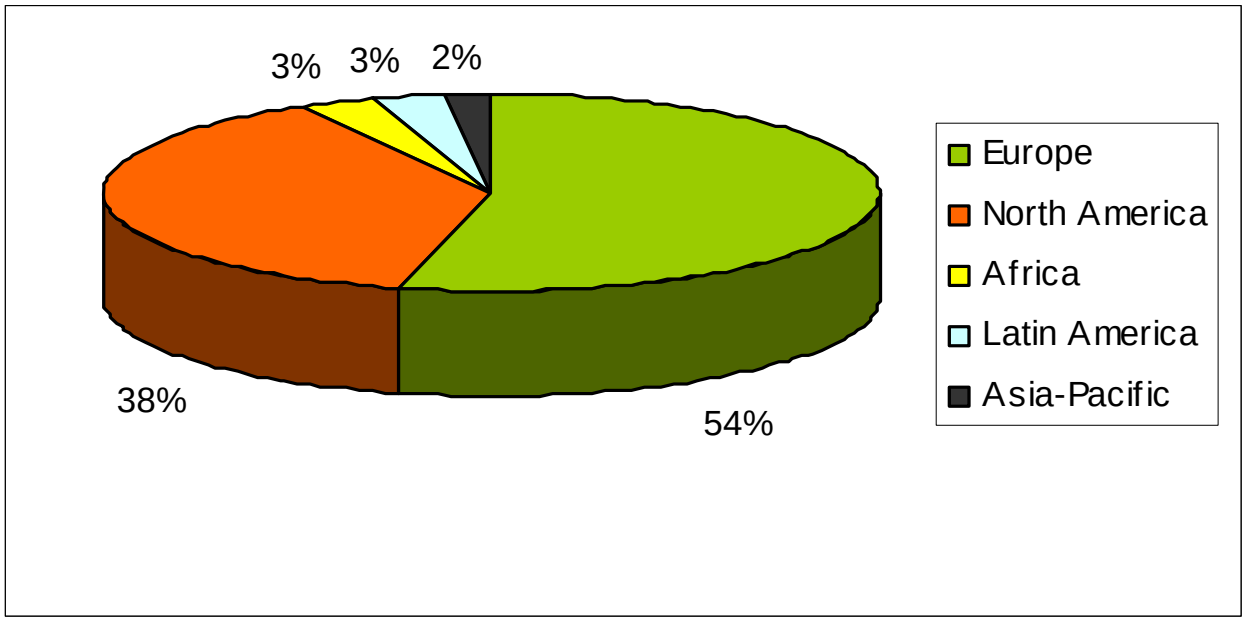

Figure 3: Certified forests by region in 2002 (Source: ITTO, 2002)

Several underling factors have contributed to this situation. Atyi and Simula (2002) identify inflexibility of certification standards, failure to recognize the broader local land-use issues, conflicts and incompatibility between legal settings and certification standards as the key factors for lack of interest shown by developing countries to certification. Developing countries are in a different position compared to developed countries with regard to their certification needs and possibilities and in the resources they have for making use of certification. Tropical timber producers are more concerned about economic aspects of certification such as the expected increase in production costs and uncertainties over market benefits as well as difficulties they face in achieving certification status. For them, certification is more a market requirement imposed by importers which is difficult to comply, and a trade barrio rather than an aid for promoting their exports.

Latest trends in global forest area shows that the deforestation rates in developing countries (especially in Africa and South America) still remain high in comparison to developed regions (Figure 4) although the rates have been slowed down somewhat (FAO Global Forest Resource Assessment, 2005). This underlines the importance of encouraging and support certification in developing countries in the future.

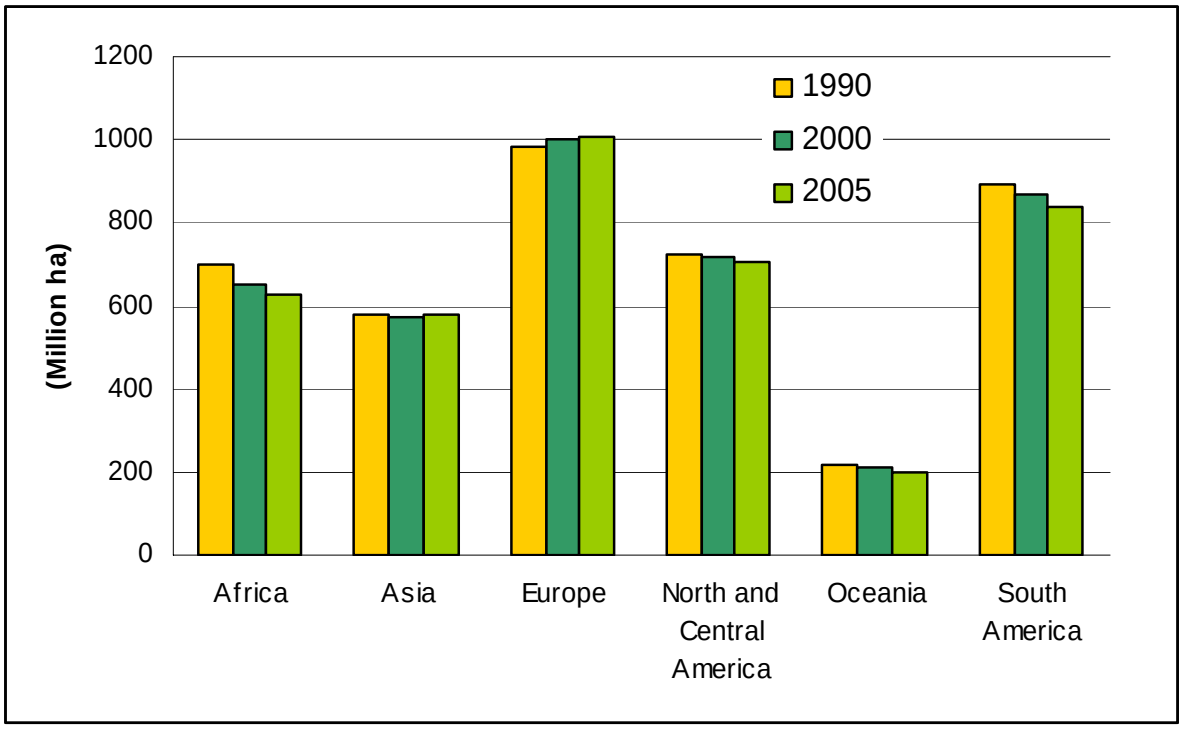

Figure 4: Trends in forest area by region, 1990–2005 (Source: FAO)

Markets for certified products

Markets for certified products are strongest in Western Europe and USA, and it continues to grow. For instance, Price Waterhouse Coopers predicts an increase in US certified forest products market by 100 to 150% per year (Dixon, 1999). These markets are led by "buyers groups" of forest product retailers and traders, especially retail home improvement chains. Lowe's and Home Depot in USA, and UK's B&Q, Homebase, Sainsbury and Meyers (members of "1995+ Group") are some of the most significant members of such buyers groups. However, in comparison to American and European markets, certification has not gained any meaningful market share in principal Asian markets such as Japan, Korea and China. These countries are among the leading tropical timber importers (ITTO, 2004).

Although certification relies on a market-driven mechanism, with environmentally concerned consumers sending price signals through the supply chain to the forest industries and forest managers, it is unlikely this consumer signal will occur in the absence of a real commitment by retailers and traders (Kanowski et al., 1999). Therefore, the role of retailers and traders is likely to play a key role in future development of markets for certified products.

Cost of certification

There is an additional cost associated with forest certification to include; changes to forest management, separate inventories of certified and non-certified products, which increases

the material handling cost, the costs of tracking the certified product through the system to the customer, and the costs associated with becoming and remaining certified. This has sometimes proven to be prohibitively high especially for industries in developing countries and small holders. Certain studies (Gan, 2005) show that certification can increase the production costs by 5-25% and as a consequence negatively affect on world's forestry output, creating a hike in global forest products prices. According to Gan (2005) the regions that would suffer most from global certification would not be major timber producing regions, but major net importers of forest products like East Asia. Therefore cost of certification is among the most important issues to be addressed.

Issue of private non-industrial forests

The majority of certified forests at present are industrial forests and plantations. According to FAO (2005), North and Central America, Europe (other than the Russian Federation), South America and Australia have a significant proportion of privately owned forests. However, certifying the forests owned by smallholders is an issue which has been given less attention by most of the leading forest certification schemes over the years and as a result, these groups are generally underrepresented in certification. The main concern of private smallholders is that the needs and circumstances of smaller growers as well as regional variations in sustainable forest management are not easily accommodated in the dominant certification schemes (Kanowski et al., 1999). Some certification programs recently have targeted certifying forests owned by smallholders and taken measures to assist small landowners in meeting challenges through introducing programs such as group certification in order to bring down the cost of certification.

Increase of Certification Schemes and Credibility

Since the introduction of the concept of certification, several certification schemes have been formed and are now in operation. Many have been initiated by forest industries, forest owner groups and governments who are concerned about conceding too much control of their forests to environmental NGOs through participation in global certification schemes such as FSC. The proliferation of certification schemes has several potential disadvantages. If an eco labeling program to be successful, it should hold a dominant position in consumers' minds. With increased number of eco-labels in the market claiming to support sustainable forestry, chances are high that this will lead to confusion in the market. Further more; standards differ greatly between various certification schemes and this has raised questions over the credibility of many schemes. On the other hand, if a certain industry doesn't qualify for a certification scheme which sets higher standards, it can always go for a scheme which is less strict in its criteria and standards. Since it is not clear which certification schemes would become globally accepted in the future, industrial forest owners and wood base manufacturers also facing a dilemma when it comes to selecting a certification scheme for their industries. Mutual recognition between certification schemes is one way of avoiding these confusions and setbacks.

Summary

A recent development in environmental certification has been the emergence of "forest certification". This innovative approach was developed following the discussions on sustainable development issues in the United Nations Conference on Environment and Development held in Rio de Janeiro, 1992. Although the scope of forest certification was originally focused on

tropical forests, it has gained rapid momentum, and has now broadened to include temperate and boreal forests. At present, there are several leading certification programs in operation. In addition to global certification schemes, many governments have taken initiatives to develop national and regional certification schemes to facilitate their wood based industries. Despite its vital role as a market based instrument to promote sustainable forestry, certain issues in certification such as finding markets for certified products, low participation of developing countries, the cost of certification, credibility of certification schemes and certifying small landowners, still remain to be addressed.

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