THE FUNDAMENTALS OF FOREST CERTIFICATION*

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INTRODUCTION

Although many readers of this book will be familiar with forest certification, we hope that others will be relatively new to the subject. To date, forest certification has been discussed primarily in forestry circles. This book is part of an effort to extend that discussion into the wider community of people interested in environmental policy, sustainable development, transnational institutions, social justice, and new modes of governance. To that end, this chapter offers a concise overview of forest certification programs as they exist today. Subsequent chapters explore their many social and political implications. We invite readers who are not familiar with forest certification programs either to read this chapter at the outset or to refer back to it when additional information on certification would be helpful to understanding other chapters.

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ESSENTIAL ELEMENTS OF FOREST CERTIFICATION PROGRAMS

The Concept of Forest Certification

What does it mean to 'certify' a forest? Obviously, it does not mean certifying the forest per se, since that would be unintelligible. Rather, it means certifying that the people responsible for a forest are taking care of it properly. Thus, from a commonsensical perspective forest certification implies that: (1) we understand what it means to take care of a forest properly and that (2) a trustworthy person who understands proper forest management (3) visits the forest and assesses the work of the people who manage it and (4) certifies to others that things are being done correctly. Conversely, if the forest is not being managed properly, certification is withheld.

Although the basic idea of forest certification is readily understandable, forest certification is not yet a customary practice or a long-standing tradition. Rather, it is an emerging practice. This means that its basic elements must be worked out and converted into standard practices and procedures before forest certification can achieve wide social recognition. Since efforts to institutionalize forest certification have been going on for about a decade, most of the basic process and practice questions have become apparent, as have alternative ways of addressing them. The purpose of this section is to provide an overview of the general issues and practices that characterize forest certification to date. The next section will make then make them concrete by providing a brief history of forest certification and describing several existing forest certification programs, including their main similarities and differences.

Before proceeding to describe forest certification, however, we offer two brief notes to place it in context. First, as the above description of forest certification implies, neither the general idea of certification nor the specific idea of forest certification is new. Certification programs have long existed in other economic sectors, such as appliance manufacturing, quality control, and health care services.[1] The rise of certification programs in the forestry sector is striking because non-governmental actors are taking up functions traditionally claimed by the agencies and ministries of nation states: the setting and implementation of forestry standards intended to protect broad public interests in proper forest management. But despite the traditional state predominance in the forestry sector in most countries, forest certification programs did not have to invent themselves out of thin air. Rather, they were able to draw upon models and techniques that had been developed and standardized by

[1] In the U.S., for example, Underwriters Laboratories (UL) had been setting safety standards for electrical appliances and monitoring manufacturer compliance for almost a century when forest certification began. The National Fire Protection Association (NFPA) had been setting fire safety standards for buildings (although not certifying them) for nearly as long. The Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) had been setting standards for and certifying health care organizations for over four decades. There are certainly hundreds and probably thousands of such programs around the world. See e.g., Cheit (1990).

programs performing similar functions in other sectors.[2] Thus, forest certification is inherently linked to developments in other sectors.

Second, despite the numerous similarities across certification sectors and programs, many differences in terminology exist and can cause confusion. We hope to reduce that confusion by clarifying our use of terminology at the outset. We use the term 'certification program' to refer to a formally designed framework under which multiple organizations with different responsibilities work via mutually accepted rules and procedures to determine whether specific forest management organizations (FMOs) are conducting good forestry. Thus, the rules, procedures and activities of the Forest Stewardship Council constitute a program, as do those of the Sustainable Forestry Initiative. These are described in more detail below. Programs are sometimes called 'schemes' or 'systems' by other authors. In those rare instances when we use the term 'scheme,' we refer to the abstract models, plans, and rules of programs. We use the term 'system' in two ways: (1) by itself to refer to the coordinated behaviors of multiple organizations in implementing a certification program and (2) in 'environmental management system' to refer to the coordinated behaviors of actors within a particular FMO to develop and implement an environmental management plan for that organization. We use the term 'organization' to refer to a concrete group of people who are formally organized in a set of roles and responsibilities to achieve a specific purpose. A forestry enterprise is an organization, as is a certification body, as is the organization charged with overseeing a certification program. We use the term 'forest management organization' (FMO) to include the broad range of organizations (for-profit, state-owned, community-based, etc.) that manage forests and are potentially eligible for certification. The next section describes some common functions that occur across certification programs with generic terms, such as standard setting, certification, and labeling. We use the term 'institution' to refer to a standardized set of practices and relationships for performing a given function. Different certification programs may use similar institutions. Thus, an institution is neither a particular organization nor a particular place, but rather a standardized set of practices and roles.

Institutional Elements of Forest Certification Programs

Because the concept of forest certification is fairly commonsensical and because there is a considerable fund of experience with certification in other sectors, the basic issues and institutions of certification have emerged rapidly. We describe them in two general categories - standard setting and implementation - and then break down implementation into several subcategories: certification, accreditation, labeling and other administrative matters.

Standard Setting. Before they can certify properly managed forests, certification programs must first define proper forest management. As is described below and throughout this book, all existing forest certification programs seek to promote sustainable

[2] Much of this standardization had been brought under the umbrella of the International Organization for Standardization (ISO), which is a global federation of approximately 140 national standard setting bodies that has developed international standards for countless types of industries and practices.

forest management (SFM).[3] SFM has been the subject of continuing debate in the larger field of forest policy and has undergone considerable change in recent decades. The basic tendency of that change has been to broaden the set of considerations that forest managers must take into account, from (1) ensuring a steady flow of timber from the forest, to (2) protecting the range of ecological functions, components, and services provided by the forest, to (3) protecting the many societal interests tied to the forest. Since the specific requirements of the term are still subject to much debate, it is not surprising that certification programs have put great effort into defining it. We will describe substantive differences among their standards in the next section. Here we describe the basic institutional options.

First, standards can be set at different levels: for the program as a whole, for local areas covered by of the program, or for specific FMOs. In practice, organizations at each of these levels usually also play a role in standard setting, surprising as it may sound.[4] This is in part because it is impossible to set standards in sufficient breadth and detail to dispose of every possible situation. Given the variability of local situations around the world and rapid changes in knowledge, it often makes sense to leave some important details to local decision makers.

Second, and relatedly, standards typically specify either (1) performance outcomes or (2) management systems. Performance standards require the achievement of concrete conditions in the forest or in human organizations related to the forest. For example, a performance standard might require that an FMO maintain a specified mix of tree species and age classes over a given period. Or it might require that workers be protected so as to have less than a specified number of serious accidents in a given period.

A management system standard, on the other hand, focuses on defining management responsibilities and processes within the FMO. The most influential such standard is the ISO 14001 environmental management standard (EMS) recently developed by the International Organization for Standardization (ISO). The basic idea is to require the FMO to define and implement a specific set of responsibilities and processes for dealing with environmental and related issues. EMSs typically include arrangements for ascertaining the organization's environmental effects, planning how to increase the positive ones and/or decrease the negative ones, and achieving 'continuous improvement.' The underlying argument for EMSs is that harnessing the planning and control capacities of the FMO to the goal of improving environmental performance may achieve better results in a dynamic and uncertain environment than would a reliance on fixed performance standards (see e.g., Coglianese and Nash 2001).

All existing certification programs employ each of the standard setting options described above (i.e., central/local/FMO and performance/management system) to at least some degree, but in quite different mixes as will be described below. Programs also vary by

[3] The FSC, however, maintains that since we do not yet have the knowledge to know which forest management practices are sustainable, it is only possible to certify that forests are 'well' managed.

[4] The idea that the FMO could be a standard setter may sound odd, particularly to those who see standard setting in parallel to governmental regulation. In fact, however, allowing local variations in performance to reflect the particular circumstances of firms has a long history in governmental regulation, although it is often buried in the inspection process (e.g., Hawkins 1992)

which kinds of actors participate at each level. While all of them permit stakeholder participation to some degree, the amount, location, and nature of participation vary greatly. Finally, the standards of forest certification programs vary considerably in scope. While most standards focus on biological conditions, some also include social justice concerns such as the protection of laborers, indigenous peoples and local communities.

Implementation. Forest management standards may have little effect unless the certification program has a way of assuring that FMOs implement them. Given that meeting standards often entails costs, and that FMOs generally have incentives to minimize costs, certification programs must have institutional arrangements for assuring that certified FMOs in fact comply with the standards. These arrangements are conventionally described in terms of to three interrelated functions: certification, accreditation, and labeling.

1. Certification. Certification of FMOs is the core function of forest certification programs. To carry it out the programs must define organizational processes and relationships likely to assure compliance with applicable forest management standards. To be useful, these arrangements must also persuade outside observers that they are likely to result in a high degree of compliance - i.e., they must be credible. While all forest certification programs rely to some extent on the internal processes of FMOs, they also rely on outside monitoring. The most rigorous approach is 'third party verification,' wherein a person or organization that is neither part of the FMO, nor one of its customers or suppliers, is given authority to assess compliance with the program standards. Not all certification programs require third party verification, however. Even where it is used variations in how it is implemented may lead to differences in reliability. Perhaps the most important variable is the degree of control that the forestry enterprise can exercise over the certification body and its findings. Some programs give FMOs much more control over the selection, terms of employment, and findings of certifiers than do others. Overall, there has been a steady tendency among forest certification programs to institute third party verification, but there are still enormous differences among them. Even the most rigorous programs still face questions of credibility deriving from the fact that certifiers are paid by the FMOs seeking certification.
2. Accreditation. When programs embrace third party certification, an important question immediately arises as to who should be qualified - i.e., be 'accredited' - to serve as a certifier. Some certification programs make their own accreditation determinations, while others use accreditation organizations that developed for other purposes (sometimes under the ISO umbrella), and some allow FMOs to make their own determinations as to who qualifies as a certifier.
3. Labeling. The last key element of a forest certification program is how it ties wood products sold in consumer markets to certified forestry operations. All major certification programs have now developed programs for attaching their labels to wood products. Their rules for determining which wood products qualify, and particularly how those wood products must be traced through the chain of production ('chain of custody requirements' - COC), are quite variable and remain under development.

Finally, we should note that in practice implementation processes often play a standard setting role as well, as certifiers work out expectations for concrete situations that were not anticipated or not fully understood in the standard setting process. Hence it is important that certification programs have mechanisms for providing feedback between their implementation and standard setting processes. Carrying out all of the functions described above requires considerable administrative capacity, and we will also describe some basic organizational features of certification programs in the next section.

EXISTING FOREST CERTIFICATION PROGRAMS

The idea of forest certification gained currency in a series of discussions among North American and European environmental activists and socially conscious tropical hardwood users in the1980s and early 1990s. It was particularly attractive to environmentalists because they saw it as a way of responding to the widely perceived problem of tropical deforestation and yet not supporting a boycott of all tropical timber, as had been proposed by some environmentalists in developed countries. The great advantage of certification was that it could provide a means to identify tropical timber that was properly grown and harvested, thus allowing northern consumers to buy tropical hardwoods without feeling that that they were contributing to tropical deforestation. It soon became apparent, however, that to be perceived as fair, such a program would have to apply to tropical and non-tropical timber alike, since there was widespread and justifiable skepticism about the sustainability of much management in temperate and boreal forests.

Starting with the Forest Stewardship Council (FSC) in 1993, forest certification programs proliferated rapidly. Today there are anywhere between six and twenty or more, depending on how one counts.[5] At a more general level, however, they are converging around two alliances, one centered on the NGO-oriented[6] FSC and the other centered on the forest production-oriented Pan European Forest Certification Council (PEFC). To provide a working understanding of standard setting and implementation in forest certification, the remainder of this section presents brief overviews of four programs: the

[5] The most recent report of the Confederation of European Paper Industries (CEPI 2001) lists 20 programs: (1) FSC International, (2) PEFC International, (3) American Forest & Paper Association Sustainable Forestry Initiative, (4) American Tree Farm System, (5) Czech Council of the National Certification Center, (6) Finnish Forest Certification Council, (7) Lembaga Ekolabel Indonesia (LEI), (8) Living Forests Norway (PEFC affiliated), (9) PEFC Austria, (10) PEFC Council of Latvia, (11) PEFC France, (12) PEFC Germany, (13) PEFC Sweden, (14) PEFC Switzerland and HWK Zertifizierungsstelle, (15) PEFC UK, (16) Standards Council of Canada, (17) Associacão Brasileira de Normas Technicas, (18) CEF - Certificación Española Forestal, (19) Conselho Da Fileira Florestal Portuguesa, and (20) Malaysian Timber Certification Council. Many of these are affiliated with and were developed by the PEFC, and therefore this may be seen as an overcount; on the other hand, as the FSC's national and regional standard setting efforts progress and potentially develop increased autonomy, it could also come to be seen as an undercount. In any event, the list does give a sense of the fluidity of program boundaries in the field.

[6] 'NGO' stands for 'non-governmental organization' and is used in this paper primarily to reference environmental protection and social justice advocacy organizations.

FSC, the Sustainable Forestry Initiative (SFI) in the U.S., the Lembaga Ekolabel (LEI) in Indonesia, and the PEFC.

The Forest Stewardship Council[7]

Growing out of the discussions noted above, the Forest Stewardship Council was officially founded in 1993 as a non-governmental, non-profit, multi-stakeholder organization. Although promoted primarily by environmental NGOs, including the World Wide Fund for Nature and Greenpeace, the FSC was structured as a free standing organization which would incorporate members with a full range of interests, from environmental protection to commercial development to social justice.

The FSC was designed both to develop globally applicable forest management standards and to deploy an institutional system for implementing those standards. In both regards, developments by the FSC have driven those by other forest certification programs, so we will describe the FSC program in some detail.

Standard Setting. The FSC standard setting process was able to draw upon the worldwide discussion of sustainable development occurring at the time, and quickly produced a set of guiding principles requiring that certified forestry operations:

1. comply with applicable laws and treaties;
2. ensure that long term tenure and use rights are clearly established;
3. recognize and respect indigenous peoples' legal and customary rights,
4. maintain or enhance the social and economic well-being of forest workers and local communities;
5. use forest resources efficiently to ensure economic viability;
6. conserve biodiversity and protect ecological functions;
7. implement a long term management plan;
8. monitor management performance and environmental and social impacts;
9. protect high conservation value forests (e.g., those that contain endangered biota or fulfill crucial ecological or social functions); and
10. manage plantation forests so as to reduce pressure on natural forests.[8]

Almost simultaneously, FSC developed a series of more concrete criteria and indicators to help implement these general principles, and certification under them commenced. Indeed, some certification had been carried out by individual certification organizations even before the founding of the FSC.

Meanwhile, however, the FSC instituted a number of national and regional[9] standard setting processes intended to adapt the general principles and criteria to fit local conditions. Local standard setting processes are conducted by stakeholder groups representing

[7] Most of the discussion of the FSC is based on research published in Meidinger (1999), Elliott (2000), and Sprang (2001).

[8] See the FSC website (http://www.fscoax.org/principal.htm) for a full quotation of the FSC Principles. There were originally nine principles, and the ninth and tenth have been debated and revised in recent years.

[9] 'Regional standards' are developed for sub-areas in large nations where the forests and other factors differ significantly from one region to another.

important constituencies in the locale. Approximately a dozen national and regional standards have been completed by local groups and approved by the FSC; several dozen more are at various stages of development. These standard setting processes have highlighted the challenges inherent in using stakeholder processes to develop locally appropriate standards which are also expected to be consistent with the global principles and criteria as well as with standards in neighboring or otherwise comparable jurisdictions. The FSC is currently developing harmonization processes to address these challenges.

Overall standard setting authority remains vested in the members of the FSC acting as a 'general assembly.' The general assembly is divided into three chambers - environmental, economic, and social - each with equal voting power. Each chamber is further divided into a 'northern' (developed country) and 'southern' (developing country) sub-chamber, again with equal voting power. Membership in the FSC is open to all individuals and groups (other than governmental organizations) that subscribe to its principles and whose membership application is supported by at least two existing members. The international FSC presently has about 600 members, about two-thirds of which are organizations and one-third individuals.

Implementation. Although it is still developing, the FSC implementation system has always been relatively elaborate.

1. Certification. The primary work of certification is done by a small number of organizationally independent certification organizations. The certifiers use multi-disciplinary teams to review the on-the-ground management operations of each forestry operation that applies for certification. A typical FSC certification would involve roughly the following steps:
    1. preliminary discussions between the potential applicant and one or more certifiers, including indications of what changes the applicant likely will have to make to achieve certification;
    2. submission of an application to a certifier, including documentation of the applicant's operation;
    3. negotiation of a budget and other contractual terms of the assessment, possibly including a 'scoping' process;
    4. on-the-ground field assessment, including required consultations with local stakeholders;[10]
    5. preparation of a draft assessment report by the certifier;
    6. peer review of the report by two or three independent specialists;
    7. discussion of possible terms and conditions of certification with the applicant;
    8. a final certification decision (see below);
    9. certificate issuance, processing of final payments, further certification contracts, press releases, etc; and
    10. random annual follow-up audits.

[10] Most stakeholder consultation processes to date have been developed by certification organizations. The FSC is now working to systematize information on and approaches to local consultation.

Certifiers have several options in reaching a final decision on certification: (1) approve an application unconditionally; (2) grant provisional approval on condition that certain corrective actions are taken within a certain time; (3) indicate that approval will be granted after certain preconditions are met; or (4) deny the application. Certificates ordinarily last for five years, after which time a thoroughgoing reassessment occurs prior to renewal.

To date approximately 30 million hectares of forest land have received FSC certification. Most of that land belongs to relatively large forestry operations, although some belongs to small individual and community landowners. It is possible for small landowners to seek certification as a group, and a few have done so. The FSC is working to find additional ways to make certification more accessible to small landowners. Almost two-thirds of FSC-certified forest land is in Europe. North and South America each have less than one-sixth, respectively, and the remaining very small portions of certified land are in Africa and Asia. Although the FSC has certified more forest land in tropical countries to date than any other program, its relatively slow progress there has given rise to discussions about whether the standards are too high for tropical forestry to reach in one step, and whether phased or 'step-wise' approaches should be developed. These would create intermediate stages of forest management quality and could allow buyers to support producers who are making satisfactory progress toward an acceptable level of forest management.

2. Accreditation. Certifiers in the FSC system are directly accredited by the FSC. Although the early accreditations of certification organizations were quite individualized, the FSC has developed a set of accreditation requirements and procedures and is currently working to clarify and standardize them. The FSC's capacity to monitor the work of certification organizations has been constrained by limited staff and funding, but efforts have been stepped up as certifiers' activities have expanded, and one certifier recently lost its accreditation for a brief time. The six FSC accredited certification bodies that occupied the field for several years have now multiplied to almost a dozen, and are continuing slowly to proliferate.
3. Labeling. Wood based products deriving from certified forests are entitled to carry the FSC's logo, a "checkmark and tree" image[11] developed shortly after the FSC's founding. To ensure the accuracy of the logo, the FSC provides 'chain-of-custody' (CoC) certificates for firms selling certified products in consumer markets, of which about 2500 presently exist. It has also developed a 'percentage based claims' policy allowing for the certification of wood fiber products such as paper when they consist of a satisfactory fraction of FSC certified forest fiber. In the course of grappling with

[11] The FSC Logo:

the relative desirability of using virgin certified fiber versus recycled untraceable fiber, this policy has spawned an important and potentially far reaching debate about the scope of FSC's mission: should it continue to limit itself to certifying good forest management, or should it expand to certifying environmentally responsible use of forest products?

4. Administration. The FSC's operational authority is vested in a nine-member board of directors elected to staggered three-year terms by the general assembly. The board is responsible for managing the organization, dispersing its budget, provisionally admitting members, and a host of other activities that, while nominally ministerial, have played a significant role in shaping the policies of the organization. Much of the daily work of the FSC is carried out by an international secretariat of approximately two-dozen individuals headed by an executive director. A growing amount of administrative responsibility is also being carried out by national initiatives around the world, many of which remain quite small but most of which are growing. The FSC is relocating its central administrative offices from Oaxaca, Mexico, to Bonn, Germany, and is also setting up new regional offices for the Americas, Africa, and Asia to serve national initiatives in those regions. The great majority of FSC's financial support comes from private foundations and environmental organizations, with perhaps one-sixth deriving from membership fees and certification. The FSC is working on ways to expand revenues from use of its logo.

The Sustainable Forestry Initiative[12]

The Sustainable Forestry Initiative (SFI) was developed by the largest timber products trade association in the U.S., the American Forest & Paper Association, partly in response to the growth of the FSC. At the beginning of 1995 participation in SFI became a requirement for continued membership in the AF&PA, which has traditionally has had approximately 200 members. Added impetus for the program came from opinion polls indicating that the American public held the forest products industry in low and possibly declining regard.

Standard Setting. The first SFI standards were developed primarily by AF&PA staff members. They were guided by consultations with AF&PA member companies and by a series of focus group sessions aimed at ascertaining what standards and program were likely to be regarded by the American public as credible. The guiding SFI principles included: (1) practicing sustainable forestry, defined to include protecting the interests of future generations while growing and harvesting trees; (2) promoting responsible forestry among other forest landowners; (3) improving long term forest health and productivity; (4) taking into account the special biological, cultural, or other significance of lands; and (5) achieving continual improvement of forest practices. (6) Compliance with applicable forestry and environmental laws was initially assumed and later made explicit.

[12] This section is based on research reported in Meidinger (1999), Noah and Cashore (2002), Cashore, Auld and Newsom (forthcoming), the Meridian Institute (2001) and the materials available on the SFI website: http://www.afandpa.org/forestry/sfi.

Like the FSC standards, the SFI ones use principles and indicators, but they also rely more heavily on environmental management systems (EMSs). Overall, the SFI standards are considerably more favorable to industry than the FSC ones, particularly regarding the use of chemicals, exotic species, genetically modified organisims, and harvesting techniques such as clear cutting. Moreover, in accordance with the ISO approach, they rely heavily on 'best practices' or other even less prescriptive language leaving it largely to forest managers to set applicable requirements. In addition, they are considerably narrower than the FSC standards, omitting requirements for protecting workers, indigenous rights, and local communities. In 1998 SFI developed a less managerially demanding version of its standards for use by small, non-industrial forest owners.

Over the years the SFI standards gradually have been bolstered, apparently driven in part by unfavorable comparisons with the FSC standards. Another important spur was the establishment of an external review panel, recently re-christened the 'Sustainable Forestry Board' (SFB), to provide oversight for the program. One-third of the current fifteen-member Board are AF&PA members, while the other two-thirds come from environmental and conservation organizations, government agencies, non-industrial forestry, and academic and professional groups. The SFB's role in the SFI Program has grown very rapidly in recent years, and it now appears to have primary responsibility for developing and refining the SFI standard, although the AF&PA retains ultimate authority for program approval. Opportunities for participation by non-forest owners or professionals in the SFI program remain quite limited, but the SFB does maintain an internet site to receive comments on the program. Finally, the SFI also has established State Implementation Committees to engage local stakeholders in adapting SFI standards to individual state situations, although little information has been published on how these committees might be affecting SFI standards.

Implementation. The SFI implementation system has undergone steady change since its inception.

1. Certification. SFI started out as a very modest program requiring only a letter from the chief executive of each member company affirming that the company was in compliance with the program. Such a letter is still required, but the program has gradually built a 'voluntary verification' program involving a third party audits. The company has a great deal of control over the selection of a verification team and the use of its findings. No peer review of audit findings is required, nor is any public participation process, although it may be offered at the discretion of the company. If a company wishes to publicize the results of a third party audit, it must also provide a brief summary of the audit results. Recertification occurs after three years; interim annual checks are not required. The SFI program currently covers approximately 50 million hectares of land, of which SFI says that approximately 35 million hectares will have completed third party verification by the end of 2002.

   SFI has gradually expanded the program beyond AF&PA members, first by instituting a 'logger training' program, and more recently by adding a licensing program for small landowners and by recognizing a parallel certification program developed by the

American Tree Farm System for small landowners under the specially adapted version of the SFI standard mentioned above.[13]

2. Accreditation. SFI does not operate its own accreditation program. Instead, it requires that the leader of any third-party verification team be certified as an 'environmental management systems lead auditor' under the appropriate ISO affiliated national accreditation body,[14] that a professional forester serve on each team, and that the team include expertise in wildlife ecology, silviculture, forest hydrology and operations (not necessarily in separate individuals). The SFB does have a 'verifiers accreditation subcommittee,' however, and it is possible that more requirements will be introduced.
3. Labeling. The SFI has developed a progressive series of logos for use by program participants, starting with a relatively mechanical one with three deciduous trees in receding profile, then moving to one with a bear and fish circling one conifer and one deciduous tree, and recently culminating in a 'tree and shield' logo.[15] Rules for the use of the new logo have been under long development, but provisions have been made for certain forms of it to be displayed on products of companies holding third party certification and also in their promotional literature. Secondary producers using the label must have an auditing system to verify that at least two thirds of the wood or fiber used comes from a certified SFI or American Tree Farm Operation.
4. Administration. Primary responsibility for administering SFI has shifted from AF&PA staff to the SFB. The SFB recently filed articles of incorporation to establish itself as a separate entity, although approximately five-sixths of its funding still derives from the AF&PA. The SFB also has developed various subcommittees to deal with issues such as interpreting the standard, developing policies for high conservation value forests, dealing with other certification programs, resolving disputes, accrediting verifiers, and the like, and is in the process of building up its own staff. All in all, then, the SFI program has undergone considerable expansion and elaboration during its short history, and seems likely to continue to do so.

[13] The American Tree Farm System consists of a network of state based committees organized to promote SFM through education in the mid-20th century. Certification under the program requires landowners to develop and implement a written management plan with performance measures for reforestation, slash disposal and utilization, chemical usage, forest appearance, water quality, wildlife habitat, special site protection, and soil conservation, based on the SFI standard. They then undergo inspection by a volunteer member of the Tree Farm committee in their state.

[14] Examples include the American National Standards Institute/Registrar Accreditation Board and the Canadian Environmental Auditing Association. Even this requirement only becomes effective one year after the relevant national accreditation body accepts SFI audit experience as appropriate for meeting its experience requirements.

[15] The SFI Logos:

Lembaga Ekolabel Indonesia[16]

Like the FSC, the Lembaga Ekolabel Indonesia certification program has its origins in the tropical timber controversy of the mid-1980s. At that time scientists and Indonesian NGOs began voicing concerns about deforestation in the archipelago, which contains one-tenth of the world's remaining tropical forest and is one of the world's largest tropical timber producers. Related threats of a tropical timber boycott from developed countries prompted Indonesian forestry officials and companies to consider protective responses. This situation created very complicated dynamics. On one hand, threats to export markets set up strong pressures to improve forest management. Such improvements, moreover, were viewed as very desirable by many Indonesians. On the other hand, the demands were also viewed as coming from outsiders who might have little interest in Indonesian society, and some of whom might have interests in increasing barriers to trade. Moreover, certification posed the possibility of setting in motion changes in the internal Indonesian power relationships, at both the central and the community levels.

Nonetheless, over time Indonesia acted to establish a certification program. First, in concert with the International Tropical Timber Trade Organization (ITTO),[17] Indonesian timber interests committed to bring all lands from which timber is exported under sustainable management by 2000. In hopes of increasing the credibility of that commitment in a country with an established reputation for poor timber management and widespread official corruption, they also began work to develop a certification program.

Standard Setting. The Indonesian Forestry Community (MPI - a group of non-governmental forestry companies) set up a working group to develop SFM criteria and indicators in 1992, and the next year the Indonesian government's Forestry Minister established a parallel working group to include NGOs in the discussions. Government involvement in Indonesia is particularly important since the national constitution gives the state control over all natural resources. The government in turn allocates hundreds of 20-year timber 'concessions' covering large tracts of land to a multitude of private and public forestry enterprises, which are then responsible for carrying out management and harvesting activities. Participation by the holders of these concessions and other non-governmental timber interests is equally important because they are organized in large conglomerates wielding great political power.

By late 1997 the negotiations had produced agreement on criteria and indicators among the working group, the Ministry, forest concession holders, and the Indonesian national standards body (an ISO affiliate). It is worth noting that the negotiations involved a complex set of relationships between Indonesian actors working in established, relatively closed power structures, as well as a few outside actors, primarily environmental organizations. Despite the controlled nature of many discussions, the draft standards incorporated a fairly

[16] This section is based primarily on Elliott (2000), Balada (2001), the LEI website, http://www.lei.or.id/ ,and the EFI Country Report for Indonesia at http://www.efi.fi/cis/english/creports/indonesia.phtml.

[17] The ITTO is an intergovernmental organization whose member countries include both producers and consumers of tropical timber. Its primary purposes are the production and exchange of information regarding tropical timber and the development of policies on all aspects of the global tropical timber economy. Headquartered in Yokohama, Japan, the ITTO has slightly less than 60 member countries.

broad set of viewpoints. Early discussions drew on both ITTO guidelines and the FSC principles and criteria.

The LEI standards are performance rather than management-system oriented, and are divided into three broad areas: (1) sustainability of production functions, including criteria for forest resource, forest product, and business sustainability; (2) sustainability of ecological functions, including criteria for ecosystem stability and species survival; and (3) sustainability of social functions, including criteria for secure community-based tenure, community resilience and development, social and cultural integration, community health, and employee rights. All of the standards and criteria are somewhat more general than the FSC ones, leaving considerable room for interpretation by certifiers, but they are also more comprehensive and far reaching than the SFI ones.

Implementation

1. Certification. The Indonesian standard contains a certification procedure and a certification decision making procedure. The certification procedure is roughly parallel to that of the FSC: (1) a preliminary assessment of management plans and documents by one team of assessors, (2) a field assessment carried out by a separate team of assessors, (3) a performance evaluation by the second team, which if positive is discussed with local stakeholders, and (4) a decision on whether to award a certificate. The final decision is to be based on a logical framework organized along two dimensions: inputs and outcomes. A gold rating is given to any concession with no weakness on either dimension, whereas a silver or bronze rating is given to concessions weak in one dimension or the other. Weakness in both dimensions results in a denial of certification.

   In the course of trying to establish a credible certification program, LEI has engaged in continuing discussions with the FSC and some of its certifiers. These led initially to an agreement that FSC certifiers operating in Indonesia would apply the LEI framework, and more recently (September 2000) to an agreement that the programs would join forces by applying both standards simultaneously. Thus, only forest management units meeting both LEI and FSC requirements may be certified under either program; successful operations are entitled to receive both certificates and to use both labels. To date, one concession of approximately 91,000 hectares has received such a joint certification; approximately nine others totaling 1.4 million hectares are in process. More recently, supported by the German Organization for Technical Cooperation (GTZ), LEI has developed a certification program for community-based forest management and is working with two local NGOs in a pilot project to test the program.

   As noted above, the difficulty tropical forestry operations face in achieving certifciation, combined with the fact that most modern forest management practices have their origins in temperate forestry systems where practices and rules are more institutionalized, have led some to argue for a 'step-wise' or phased approach to certification in tropical forests (e.g., Atyi and Simula 2002). This would allow buyers to trade with tropical producers who are making progress toward satisfactory forestry

practices but who are not yet there, and at least arguably create useful incentives for further progress. The debate on this question is ongoing, however, and it is unclear where it will lead.

2. Accreditation. The program was originally set up so that LEI would manage the entire certification process, including the selection of certifiers, but has since moved into an FSC like role as an accreditor of certifiers and not a certifier itself. Accordingly, it has also accredited a small group of four external certifiers to apply the LEI standard.
3. Labeling. The LEI program includes chain of custody provisions and rules setting the conditions for the use of its logo.[18] Timber theft and a thriving market in false log documentation, however, pose significant implementation challenges.
4. Administration. The central actor in implementing the Indonesian certification program is the LEI organization, which was founded in 1998 as an independent, non-profit institute and received critical startup funding from the Indonesian government, the World Bank, the EU, and, often indirectly, WWF and some American foundations. In addition to its role as a standard setting and accreditation body, LEI is responsible for overall program development, supervision and monitoring. Although LEI is the central actor in the Indonesian system, it acts in a political vortex of powerful government officials, concessionaires, and demanding environmental and social NGOs.

The Pan-European Forest Certification Council[19]

The most recent entrant to the certification constellation, the Pan European Forest Certification Council (PEFC), operates in a different geographical and political environment than LEI, but its origins trace to some of the same events that gave rise to LEI, namely the tropical deforestation debate and its aftermath. Until the mid-1980s, most European forestry operations saw themselves as technically advanced and politically secure. Their concern was to receive fair treatment in market competition with tropical timber, which they saw as often deriving from inferior forestry operations. Accordingly, some European forestry establishments strongly supported forest certification for tropical timber in the early days, seeing it as a way to achieve a level playing field in the market.[20] Many were upset, however, when some environmental NGOs turned the spotlight on them and started to push for certification of European forestry operations. They were even more upset when some major

[18] The LEI Logo:

[19] This section is based primarily on Indufor 2002, Noah and Cashore 2002, Sprang 2001, and the PEFC website: http://www.pefc.org/

[20] Indeed, in one of the most controversial events of the time, Austria adopted a statute requiring that timber products from tropical countries be certified as deriving from sustainable sources. It later repealed the requirement in response to international pressure and its apparent violation of international trade law.

forestry companies, particularly in Sweden and Poland, complied and when FSC national standard setting processes in several European countries took off.

These developments led to a series of reactions among many traditional members of the traditional European forestry community, and particularly among smaller landholders who saw themselves as disadvantaged in the FSC system and who also resented its implied criticism of their traditional stewardship. First, many denied that certification of European forestry was necessary or appropriate, pointing to their legal systems and customary management practices as proof that there was no problem to be addressed. Under continuing pressure, however, they gradually shifted positions and accepted certification, but decided to develop their own program. Out of these decisions PEFC emerged, holding organizing meetings in 1998 and coming into official existence in 1999. By design, the PEFC certification system is probably the most variable, and therefore the most difficult to describe. Perhaps it is most aptly characterized as a growing international network of nationally based certification programs which are centered primarily on forest landowners but also draw in other production oriented stakeholders.

Standard Setting. The PEFC came into a world in which much discussion of SFM standard setting had recently occurred and in which numerous standards existed. Its founders therefore drew upon the available materials to create a framework useful to them. At a formative meeting held in Helsinki in late 1998 they adopted a set of six criteria and nine guiding principles. The criteria were products of an earlier 'Helsinki Process' (since renamed the 'Pan-European Process') that began in 1993 with a meeting of European Forest Ministers and representatives from a total of 40 countries.

1. Criteria and Principles. Given the number of interests to be reconciled, it is not surprising that the principles are quite elastic:
    1. maintenance and appropriate enhancement of forest resources and their contribution to global carbon cycles;
    2. maintenance of forest ecosystem health and vitality;
    3. maintenance and encouragement of productive functions of forests (wood and non-wood);
    4. maintenance, conservation and appropriate enhancement of biological diversity in forest ecosystems;
    5. maintenance and appropriate enhancement of protective functions in forest management (notably soil and water); and
    6. maintenance of other socio-economic functions and conditions.

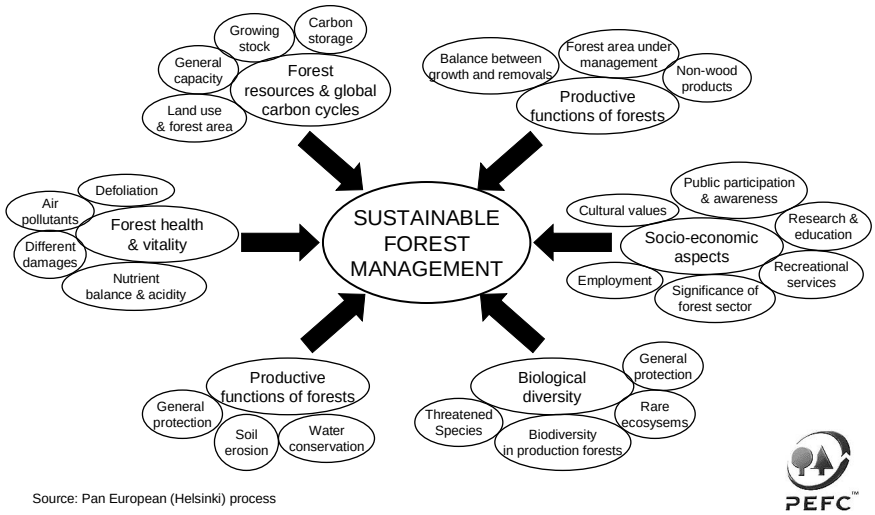
    The ministerial conference was followed up by several meetings of experts, which produced a large set of descriptive indicators that could be used to give measurable content to the general criteria. They were intended to be advisory rather than binding, however, and as tools that could be used in different ways within individual countries. Consistent with this approach, the PEFC adopted a quite flexible view of the criteria, as represented in Figure 1. Rather than setting specific standards, they are general concerns that can feed into many locally adjusted definitions of SFM.

    The guiding principles adopted by the PEFC were also very general, evidently intended to indicate expansive purposes which can be fulfilled in many different ways: (1)

pursuing SFM, (2) credibility, (3) non-decepiveness, (4) open access and non-discrimination, (5) cost-effectiveness, (6) participation, (7) transparency, (8) subsidiarity,[21] and (9) voluntariness.

Figure 1: PEFC Diagram of SFM Criteria (Gunneberg 2000)

Pan-European Criteria And Example Indicators For Sustainable Forest Management



Source: Pan European (Helsinki) process

In sum, the PEFC criteria and principles, while linked to the ongoing SFM discussion, were kept broad enough to be reconciled with most and indeed probably all of the European forestry systems. This reflected one of the underlying assumptions of the PEFC, which was that the primary purpose of its certification program was to verify the good practices that already existed, rather than to eliminate bad practices or to improve the overall level of performance. Consistent with this premise, the PEFC defined itself not as promulgating a single standard to be deployed widely, but rather as providing a common framework for the mutual recognition of variable national certification programs built upon existing practices. These programs, however, were not to be administered by the government agencies that had previously been responsible for developing and administering forestry standards. Rather, they were to be based in stakeholder groups initiated by forest owners in the individual countries.

[21] Subsidiarity does not appear to be defined in PEFC documents, but it is generally used to refer to the idea that larger, more complex organizations should not be used to carry out functions that can be performed by smaller, more focused ones.

2. National Standards. Standards among the dozen national programs endorsed by PEFC to date vary considerably, and are difficult to characterize. Some, such as those of the UK and Sweden, include specific performance standards, while others, such as those of France and Germany, focus on management systems, using local and national laws as backstops. Many provisions implementing the PEFC criteria are framed either as recommendations or as rules to which managers are free to make exceptions, adding up to an overall system of great complexity and variability. The PEFC national standard setting processes seem to have catalyzed considerable engagement and participation by non-industrial landowners in many countries, and in some cases to have made them more active in forest policy matters generally.

Implementation

1. National Program Development. Since the PEFC focuses on mutual recognition of national certification programs, and since few national programs preexisted the PEFC, the implementation process includes the development of national programs. The PEFC statutes and technical documents define a relatively detailed process for the creation of PEFC national governing bodies. The essential elements are that (1) an existing forest owners' organization invites other national organizations representing 'relevant and interested parties' to constitute a 'national governing body;' (2) the resulting national governing body elects one delegate to the PEFC Council (the delegate will have from one to three votes depending on the volume of timber harvested in the country), and the Council in turn elects a Board of Directors; (3) meanwhile, the national governing body also constitutes a forum, again inviting all relevant parties (e.g., forest owners, trade unions, NGOs), the purpose of which is to develop a certification program appropriate to that country; (4) the resulting certification program is documented and submitted to the Board of Directors, which (a) appoints independent experts to prepare a report assessing the proposed program under PEFC criteria, (b) considers the proposed program in a process with several different options, including sending it back for revisions, and (c) after it is satisfied with the proposal submits it to the Council for endorsement. Membership in the Council presently consists of sixteen European members,[22] as well as SFI and the Canadian Standards Association, with six European applications pending. Twelve national certification programs have received PEFC endorsement.[23] Recently, PEFC has announced its intention to recognize tropical forest certification programs as well.

[22] PEFC Austria; WoodNet asbl - Belgium; CSA International - Canada; The Council of the National Certification Centre - Czech Republic; PEFC Denmark; PEFC France; Forest Certification Council, Finland; PEFC Germany e.V.; PEFC Council of Ireland; PEFC Italia; PEFC Latvia; PEFC Norway; Conselho Da Fileira Florestal Portuguesa, Portugal; PEFC España, Spain; Swedish PEFC Co-operative; PEFC Switzerland; PEFC UK Ltd.; American Forest and Paper Association (which includes the Sustainable Forestry Initiative and the American Tree Farm System)

[23] Austria, Belgium, Czech Republic, Finland, France, Germany, Latvia, Norway, Spain, Sweden , Switzerland, United Kingdom.

2. Certification. Although the PEFC requires an assessment process to ensure compliance with national standards, the meaning of assessment and certification in the system are still being worked out both within and among the national programs. Assumptions about how many and what kinds of field audits should take place vary greatly, although the overall assumption is that sampling process will be used. In a number of cases, PEFC certificates have been issued without any site visits, under the assumptions that performance in Europe will generally comply with the standards and that subsequent site visits will suffice to catch any noncompliance. Also open to definition is the scope of the forest area to be certified. The default model in the PEFC envisions the certification of regions (e.g., all the forests in a province), although some national programs also provide for certification of individual forestry units. Whatever the certified unit may be, it is expected to prepare and release an executive summary of assessment results, but otherwise retains full control of information produced by any assessment. Stakeholder consultations in the granting of specific certificates are not required. In all, the PEFC currently lists slightly over 44 million hectares of certified land.
3. Accreditation. The PEFC neither accredits certifiers nor sets requirements for their accreditation. Rather, it leaves this function largely to national programs, which are expected to provide for the accreditation of certifiers who are independent and competent. The term 'accreditation body' is defined by the PEFC so that it is likely to be an ISO affiliated body, but it could also conceivably be an organization concerned primarily with forestry.
4. Labeling. Use of the PEFC logo[24] is available to any FMO holding a valid PEFC certificate, provided it obtains an official license from the Council or a national governing body. Individual landowners who are part of a regional certification can receive licenses to use the logo provided they 'fulfill the set requirements of regional/group certification.' Different combinations of the logo and accompanying text can be used under different chain of custody conditions. Where all of the wood can be connected to certified forests based on physical segregation, products may carry the words "from sustainably managed forests." Where at least 70% of the wood is allocable to certified forests based on inventory control systems, they may carry the words "promoting sustainable forest management." The PEFC also has rules for providing off-product use of its logo.
5. Administration. The PEFC system is a decentralized one, and a considerable amount of its administrative capacity seems to be based in previously existing organizations, some of which are not officially PEFC offices. The central office in Luxemburg is

[24] The PEFC logo:

operated by a director and small staff. The national PEFC offices, however, are also gearing up, some having several professional staff members. Given the brief existence of the organization, these trends imply the continuing development of considerable organizational capacity.

COMMON PROGRAM CHALLENGES

Although the FSC and PEFC alliances appear to be engaged in a broad-scale competition with each other at present, and are not always on speaking terms, it is important to remember that they share a number of basic institutional features and face some common challenges. Accordingly, we close this introduction by noting a few key programmatic issues that seem to cut across the programs.

Consistency and Decentralization. Perhaps the most daunting challenge facing forest certification programs is to construct systems that can claim to be globally consistent and at the same time respond to local circumstances in very diverse places. The FSC and PEFC started on rather different ends of this challenge. The FSC began by defining a relatively strong set of program-wide requirements and then adapting them to the degree necessary to respond to local differences. The PEFC began by defining a much looser set of program-wide criteria and then building local programs. Over time, however, both programs have had to address the issue of achieving decentralized consistency. Thus the FSC is facing considerable pressure from some of its national and regional working groups not to try to make their respective standards so consistent with each other as to override decisions made in local standard setting processes. The PEFC, on the other hand, is facing increasing pressure to build greater credibility, which often means consistency, into its program.

Improving Reliability and Reducing Costs. Similarly, the competition between the alliances intensifies the pressures on each program to improve its performance. This often means deploying improved mechanisms for monitoring and assessing forestry operations, including more detailed and consistent assessment protocols, better accreditation and auditing systems, information management systems and the like. But all of these improvements cost money, and the programs are simultaneously under pressures to keep costs down, since they must be remunerated by the forestry operations they certify and are, after all, in competition with each other. These countervailing pressures create strong pressures for the programs to observe each other closely, and to adopt those innovations made by one program that can be turned to advantage by the other.

Expanding Scope and Preserving Strength. Third, each certification program is under constant pressure to improve its competitive position by expanding its scope while at the same time preserving its fundamental sources of strength. For the FSC, this currently means addressing issues such as how to deal with 100% recycled paper and whether to develop some sort of "step-wise" system to facilitate the entry of lower performing enterprises which might then be induced to attain the higher standard over time. For the PEFC, it means things such as expanding to include tropical timber and trying to induce environmentally credible NGOs to get involved. These initiatives and many others pose considerable risks

for the programs, since they may threaten the primary social and political supports on which the programs are founded.

CONCLUSION

The purpose of this book is not to predict the outcomes of the debates and conflicts surrounding forest certification. It is conceivable that the shared technical and social challenges of certification will drive continuing convergence among the programs, conceivably leading to the eventual emergence of a single standard and program. On the other hand, it is equally possible that the current competition will continue, making each program stronger and more comprehensive over time, but leaving the market for certified forest products divided among two recognizable options: (1) a high end certification program backed by environmental NGOs and (2) a mid-level certification program backed by responsible segments of the forest products industry (Atyi and Simula 2002). Either way, however, it is important to understand both the similarities and differences among programs. The programs share origins in societal dissatisfaction with preexisting forestry institutions, and their ramifications are likely to be both shared and cumulative as well.

The remaining chapters examine the many ways in which forest certification programs interact with a host of other social and political arrangements. These range from local institutions, such as community politics and decision making, to transnational ones, such as global governance. The chapters examine issues running from adaptive management and social learning to economic and political equality to community consultation and democratic participation to policymaking and legitimacy to non-governmental regulation and law making. We believe that the reader will come away with a powerful understanding that the big issues in forest certification are not so much inside the certification programs as they are in the relationships between certification programs and society.

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