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Competing for Legitimacy: The Development and Evolution
of Forest Certification in Finland

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Abstract

Forest certification in Finland has developed and evolved in favor of the Programme for the Endorsement of Forest Certification Schemes (PEFC) and not the Forest Stewardship Council (FSC). The Finnish Forest Certification System (FFCS as endorsed by PEFC) certification of forests in Finland has been achieved at an unprecedented rate and scale. This event, both in process and outcome, was highly contentious and politicized. Finland represents a microcosm of the current issues in forest certification and is ripe for study. However, few attempts have been made to explain why and how forest certification develops and evolves. This thesis sheds light on this deficiency by discussing key characteristics of the two rival schemes in Finland, postulating key factors explaining why certification developed in favor of PEFC and not FSC, and presenting an analysis of the ecological rigor of the two schemes. The results indicate that the associations that represent Finland's small non-industrial private forest landowners have been immensely influential. Also, until there is a significant demand from the end consumer for FSC certified products, it appears that Finnish landowners and industry will continue to support the scheme with less rigorous standards, that is less intrusive and costly, and that is more politically acceptable.

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List of Abbreviations

CofC	Chain-of-Custody
CSA	Canadian Standards Association
ENGOS	environmental non-government organizations
FAO	Food and Agriculture Organization of the United Nations
FINAS	The Finnish Accreditation Service
FMAs	Forest Management Associations
FSC	Forest Stewardship Council
ISO	International Organization for Standardization
MTK	Central Union of Agricultural Producers and Forest Owners
NGOs	non-governmental organizations
PEFC	Programme for the Endorsement of Forest Certification Schemes
SCS	Scientific Certification Systems
SFI	Sustainable Forest Initiative
UFMAs	Union of Forest Management Associations
UNCED	United Nations Conference on Environment and Development
WWF	World Wildlife Fund

Chapter 1: Introduction

At its broadest level the focus of this thesis is on the institutions that are evolving to deal with rapid economic, technological, political and environmental changes in our global society. From economic globalization, to an explosion in electronic communication, to population growth and unprecedented levels of migration and blurring lines between cultures, to global warming, we live in a very change prone and increasingly complex time. People across the globe are increasingly interconnected, and with this comes a need for greater accountability to each other. This accountability is the domain of institutions or rules developed to influence or control human behavior relative to some specific activity, be it use of resources, trading rules or resolution of conflict (Eggertsson 1996). Some of these institutions are governmental, others are market based and still others are driven by civil society. As change has become such a dominant feature of our world, the institutions that govern human activity are also in a constant state of flux, often unable to keep up with the change so dominant in the world they are trying to influence.

One small part of this story of institutional change has been the global search for “good wood”, in which interest groups, within civil society concerned about forest sustainability, birthed the institution of forest certification in the 1990s. In this thesis, I examine the evolution of forest certification in Finland given that the Finnish story so well represents many of the dynamic parameters important in the new institution of forest certification. At the end of this introductory chapter, I discuss the objectives of this thesis. In order for the reader to adequately understand these objectives, I first discuss the origins of forest certification, proliferation of certification schemes, and the

development of national certification schemes in Europe. In addition, I narrow the story to Finland by then discussing Finnish forest organizations and competing certification schemes. These discussions are based on research uncovered in my thesis work and include published literature, email correspondence and other inter-personal communication.

Origins of Forest Certification

Forest certification has emerged as a tool to support sound forest management and to meet the demands of an increasingly scrutinizing marketplace searching for sustainably harvested forest products. As ecosystem management gains momentum and global markets increase their power to shape the politics, economies, and natural landscapes at all scales, forest certification has materialized into a promising instrument for promoting sound forest management (Hartsfield and Ostermeier 2003). Furthermore, the development of forest certification could be the most significant change in forest management since Gifford Pinchot brought the profession of forestry to North America over 100 years ago (Cashore, Auld, and Newsom 2003).

The development of forest certification is largely attributed to three factors: (1) deforestation in the tropics, (2) ineffectiveness of boycotts at halting the deforestation, and (3) institutional failure in developing binding forest principles. Adversarial politics and policy gridlock grew at both national and global levels through the 1980's and 90's. This gridlock was the tipping point that has resulted in the development of non-state approaches to forest accountability through forest certification (Bass et al. 2001; Gulbrandsen 2004).

By the early 1990's the diminishing global rainforest was being deforested at an astounding rate of 15.4 million hectares per year, or an area slightly larger than the state of Tennessee (Elliott and Donovan 1996). In the tropics, deforestation had occurred at such a drastic rate in Thailand that by 1992 it had become the world's largest importer of tropical sawnwood because of the depletion of their forests (Elliott and Donovan 1996). Further, in Brazil from 1978 to 2003 the cumulative deforestation in Amazonia had reached 648,500 km² or an area larger than France (Fearnside 2005). Deforestation was not confined to tropical countries. It was estimated that forest decline affects 27 percent of Europe's broadleaved trees and 14 percent of its conifers (Dudley 1992). Temperate forest degradation has been particularly significant in China (Hyde, Belcher, and Xu 2003).

To address deforestation in the tropics some environmental non-government organizations (ENGOS) promoted bans and boycotts of tropical timber aimed at curbing the demand in North American and European markets (Elliott and Donovan 1996). Additionally, international development policies were implemented to reduce or eliminate support to tropical forest management (Viana 2003). However, forest certification largely manifested from a failure at all government policy levels to address forest conservation and the alarming rate of deforestation in the tropics.

Forest management was prominently touted as a high-priority on the agenda of the 1992 United Nations Conference on Environment and Development (UNCED), otherwise known as the Earth Summit, held in Rio de Janeiro, Brazil. Despite the heightened interest in forest management, the international conference, representing 172 governments, produced nothing more than a set of non-binding forest principles

(Cashore, Auld, and Newsom 2004; Humphreys 1996; Elliott and Donovan 1996).

Additionally, the effectiveness of boycotts in curtailing tropical deforestation was coming into question, as research had shown that harvesting for wood products was not the only culprit for deforestation. Unsustainable slash and burn agriculture and the greater threat of tropical forest being converted to sedentary agriculture were shown to be major contributors of deforestation in the tropics (Mastrantonio and Francis 1997). However, the sequence of events leading to deforestation is much debated as illegal logging and perverse incentives from governments may come prior to the conversion to agriculture. With the Earth Summit only producing a set of non-binding forest principles, and tropical timber boycotts effectiveness and equity being questioned, it was time for alternative action.

Forest certification has been spearheaded by collaborative efforts involving non-governmental organizations (NGOs), industry, and various forest stakeholder interests. Forest certification can be defined as a system that involves the development of principles and criteria for sustainable forest management; is accredited through third party verification; requires auditing of forest management (verification of compliance); has or is linked to an eco-label (tracing a product from forest floor to the end consumer); and is voluntarily entered into (Gulbrandsen 2004). Forest certification seeks to address the issues of forest management by two major goals: (1) minimizing the externalities of forest management through an independently devised set of ecological, social, and economic forest management standards, and (2) establishing a system that accounts for the wood from the forest floor to the end consumer, known as a chain-of-custody.

Proliferation of Schemes

The first organization to develop a forest certification system was the Forest Stewardship Council (FSC). FSC was initially developed to address tropical timber, but its breadth soon expanded into a global phenomenon becoming a market solution to address sustainable forest management for all forest types (Elliott and Donovan 1996). As certification increasingly became a legitimate and recognizable alternative to state-driven policy for sustainable forest management, the FSC became an increasingly prominent organization. However, competing forest management schemes soon developed. As the FSC evolved, unresolved issues and competing interests soon resulted in the proliferation of competing schemes. Soon after the development of FSC in 1993, schemes such as Sustainable Forestry Initiative (SFI) (1994), Canadian Standards Association (CSA) (1996), and Programme for the Endorsement of Forest Certification Schemes (PEFC) (1999) sought to compete with FSC.

Along with the progress in the past 10 years, a number of issues in forest certification have developed. In 1999 the Programme for the Endorsement of Forest Certification Schemes (PEFC) was developed by the European forestry community to function as an umbrella network for endorsing mutually recognized national certification systems (Meidinger, Elliott, and Oesten 2003). The PEFC was established as a European alternative to FSC due to unsolved problems with FSC representation of forest landowners' interests and FSC failing to devise a cost efficient certification program for small scaled forest ownership (Teegelbekkers 2003).

Historically, forest landowners saw certification as a cost with limited benefits (Hartsfield and Ostermeier 2004). However, as the momentum for 'good wood'

accountability and certification continued to rise, many larger landowners and forest industry increasingly have accepted certification as a cost of doing business. The forest industry also sees certification as a tool in marketing forest products (Karna, Hansen, and Juslin 2003). Although the issue of high financial expense for small landowners continues to be an issue, a more recent problem is the development of multiple certification schemes and resulting scheme competition. This has raised concerns that consumers may become confused by multiple schemes and question the credibility of forest certification (Kanowski, Sinclair, and Freeman 2000). Additionally, unless markets include a price premium, producers will tend to prefer certification schemes with weaker and/or more flexible standards (Gulbrandsen 2004).

Development of National Schemes in Europe

National schemes are the foundation for FSC and PEFC. Currently, PEFC has certified more hectares than any other certification scheme, including FSC, by endorsing national schemes, primarily in Europe (see figures 1 and 2). Recently PEFC has extended their certification umbrella to schemes in Africa, Latin America, and the CSA scheme in Canada (*PEFC- Members and Schemes*). These PEFC and FSC national schemes are not developed governmentally; rather they have been developed by a consortium of interests in these countries including forest landowners, forest industry, NGOs and other interested parties.

At present FSC and PEFC are the only certification schemes that have a globally recognized scheme that provides an eco-label. Beginning first in Europe, national

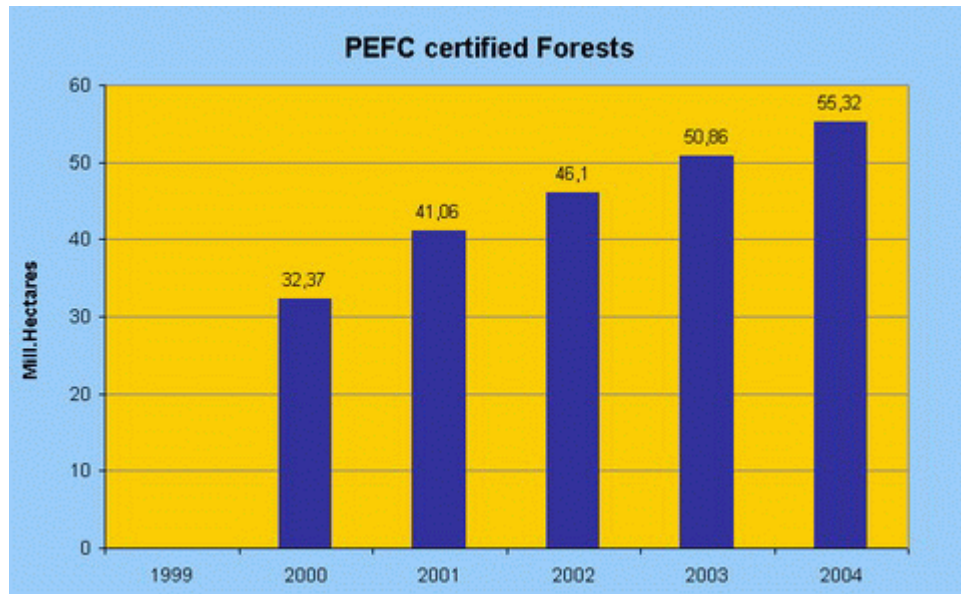


Figure 1: Number of hectares certified by PEFC from 1999-2004. Source: (PEFC-PEFC in Figures 2005)

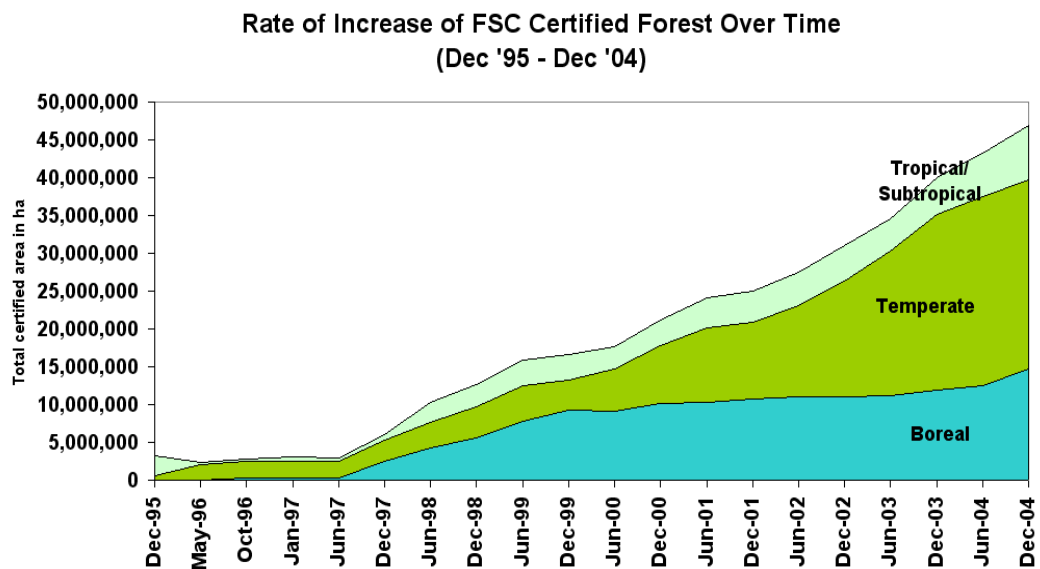


Figure 2: The rate of increase for FSC certified forest. Source: (Information on Certified Forest Sites endorsed by Forest Stewardship Council (FSC): Global Maps and Data)

schemes have overwhelmingly sought PEFC endorsement rather than FSC (see figures 3 and 4). Most traditional forest interests have held the perspective that FSC was developed by environmental groups to address environmental issues. Seeking to address their own issues, these traditional forest interests developed “their” system. Due to increased competition and lack of mutual recognition there is a high degree of competition and conflict between these two schemes. As a result of this conflict and the inherent nature of how certification schemes developed through interest group politics, forest certification has become highly politicized and consequently objectivity has been degraded.

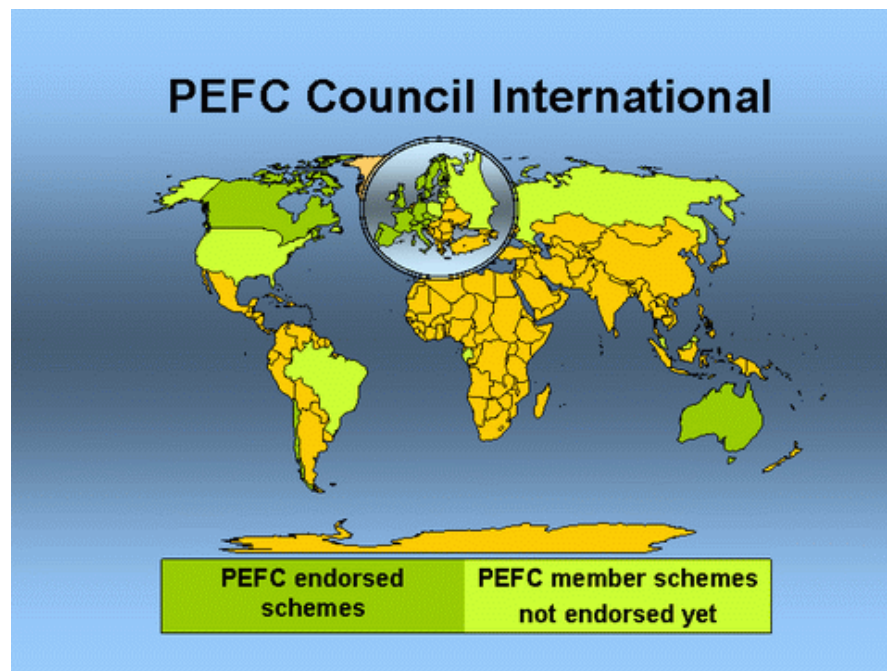


Figure 3: Endorsed and member schemes of PEFC. Source: (*PEFC-PEFC in Figures*)

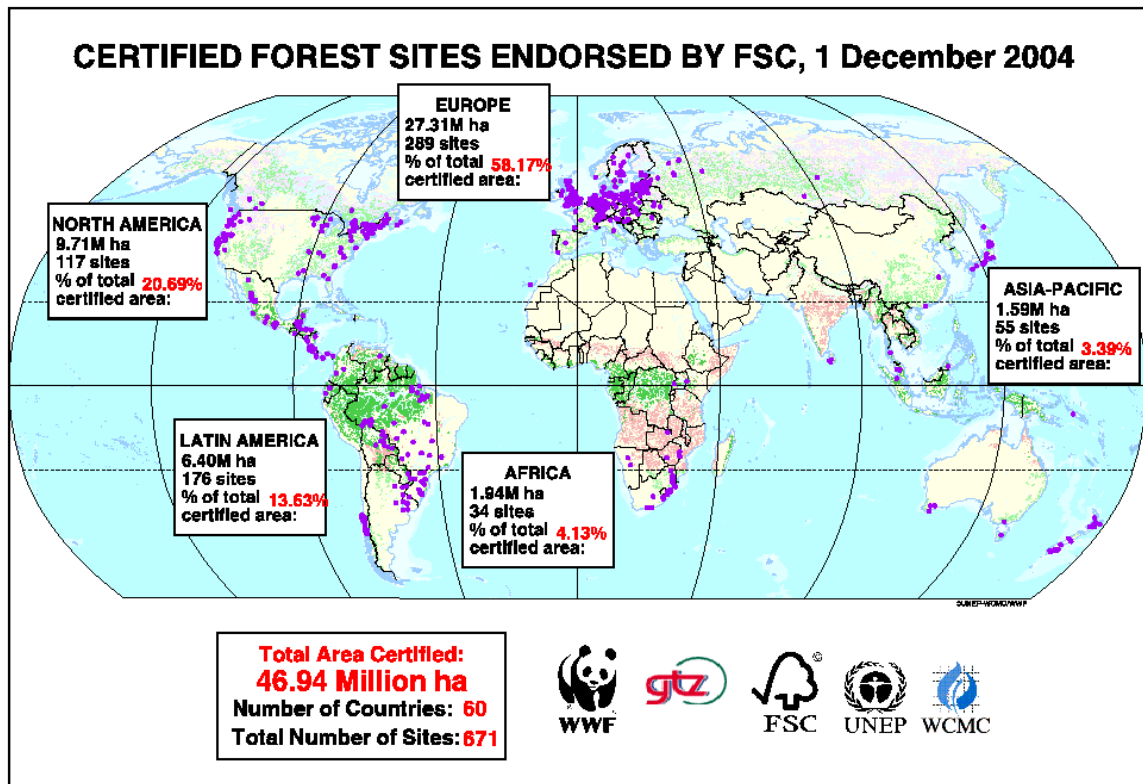


Figure 4: Global FSC certification. Source: *(Information on Certified Forest Sites endorsed by Forest Stewardship Council (FSC): Global Maps and Data)*

PEFC National Governing Bodies are independent legal entities which represent within the PEFC Council, single countries and national or sub-national schemes operating in their territories (*PEFC- Members and Schemes*). The FSC operates in close coordination with Regional Offices. To ensure that they operate consistently and in line with FSC requirements, regional offices are accredited through the FSC Accreditation Program (*FSC-What is FSC?*). To date, FSC has endorsed 34 national schemes and the PEFC has 21 national schemes endorsed.

In many European countries, especially Finland, small private non-industrial forest owners make up more than half of the forest holders, and close to three-fourths of the forest land where most forestry activities occur in southern Finland (Forest Finland in

Brief 2003) (See figure 5). These small landowners see themselves as being disadvantaged in the FSC scheme and have resented the implied criticism of their traditional forest management (Meidinger, Elliott, and Oesten 2003).

The culmination of these developments led to the forest industry and landowners forming their own certification scheme in 1999, Pan European Forest Certification Council (PEFC-The Pan European Forest Certification was later changed to Programme for the Endorsement of Forest Certification Schemes to reflect its global reach).

Additionally, according to Martin Strittmatter, German Forestry Council/Pan-European Forest Certification, “forest certification has become a prominent and very political issue in Europe where there are already long traditions in forest management and effective legislation and administration (Strittmatter 1998).” Initially developed to address certification in Europe, the PEFC soon expanded to tropical national schemes, also endorsed the Canadian Standards Act (CSA), and is in deliberation with other schemes.

In Europe, the development of the PEFC and PEFC national schemes were a result of forest industry and forest owners’ unwillingness to adopt FSC in favor of developing their own schemes. According to Francois Kremer, European Commission DG VI, “European countries have comprehensive forestry legislation, monitoring and information systems based on long-lasting traditions and related research. Thus the arguments having comparable requirements to those initially used for tropical forest certification [i.e. FSC], are in European conditions, highly subjective, political and even commercial in nature (Kremer 1998).”

% of Forestland Ownership in Southern Finland

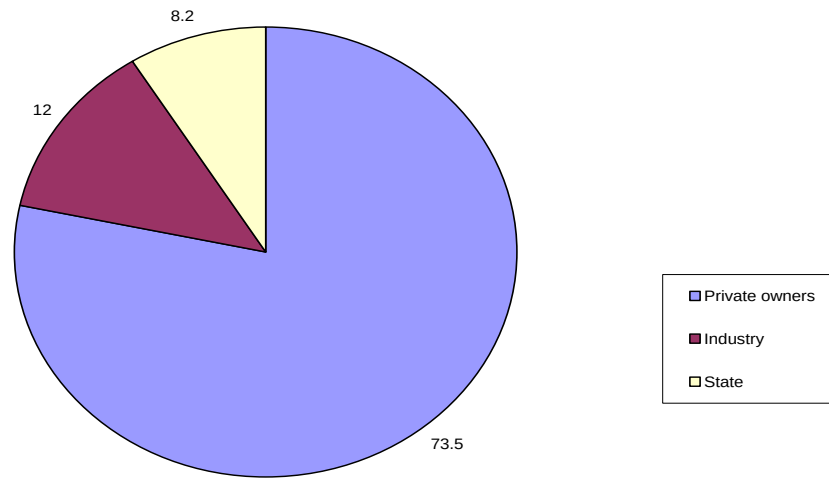


Figure 5: Distribution of ownership of forestlands in southern Finland.
Source: (Yrjola 2002)

Ironically, some European forestry organizations strongly supported forest certification in the tropical countries during the early days of certification as a way to, from their perspective, raise forest management standards in the tropics to more comparable levels with Europe (Meidinger, Elliott, and Oesten 2003). However, certification soon expanded from forestry in the tropics to temperate forest management in the North. Klingberg (2003) sees this as a misguided and erroneous move because according to a United Nations Food and Agriculture Organization (FAO) report it concludes that: “The area of certified forests continues to increase and now estimated to be roughly 90 million ha. Nonetheless, this represents only about 2 percent of the world’s forest area and, notably, most certified forests are located in a limited number of temperate countries, not in tropical countries for which concern about unsustainable

timber harvesting practices is greatest (FAO 2001)”. This has led Klingberg (2003) to conclude that certification has so far missed the prime target of forest protection in the tropics.

Despite this criticism, ENGOs began to put pressure on the forest sector in Europe, much to some dismay, and several large forestry companies complied, setting the stage for the development of FSC national schemes. In Nordic countries, whose forestry sector is heavily dependent on forest product exports, forest owner organizations were active in developing certification schemes to secure the demand for timber or pulpwood for the export market (Hansen and Juslin 1998). Furthermore, according to Hansen and Juslin (1999), forest owners in Europe feel that certification is inevitable, and believe that developing their own systems will preclude the imposition of less accepted schemes. PEFC certification is viewed as a communication tool that allows companies and landowners to better inform civil society (Cashore, Auld, and Newsom 2004). In this system (PEFC) forestry actors (e.g. landowners, landowner associations, forest industry) retain greater discretionary power in development, implementation, and goals and objectives of their forestry operations (Cashore, Auld, and Newsom 2004).

Forest Certification in Finland

In both process and outcome the development and evolution of forest certification in Finland has been highly contested and contentious. Finland features a highly concentrated forest industry, long traditions of non-industrial private forestry, active and influential environmental NGOs, and rigorous government regulations on forestry operations. In addition, Finland is known as the “paper basket” of Western Europe, and

forest exports are an immensely important part of the national economy. The culmination of these factors and others have resulted in Finland representing a microcosm of the current contentious issues in certification and presents a case that is ripe in its potential to foster better understanding of the evolution of forest certification as a sustainable forestry tool.

Forestry Organizations in Finland

To understand competing forest certification schemes in Finland, it is critical to first understand the forest organizations of Finland. Forestry in Finland is an economic and cultural activity of national pride, driven by influential forest landowners, and a long history of forest resource management and governmental regulation. The forestry actors, institutions and organizations in Finland are highly organized and hierarchically structured (see figure 6). This is a result of both private and government development. Several organizations in this forest structure played an active and instrumental role in the development and evolution of forest certification in Finland. Additionally, the structure of the private sector of forest landowners is what made the rapid certification of forest lands in Finland possible. The following organizations will be discussed: Forestry Centres, Forest Management Associations, Regional Union of Forest Management Associations, and Central Union of Agricultural Producers and Forest Owners. All information comes from Forest Facts from Finland: Organisations in the Forest Sector and their Functions (2003).

The Finnish Forestry Centres are government entities subordinate to the Ministry of Agriculture and Forestry. These thirteen Forestry Centres are responsible for

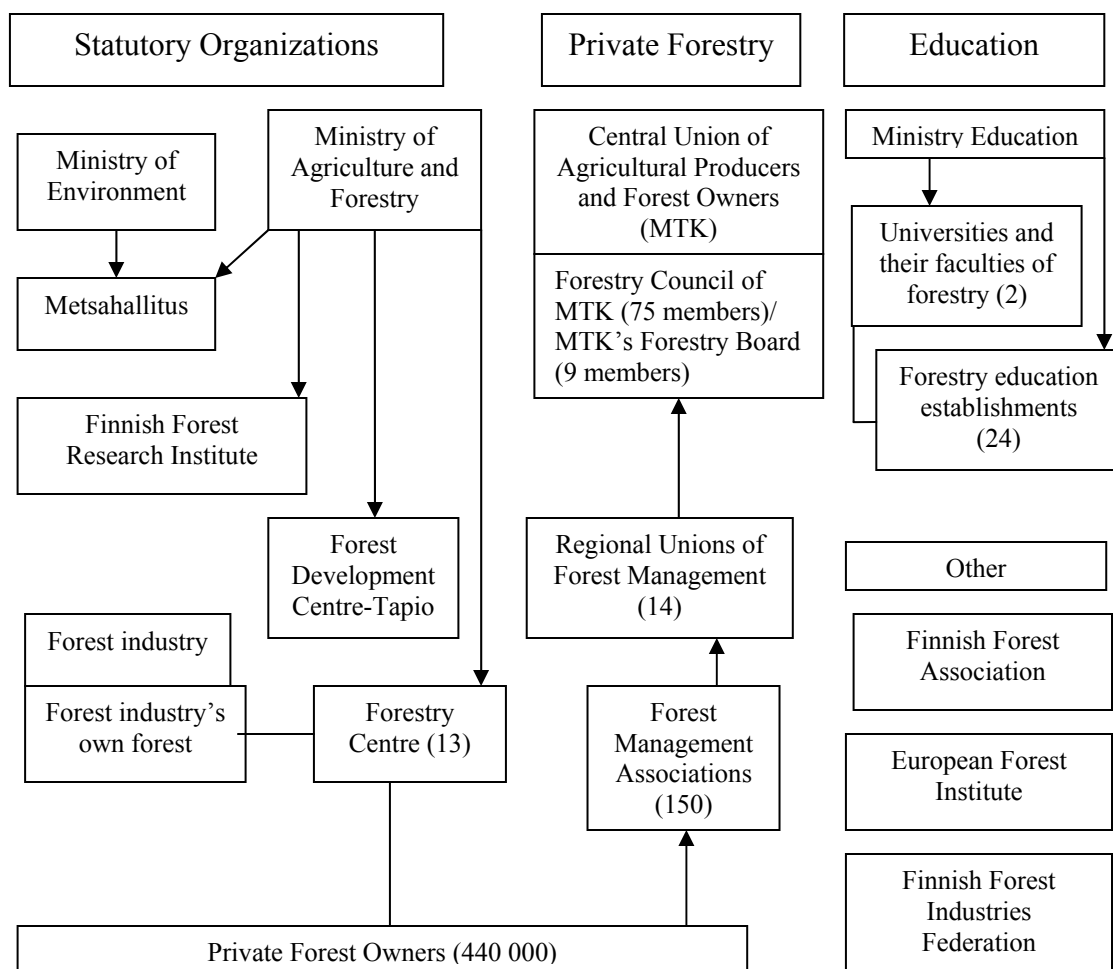


Figure 6: Forestry organizations in Finland. Source: (Forest Facts from Finland: Organisations in the Forest Sector and their Functions 2003)

supervising and implementing forest legislation and promoting sustainable forest management. Additionally, they have the responsibility of monitoring the state of forestry within their regional jurisdiction and promoting cooperation and forest planning. Using government funds the Forestry Centres carry out forestry work and provide assistance to non-industrial private landowners in their forestry operations.

Forest Management Associations (FMAs) are the local organizations representing the interests of forest owners. There are approximately 150 FMAs, however, the number of FMAs are decreasing and seeking to consolidate. These FMAs are forest owner financed and operated. FMAs offer training and guidance and provide professional assistance to forest landowners. About 80-90% of the harvesting activities related to timber production and as much as 70% of the preliminary planning of timber sales are carried out by FMAs.

There are fourteen Regional Union of Forest Management Associations (UFMAs). These UFMAs look after the forest owners' interests and development of forestry activities of the FMAs within their area. Also, the UFMAs steer cooperation between the various FMAs and also advise FMAs on timber sales.

The Central Union of Agricultural Producers and Forest Owners (MTK) is the central voice of the 440,000 non-industrial private forest landowners in Finland. The purpose of MTK is to promote the interest of forest owners, influence national and European Union forest policy, look over or protect the statutory rights of the Forestry Centres, and guide the activities of the UFMAs.

Competing Schemes in Finland

In 1995, the Finnish Ministry of Agriculture and Forestry commissioned an ad hoc committee to assess the applicability of a national forest certification scheme to the Finnish landscape and to define the structural options for forest certification and strategies for its development (Kaivola 09/04/2004; Hansen and Juslin 1998). The committee concluded that certification was needed as a marketing and communication tool and advocated for a model using, where applicable, existing organizations, systems, and information to avoid duplication of systems and to minimize costs (Hansen and Juslin 1998). In June 1996, The Central Union of Agricultural Producers and Forest Owners (MTK), World Wildlife Fund (WWF)-Finland, Finnish Forest Industries Federation, and the Finnish Association for Nature Conservation jointly proposed the founding of a working group on forest certification standards consisting of twenty-nine economic, ecological, and social organizations (Finnish Forest Certification System: Development Process and Elements 1998; Hansen and Juslin 1998). The chair of this group was a civil servant of the Ministry who had no voting rights (Kaivola 09/04/2004).

Forest standards were to be designed for Finnish conditions. In addition, the system was to accommodate international forest management (e.g. FSC), environmental management systems (e.g. International Organization for Standardization-ISO, a voluntary non-governmental standard setting organization) and the Helsinki Process and Rio principles of sustainable forest management (Hansen and Juslin 1998). However, according to WWF the draft standard was to be developed further in an FSC context, harmonized with other relevant standards, especially the Swedish FSC (Tanninen 11/19/2004). WWF contends that the forestry representatives were not interested in FSC,

did not want to send it to FSC for comments, nor try and get the scheme endorsed by FSC (Tanninen 11/19/2004). As a result, all environmental NGOs pulled out of the process in 1997-1998. This set of actions resulted in the splintering of forest certification into two competitive—even warring—camps. This separation was a critical element in the evolution of forest certification in Finland.

In 1997 a pilot program to test the newly developed certification standard was initiated. From August through December an assessment was done of how the criteria can be measured and applied at different levels. The pilot project hypothesized that certification criteria and the auditing process was most efficient at the ‘group holding’ scale (i.e. Forestry Centre, UFMA, and FMA scale). The testing was conducted at three pilot regions (Pirkanmaa, Northern Karelia and Lapland) and included a total area of 10 million hectares of varying operational conditions (Finnish Forest Certification System: Development Process and Elements 1998). Testing was not based on a specific certification scheme but to a wide set of schemes such as FSC and the International Organization for Standardization environmental management (ISO) (Hansen and Juslin 1998) (see figure 7). However, according to an industry statement and reported by Reuters (Finland Sets Own Forest Certification System 10/8/98) the Finnish Forest Certification System (FFCS) was to compete with the FSC supported by the WWF. As a result of Finnish ENGOS pulling out of the FFCS development they did not participate in the testing phase, and their boycott was significant and further evidence of certification conflict. Despite this, the FFCS says that the standards are compatible with FSC-based certification. The pilot project revealed that of the 37 criteria 17 can be easily verified, 16 are difficult but are appropriate and 4 difficult to measure

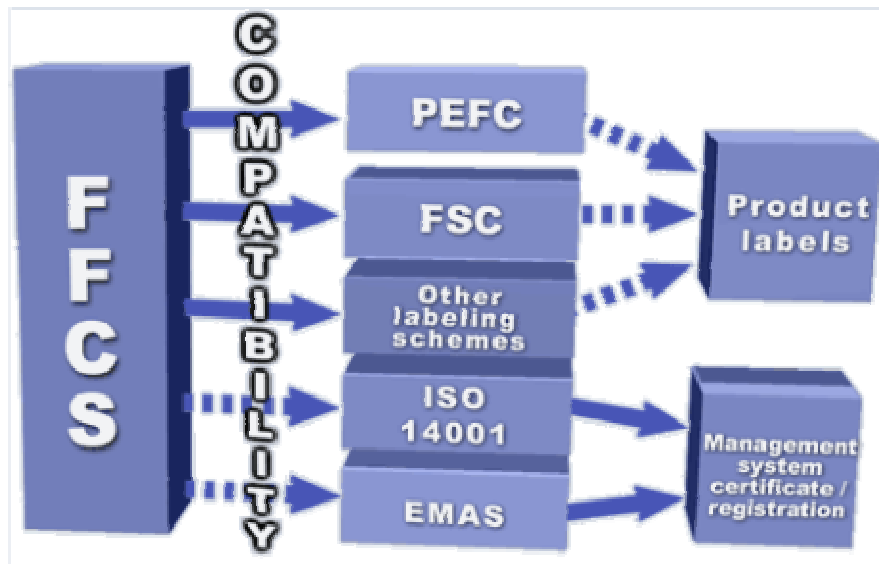


Figure 7: FFCS claims of compatibility. Source: (FFCS: *International Compatibility and Product Labels*)

(Finnish Forest Certification System: Development Process and Elements 1998). As a result of this pilot project, the hypothesis that certification was most efficient at the Forestry Centre, UFMA, and FMA scale was upheld.

At the end of 1999 seven of thirteen Forestry Centres were FFCS certified and by 2000 the thirteen Centres had been certified resulting in 95% of forest lands or 22 million hectares. This degree of certification represents lands of forest industry, community holdings, municipal holdings, approximately 315,000 owners, and other forest holdings (The FFCS:Forest Certificates 11/4/2001) (See figures 8 and 9). On May 25, 2000, The FFCS was approved by PEFC. This means that FFCS satisfies the requirements of PEFC for forest management, preparation work prior to certification, and adequate

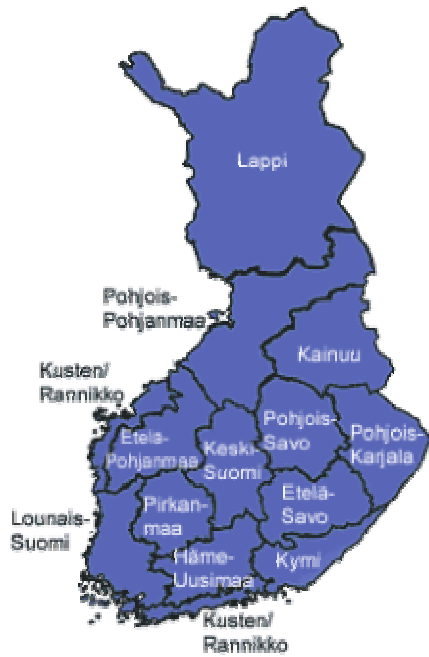


Figure 8: The thirteen Forestry Centres of Finland. The Forestry Centre spatial scale has been the operational level of the certification standards and the audit process of compliance. Source: (FFCS-Group *Certification and Recipient of Certificate*)

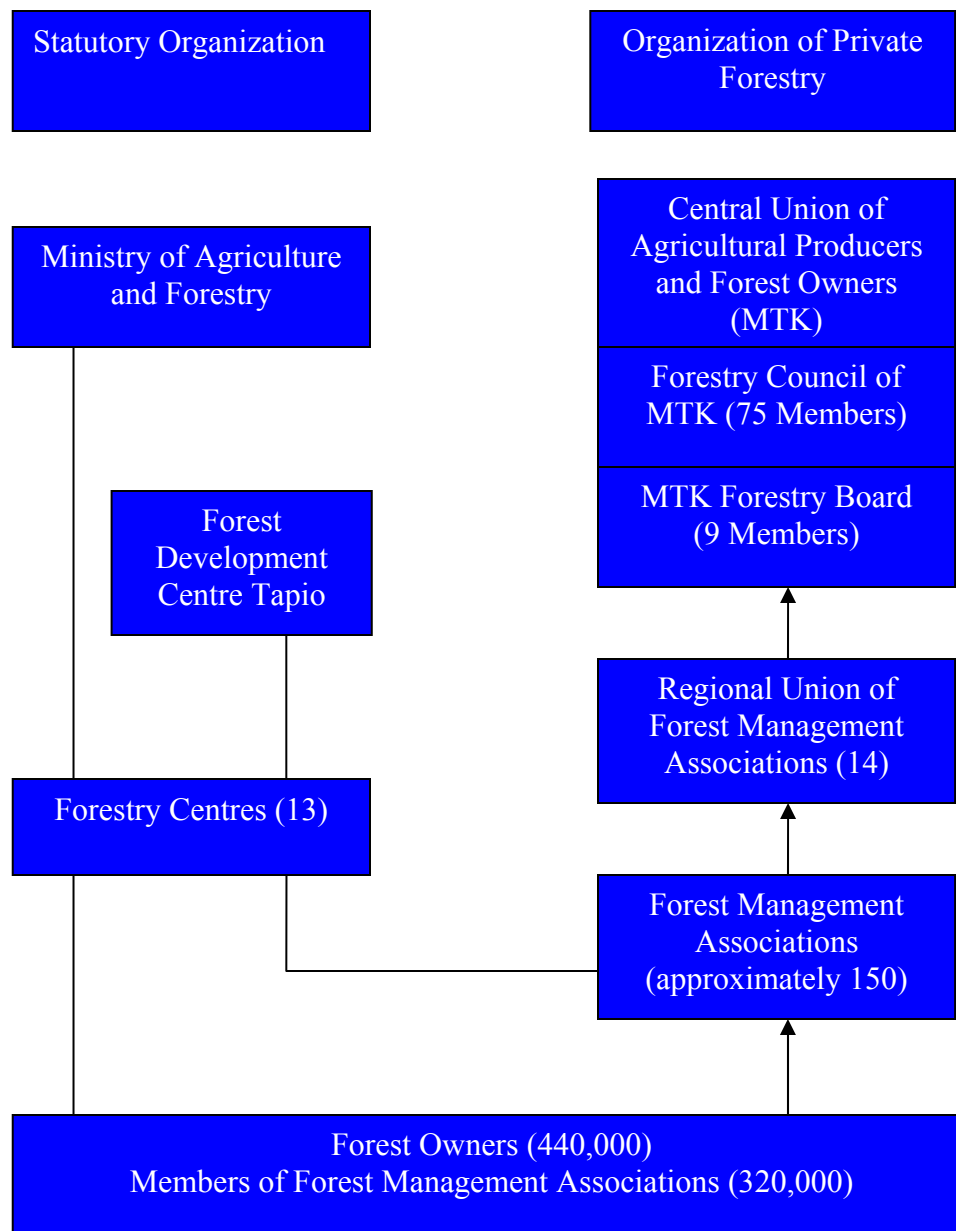


Figure 9: Structure of the Finnish forestry organization. A similar figure has already been presented in this thesis. However, it is critically important to understand the structure and inherent complexity of this system.

implementation of the FFCS system. With the rapid certification of the forest lands in Finland by FFCS, and subsequently PEFC, this left little room for penetration by FSC.

On October 18, 2000, the Finnish FSC Working Group had its seminal meeting, and in February 2002 The Finnish FSC Standards Committee adopted a Draft FSC Standard for Finland (The Draft FSC Standard for Finland 2002). After revisions, comments, and submission by interest groups and outside interests the first draft was submitted to the international FSC for comments. Currently, the draft standard is under assessment for approval at the FSC's Accreditation Business Unit and FSC-Finland is expecting to get feedback by mid-May 2005 (Miettinen 04/18/2005). On November 11, 2004, the multi-national Stora Enso Wood Supply, a major Finnish forest corporation, announced that it would test the feasibility of FSC certification with the goal of three to five forest owners in southern Finland to carry out FSC group certification (Stora Enso Tests FSC Forest Certification in Finland Press Release: 11/11/2004). Currently, the pilot testing of the FSC-Finland standard is still being conducted by Stora Enso (Miettinen 04/18/2005). Auditing by Scientific Certification Systems (SCS) will be conducted from May 9-14, 2005. There are no final reports available as yet (Miettinen 04/18/2005). To date, this is the extent of FSC acceptance into the Finnish forest sector.

One characteristic of the global search for good wood has been the struggle and conflict between and within newly evolving civil institutions, established to address sustainable forest use. How these institutions evolve and function is at the heart of voluntary, stakeholder driven systems of forest certification. As voluntary systems develop to address sustainable forestry, system credibility and legitimacy are critical. Furthermore, evidence from a UPM, a major Finnish forest industry, forest certification

comparison report suggests that the national scheme standards setting process is pivotal in the development of a realistic, credible certification standard (UPM 2005).

Additionally, the Confederation of European Paper Industries warns that confusion over forest certification schemes could mean danger, and that informed decisions require access to clear and objective information; when neutral information isn't available, the real issue of sustainable forest management can be lost (CEPI Warns Confusion Over Forest Certification Schemes Could Mean Danger 05/13/2005). Nowhere has the struggle between and within evolving certification institutions been more predominant than in Finland. Discussing key characteristics, analyzing and explaining the evolution of certification in Finland, and analyzing the ecological criteria of the two systems will provide important and timely research needed to promote more effective and efficient forest certification. Accordingly, the research objectives of this thesis are to:

Objectives of Thesis

1. Describe key characteristics of two competing forest certification schemes in Finland.
2. Analyze and explain the evolution of forest certification in Finland, which then has two parts. First, to explain the evolution in the Finish case study from literature and email correspondence (This explanation will explore why certification in Finland evolved as it did.) Second, determine the interaction between factors, where possible.

3. Evaluate the FFCS and FSC ecological criteria using an evaluation process from the Meridian Institute (2001). This will determine comparative characteristics with the objective of determining if the standards differ in ecological rigor.
4. Provide lessons learned for future studies and interested parties in forest certification.

To date, research on forest certification has primarily been focused on normative, descriptive, and exploratory accounts. To the author's best knowledge there is only one major study (Cashore et al. 2004) that attempts to analyze and explain the development and evolution of forest certification. In the same vein, this research seeks to provide an explanatory case study of why certification in Finland developed in favor of the PEFC and not FSC. This introductory chapter described, chronologically and contextually, the Finnish story of certification. As the evidence shows this account of certification in Finland begs the question of "why"? Why did forest certification in Finland develop in favor of the FFCS/PEFC and not FSC? This question will be answered based on the postulation of key factors that, collectively, develop a theory explaining the development and evolution of forest certification. This thesis is a snap-shot in time bound by collected information at that time. Therefore, this thesis provides an explanatory account of certification in Finland from its inception to present status.

In chapter two, thesis methods are discussed. Chapter three begins the results and includes a description of key characteristics of the two schemes. Chapter four explains the development and evolution of forest certification in Finland and chapter five provides comparative characteristics to compare the ecological rigor of the two schemes.

Chapter 2: Methods

There are three sections in the methods of this thesis: (1) Describe key characteristics of the two competing schemes in Finland; (2) explain the development and evolution of forest certification in Finland; and (3) identify comparative characteristics in the FSC and FFCS ecological criteria to determine if they differ in their ecological rigor.

Methods for Objective One: Description of Key Characteristics of Two Competing Forest Certification Schemes in Finland

In this section the two competing certification schemes in Finland are discussed and described via eight objective criteria adapted from the (2001) Meridian Institute research and two that reflect current developments in certification. Eight of these criteria were chosen for descriptive purposes because the (2001) Meridian Institute report provided a first of its kind objective and comparative analysis between Sustainable Forest Initiative (SFI) and FSC in the United States. The two other criteria (questions 5 and 8) reflect forest certification issues that have developed since the Meridian study. Using these descriptive questions provides an objective structure for discussing key characteristics (see figure 10). In addition to the ten criteria, a description of the current issues (question 11) and current status (question 12) of certification in Finland will be provided. Furthermore, since the FSC-Finland and FFCS (as endorsed by PEFC) have a common lineage, describing key characteristics of the two systems will yield fruitful

1. What is the mission and scope of the two schemes?
2. What organizations and interests brought the schemes into existence?
3. What is the structure/organization of the scheme?
4. Is certification voluntary? If so, how is membership obtained and participation secured in the scheme?
5. How have the schemes addressed issues of small landowners?
6. What is the chain-of-custody system used by the two schemes?
7. How is third party independence assured?
8. What is the role of government?
9. Do the schemes have a label or information tool?
10. What are the standards and auditing process for each scheme?
11. What are the current issues of forest certification in Finland?
12. What is the current status of certification in Finland?

Figure 10: Questions for describing key characteristics of FFCS and FSC

information in understanding the splintering of interest groups and the subsequent development of rivaling schemes.

Methods for Objective Two: Analyze and Explain the Evolution of Forest

Certification in Finland

In studying the emergence of forest certification as a global and domestic rule-making governance system, important analytical and methodological decisions must be made (Cashore, Auld, and Newsom 2004). Furthermore, certification is a rapidly changing, dynamic, complex, and multifaceted system making an appropriate research design challenging (Cashore, Auld, and Newsom 2004). Given that this thesis seeks to describe the development of certification in Finland and postulate an explanation for this, case study methodology is the most appropriate tool to achieve this aim. Case studies are the preferred method of investigation when questions of “how” and “why” are being posed, the investigator has little or no control over events, and when a contemporary phenomenon in a real context is occurring (Yin 1994).

The critical components of a case study are: developing study questions, outlining propositions, providing logic linking the data to the proposition, describing a means of assessment, developing preliminary hypotheses, and determining criteria for analyzing the findings (Yin 1994). Covering the six critical components will effectively construct a theory of explanation (Yin 1994) for the development and evolution of forest certification in Finland.

Study Questions and Proposition

1. What are the factors that influenced the development and evolution of forest certification in Finland?
2. Why did certification develop and evolve in favor of PEFC and not FSC in Finland based on the major factors and their interrelationships?

Proposition: There are extractable key factors that determine support, or lack of, for PEFC and FSC, to explain the development and evolution of certification in Finland. These factors also have interrelationships in their effects.

Logic Linking Data to Postulated Factors

Primary and secondary document sources and e-mail correspondence are the case study sources of evidence. Logic linking evidence to the postulated key factors will be discussed to construct case study internal validity.

Means of Assessment

The means of assessment for interpreting study question one is performed through a content analysis of English language primary and secondary documents from 1998-2005, directly or indirectly dealing with forest certification in Finland, and from personal e-mail correspondence from 2004-2005 with stakeholders involved with FSC and FFCS/PEFC in Finland. Additionally, supplemental quantitative data will be used to describe geographic, economic, ownership and other trends. The means of assessment of study question two will be performed by inductive reasoning based on content analysis, supplemental evidence sources, and existing literature on forest certification at large.

Further, deductive reasoning using all relevant available sources will provide evidence that the reasoning used to reach the analytical conclusions is valid.

Hypothesis

Hypothesis: This case study will show why certification in Finland developed in Finland in favor of PEFC and not FSC based on a suite of key factors.

Rival hypothesis: The case study will show that there is no single factor, or set of factors, that fully explains the development and evolution of forest certification in Finland.

Analyzing the Case Study

An important goal of case study analysis is to develop a tool that explains the case (Yin 1994). In this thesis and following Yin (1994), this explanation will be done by (1) showing reliance on all relevant evidence, (2) including all major rival interpretations, and (3) addressing significant aspects of the Finnish certification case. From this a theory is presented that postulates the development and evolution of forest certification in Finland.

Methods for Objective Three: Determine Comparative Characteristics in the FSC and FFCS Ecological Criteria to Determine Differences in Ecological Rigor

In Finland the ENGOs claim that the FFCS (as endorsed by PEFC) lacks the ecological rigor of FSC. Alternatively and conversely, the forest landowners and forest industry claim that FFCS is a parallel system to FSC, hence the two schemes are equal.

The purpose of the third objective is to evaluate the ecological criteria of the two schemes in Finland with regard to how they address ecological issues (see figure 11).

Is the FFCS different from the FSC in how it addresses ecologically sound forestry? Arguably, the future of certification is dependent on several factors, including the acceptance of a given certification's ecological criteria as being deemed legitimate for what is demanded, both domestically and globally. In order to evaluate the FFCS and FSC ecological standards, eleven environmental and ecological issues are used. Ten issues were adapted from the Meridian Institute (Meridian 2001) comparative analysis of FSC and SFI. In addition, one issue (issue 8) was developed for Finnish conditions. The issue of snag retention and coarse woody debris was selected because of the importance for terrestrial threatened and endangered species in Finland, as described later in the results. The Meridian Institute report (Meridian 2001) is used for the same reason as in thesis objective one. The (2001) Meridian Institute report (1) provides an objective set of comparative criteria and (2) is a credible and independent investigation.

The objective is to describe how each scheme addresses the ecological criteria (issues) and determine any similarities and differences. How the two schemes address the ecological criteria (issues) will be described as “explicitly”, “implicitly”, and “not at all”. Additionally, the type of assessment will be noted. Each respective criterion might be “field audited” (performance assessment), “document audited” (system assessment), or a “mix” of field and document assessment. Finally, the measurability of the standard will be determined. Measurability will be determined based on the scheme's precision in

1. Special and unique forest areas
2. Use of chemicals and genetically modified organisms
3. Use and management of exotic species
4. Water quality and riparian zone protection
5. Road impact assessment
6. Prescribed fire
7. Sustained yield
8. Retention trees and coarse woody debris
9. Maintenance and conservation of biological diversity
10. Maintenance of ecological function
11. Assessment of environmental impacts

Figure 11: Ecological issues as criteria for comparing FFCS and FSC

defining the quantitative measure, inherently limiting the discretion of the auditing body. Based on these three descriptions and other associated factors comparative characteristics will be identified between FFCS and FSC-Finland to determine difference between the schemes relative to ecological rigor. To make this theory operational the following hypothesis will be tested: ‘One of the reasons forestry representatives and ENGOs support different schemes in Finland is because the schemes differ in their ecological rigor.’

Chapter 3: Results and Analysis:

Objective 1- Description of Key Characteristics of Two Competing Forest Certification Schemes in Finland

Question 1: What is the mission and scope of the two schemes?

FFCS

The purpose of the FFCS system is to establish a voluntary certification system suitable for small-scale forest ownership, based on a wide consensus of stakeholders and audited by an independent third party. According to FFCS the standards/criteria are based on the following: the UNCED forest principles, the pan-European criteria and indicators for sustainable forestry, the principles and criteria of the FSC scheme, the ISO-EMAS environmental management systems, the Finnish forestry environment programme, the Forest and Nature Conservation Acts, and the principles of Finnish forest management. The scope of FFCS is applicable to all forest types occurring in Finland. The PEFC provides an umbrella certification for FFCS and other national schemes, particularly in Europe. All national schemes under PEFC are mutually recognized as fulfilling the requirements for PEFC forest management and if they meet requirements of chain-of-custody they can be awarded a PEFC eco-label for usage on certified forest products.

The certification criteria of FFCS are divided into economic, social, and environmental categories. There are 37 certification criteria. At the regional level (i.e. Forestry Centre/UFMA level) 37 criteria are applied. At the local, individual forest

holding level 23 are applied. The criteria are divided into 18 ecological, 12 economic, and 9 social criteria (the forest management plan criterion is listed in all three areas). According to FFCS, one-third of the criteria are compliant with the requirements of current legislation, and two-thirds go beyond existing legislation (Finnish Forest Certification System: Development Process and Elements 1998).

FSC

The FSC-Finland standard seeks to establish a locally applicable and workable version of the international FSC Principles and Criteria. The standard is a derivative of the global FSC Principles and Criteria adapted to Finnish ecological, social, and economic attributes. The scope of FSC-Finland is aimed at all forest types in Finland. The FSC-Finland criteria are divided into economic, social and ecological chambers. Each of the three chambers have equal weight in the decision making process. In the FSC-Finland scheme there are 10 FSC Principles, 23 criteria, and 58 indicators (The Draft FSC Standard for Finland 2002).

Question 2: What organizations and interests brought the schemes into existence?

FFCS

The initial working group for FFCS was organized in 1997 and composed of twenty-nine organizations representing ecological, economic, and social interests. However, according to WWF-Finland the forest representatives were not interested in developing the standard further in an FSC context, and did not want to send the standard to FSC for comments, nor try to get it endorsed by FSC (Tanninen 11/19/2004).

Because of this, all environmental NGOs pulled out of the process in 1997 and 1998 (Tanninen 11/19/2004). After the detachment of the ENGOs the draft standard was further developed by the forest sector representatives such as the Central Union of Agricultural Producers and Forest Owners (MTK) and Finnish Forest Industries Federation. Currently, the FFCS (as endorsed by PEFC) lacks any ENGO support as the ENGOs, both national and international, have put their efforts into supporting the development of FSC-Finland.

FSC

The major contributors to the seminal working group in 2000 of FSC-Finland were: Finnish Association for Nature Conservation, WWF, Association of Finnish Artists, a Finnish consumers' organization, and two private forest owners (The Draft FSC Standard for Finland 2002). The 440,000 non-industrial private landowners, The Central Union of Agricultural Producers and Forest Owners (MTK), state-forest enterprise Metsliitto, and other traditional forestry interests have not been involved in developing the FSC-Finland. According to a press release in 2001 by the Finnish Forest Industries Federation, "important economic and social stakeholders did not participate in the preparation of the FSC Standard and that a new, parallel system leads to more costs [costs associated with double certification] which the markets are unwilling to meet (Forest Industry: Most Practical to Develop Forest Certification on the Basis of the Existing FFCS System 2001)". However, the FSC and its supporters do not agree that FFCS, as endorsed by PEFC, is a parallel system. At the International Seminar on Finnish Forest Certification in 1998 Olof Johansson, Chair of the FSC Board of Directors, states, "the

performance requirements of the Finnish standard [FFCS/PEFC] do not meet those of FSC Principles and Criteria for good forest management (Johansson 1998)”.

Furthermore, according to a May 24, 2005, press release from UPM, a multi-national forest industry and landowner in Finland: “To some extent the lack of substantive industry participation in FSC-Finland, has led to standards that have a greater focus on environmental and social issues and in contrast the absence of NGO support in developing FFCS in Finland has led to lesser focus on environmental and social issues (UPM's Parallel Field Testing of Forest Certification Standards Indicates: Five Standards Promote Economic, Social and Environmental Forest Management with Differences in Emphasis May 24, 2005)”.

Question 3: What is the structure/ organization of the schemes?

FFCS

The Finnish Forest Certification Council (FFCC) is the body charged with administration of the certification standard (see figure 12). The PEFC provides the umbrella certification and eco-label for products that meet the PEFC forest management and chain-of-custody requirements (see figure 13). There are six bodies accredited by Finnish Accreditation Service (FINAS) that can conduct certification audits and all are independent from the FFCS. However, two certification bodies (DNV Certification Oy and SFS-Certification Oy) have been responsible for the FFCS certification accounting for 95% of forest lands in Finland. In order for the FFCS national scheme to receive PEFC recognition an independent auditing company, FORM International, is used to document and field certify the FFCS against the PEFC Council requirements.

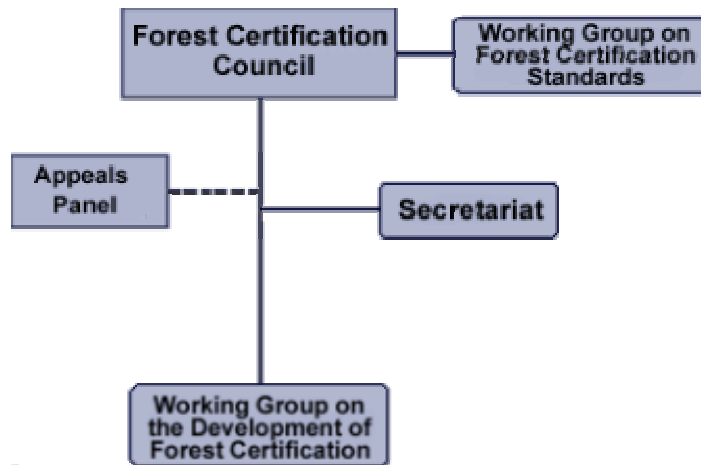


Figure 12: Structure of FFCC administration. The administration of forest certification is the responsibility of the national Forest Certification Council. This Council is currently chaired by Jari Parviainen, Secretary-general Auvo Kaivola, being responsible for the practical work. Source: *(FFCS-Management of Certification)*

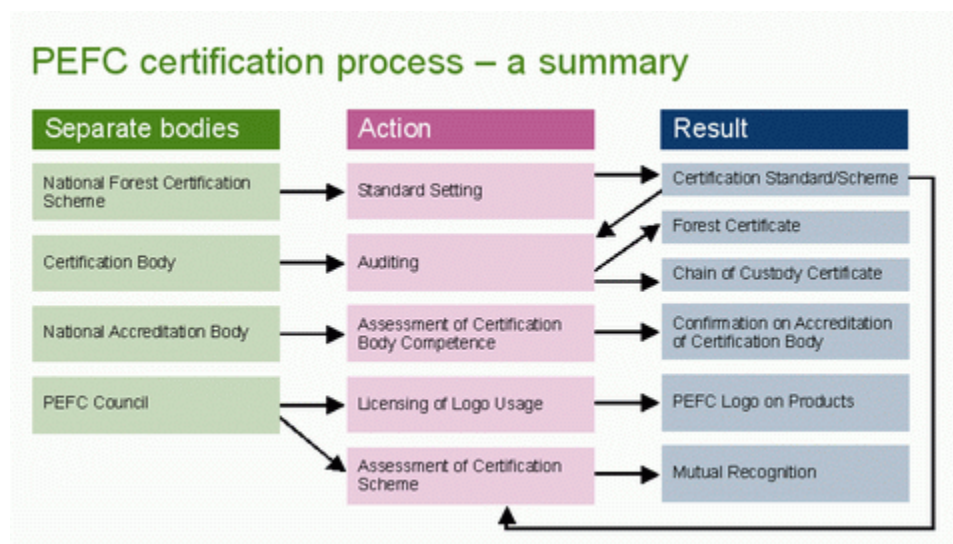


Figure 13: Elements of the PEFC certification process. In the Finnish system the national forest certification scheme is FFCS. Source: *(PEFC-Activities)*

FSC

The FSC is a membership organization with three member chambers representing environmental, economic, and social interests that operate at both the international and national levels. Each chamber has an equal voice in decision making (Meridian 2001). In contrast to the FFCS, the FSC has internalized the accreditation of auditing bodies by taking responsibility for accrediting the auditing body (Meridian 2001), however, the accrediting body is independent from FSC. In Finland the auditing body that is currently being used in the Stora Enso pilot FSC-Finland certification project is Scientific Certification Systems (SCS). The FSC-Finland national scheme's overarching structure is based on the requisites of FSC-International and is tailored to suit local Finnish conditions, hence the national criteria and indicators.

Question 4: Is certification voluntary? If so, how is membership obtained and participation secured in the scheme?

FFCS

Unlike most forest certification schemes, the FFCS has been explicitly developed to accommodate the needs of small non-industrial private landowners. The application for FFCS certification is possible at three levels (Forestry Centre, Forest Management Association (FMA), and individual forest holding), however, only the Forestry Centre level has been utilized. A Union of Forest Management Association (UFMA) is the legal applicant to certification in the area of the Forestry Centre. The UFMA is the legal applicant because it is a private independent legal entity (Forestry Centre is a government organization) and the UFMA must have the authorization of its group members to

contract a certification body to carry out the audit. Under the current certification status of the thirteen Forestry Centres the certification holders range from three UFMAs to one FMA per each Forestry Centre. The average spatial area of a Forestry Centre, excluding the expansive Lappi Forestry Centre, is approximately 1.5 million hectares, or an area about the size of Connecticut (The FFCS:Forest Certificates 11/4/2001). Under the FFCS regional certification system all forestry operators within the spatial area of the Forestry Centre are certified, such as: the UFMA, FMAs as members of the Union, regional Forestry Centre, forest industry who are forest owners, wood buyers, forest owning public bodies, forest owners who are not part of the FMA but want to participate, and forest contractors/entrepreneurs and forest workers as actors through their local organizations, or individually.

According to the FFCS, the applicant to the certification body can also be at the FMA or individual holding scale; however, in actuality only the Forestry Centre scale has been certified resulting in over 22.5 million hectares or 95% of forest lands in Finland being certified (The FFCS:Forest Certificates 11/4/2001). This large scale approach to the certification and auditing process has been criticized by Olof Johansson, Chair of the FSC Board of Directors, “the responsibilities and commitment of the individual forest owners need to be further clarified in the FFCS (Johansson 1998).” Further, FSC-Finland claims that the individual forest owner has little or no responsibilities under FFCS and in some cases are not even knowledgeable that their forestland is certified (Miettinen 06/01/2005).

As previously stated, the forest organizations in Finland are hierarchically organized. The decision making process follows this top-down or bottom-up structure.

The decision to participate in the FFCS at the Forestry Centre level is made by a general assembly of participating UFMAs by the participating FMAs within each UFMA, respectively. The decision to participate must be at least a two-thirds vote. To step outside of the process, a forest owner or association must make a separate statement of removing themselves from FFCS certification (Gerard 2001). As to date, there is one FMA that does not participate in the regional forest certification on the level of Forestry Centre (Kaivola 05/03/05). On each of the thirteen regions there is a very small percentage of forest owners who have actively withdrawn and are not participating in FFCS certification (Kaivola 05/03/05).

FSC

Under the FSC-Finland scheme there are two possible methods for certification to take place. A forest owner or a group of forest owners participating as ‘group certification’ can apply for FSC certification from a certifier/auditor accredited by FSC, not directly to FSC. In group certification, which is most feasible in Finland, each individual forest owner and candidate must sign an agreement in which he or she commits to complying with the FSC Standard. Since FSC-Finland is relatively new and given limited participation data, detailed descriptions are not available regarding the participation process and status. However, the FSC National Initiative process is an indication of what the FSC-Finland national scheme process will be (see figure 14).

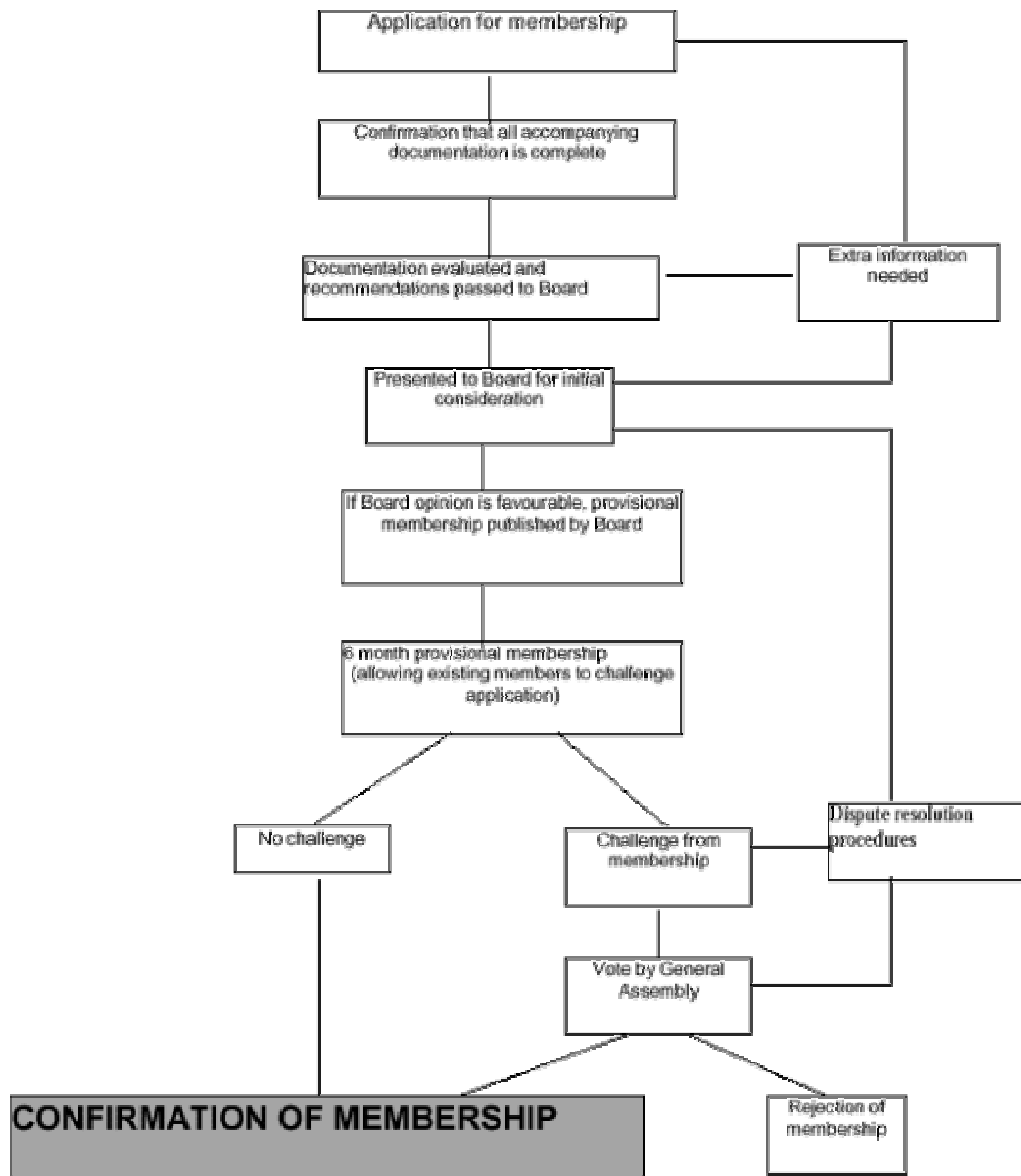


Figure 14: The FSC National Initiatives Role in membership application process.
 Source: (FSC National Initiatives Manual Part 3: Core FSC Operations and the Role of National Initiatives)

Question 5: How have the schemes addressed issues of small landowners?

FFCS

Like the eastern United States, the majority of forest lands in Finland are owned by private landowners. However, in the United States, and most other countries, creating a certification system feasible for the small landowner scale has proven to be a difficult obstacle for certification schemes. There are over 440,000 non-industrial private forest holdings (> 2 ha) in Finland representing 10.5 million hectares of forestland or 61% of total forest area (Karppinen 2005). Early (1998) in the development of forest certification in Finland the Central Union of Finnish Agricultural Producers and Forest Owners (MTK) saw a need to develop a competing certification scheme to FSC (Lillandt 1998b). In 2004 the Central Union of Agricultural Producers and Forest Owners (MTK) had 168,059 members, with a local producer association in nearly every town. In addition, the MTK also has a co-representative in Brussels to lobby the European Union (EU) (*Facts about MTK*). Through their power in numbers and long traditions of forest management the Finnish forest owners are extremely patriotic and very influential in Finnish society (Miettinen 05/04/2005). The high degree to which Finnish forest landowners are bound through both culture and a strong institutional network, laid the foundation for high participation in certification through a group certification process. For this reason, forest certification was developed in the context of group certification for small landowners.

FSC

Small private forest landowners in Europe see themselves as disenfranchised and not in a position of power in FSC (Meidinger, Elliott, and Oesten 2003). They also indicate that individual certification is too costly, and that they are unfairly implicitly criticized for their forest practices by the FSC (Meidinger, Elliot, and Oesten 2003; MTK Press Release: 01/28/1998). To address this issue the FSC has created the Finnish scheme to develop group certification in which multiple forest holders combine their forestlands to have one FSC certification process, alleviating some of the cost of scale problems. However, given the limited adoption of this FSC scheme, it is unclear if FSC has been able to successfully address the small landowner issue in Finland. The completion of Stora Enso's pilot project (refer to page 21) with several small private landowners will potentially provide insight in the feasibility of FSC-Finland for small private non-industrial landowners in Finland.

Question 6: What is the chain-of-custody system used by the two schemes?

FFCS

The purpose of the FFCS chain-of-custody (CofC) is to establish a link between industrial processing and tracking, and the certified forest (Finnish Forest Certification System: Development Process and Elements 1998). The FFCS scheme does not include a product label as the PEFC label is used by those seeking label recognition for certified forest management and CofC. To meet CofC needs for sawn timber, 100% of the raw material must come from certified forests. For pulp and paper products, furniture and other assembled products at least 70% of the non-recycled wood material must be

certified (Finnish Forest Certification System: Development Process and Elements 1998).

There are two methods for tracking wood for the CofC: (1) physical segregation and (2) accounting of material flows. Physical segregation requires that certified and non-certified wood supplies be separated during processing. Most Finnish mills are modern, high volume mills, and auditing these mills for physical segregation would be financially impractical (Finnish Forest Certification System: Development Process and Elements 1998). Because of the problems of the physical segregation method, the ‘accounting of material flows’ method is almost exclusively used. To employ this method the accounting of material flows is, for example, “This product has been made by a mill that uses x% of wood coming from certified forests.” (Finnish Forest Certification System: Development Process and Elements 1998). A more detailed description of accounting of material flows is, “that it would establish the share of certified wood in each intermediate storage and mill wood yard; each wood delivery is monitored until the point of feeding into the process through detailed accounting of material flows; this approach would establish the flow of certified wood in the procurement system, including the share of certified wood in each intermediate storage or wood yard in a given point of time” (Finnish Forest Certification System: Development Process and Elements 1998). The FFCS believes that accounting of material flows allows for a reliable control of Chain-of-Custody; however, physical segregation is possible for those clients that require it.

FSC

“Chain of custody certification makes it possible to use FSC logo, if at least 10 percent of the wood is FSC certified. The rest has to be 'controlled'. To produce 'controlled wood' the forest owner has to comply only with five criteria. In the low risk areas, the forest owner can collect the documentation showing the criteria fulfilled, whereas in the High Risk Areas, the forest owner has to invite FSC accredited certification body to audit his forestry practices against those five criteria.” (Miettinen 06/01/2005). The exact method of CofC for FSC controlled wood has not been determined yet. The preliminary dialogue regarding possible CofC requirements for social and ecologically important areas and forest landowner CofC requirements is currently being developed. Socially and ecologically important areas are categorized as high risk/low risk based on the potential impacts of forestry operations on these lands. Pasi Miettinen, FSC-Finland, explains: “We have not, as yet defined High Risk/ Low Risk [forest conservation areas] areas for chain-of-custody. Tentatively we have discussed that the High Risk Areas will include the Sami Homeland [natives of northern Finland that are economically and culturally dependent of reindeer husbandry]; old growth forests and FINIBA areas regarding the summer loggings [to ensure that fledging juvenile birds are safe from forestry operations]. The great majority of the Finnish forest land will belong to the Low Risk category. We have made the definition for the High Conservation Value Forest in our Draft Standard. The definition is more demanding than FFCS/PEFC requires. Thus, we do not accept PEFC certified wood as 'FSC controlled' wood.” (Miettinen 05/16/2005).

Question 7: How is third party independence assured?

Fundamentally, forest certification is an audit-based system. For independence to be assured, the organization conducting the audit must be separate (i.e. independent) from the organization that sets the forest certification standards. Further, the auditee must apply to the auditing body, not the certification organization in order to start the process of seeking certification. How auditing systems evolve and function, is at the very heart of a voluntary, stakeholder driven system of forest certification. As a voluntary system developed to address consumer concern about sustainable forestry, system credibility and legitimacy are critical. Forest certification has become a global phenomenon, and independence is paramount where credibility, legitimacy, and integrity are key characteristics of a successful certification scheme.

FFCS

Because PEFC endorsement adds a second institutional level to FFCS certification, describing third party independence is complex and challenging. Like FSC, when a potential client applies for certification the application goes to the audit body, not FFCS. As noted earlier (question 3) there are six audit bodies accredited to perform FFCS auditing functions, however, only two audit bodies have been responsible for certifying the thirteen Forestry Centres. The FFCS, as a prerequisite of acknowledging the auditing body's competency, has an independent organization accredit the auditing body. In the FFCS system competency of the certification/auditing body is assessed and accredited by the Finnish Accreditation Service (FINAS). The additional institutional level is added by PEFC endorsement of FFCS. The FFCS scheme has been accredited by

the independent accreditation service FORM International. This accreditation is satisfactory for PEFC endorsement. The PEFC endorsement provides mutual recognition with PEFC endorsed national schemes, use of the eco-label if forest management standards and chain-of-custody requirements are met, and other benefits.

FSC

In the FSC scheme third party certification is assured by the potential client contacting the independent audit body. The FSC performs the accreditation of the audit body, however, the auditing body and FSC are independent of one another. Currently, the auditor carrying out the pilot certification projects in Finland is Scientific Certification Systems (SCS), a global certification body based out of Emeryville, California.

Question 8: What is the role of government?

FFCS

In an e-mail (01/9/2005) Auvo Kaivola, Secretary General of the Finnish Forest Certification Council, stated that: “In 1995 the Finnish Ministry of Agriculture and Forestry was involved in forest certification to explain the roles of private and public players. Additionally the chairman of the Working Group on the Standards was a civil servant of the Ministry, because of his capacity as a chair. In the Second Working Group the chairwomen had no voting rights in the Group and was also a civil servant. The Finnish government has not participated in the process in which the FFCS system and standards have been developed or put into practice nor has the government financed the

system.” Auvo Kaivola further states: “There are, however, some links between the FFCS and government operations. The Forestry Centres carry out a lot of the monitoring activities in forestry and the FFCS does utilize some of their data collections. Also, the Forest and Park Service is the manager of state owned lands, which are primarily in the Lapland region of northern Finland. Currently, the Forest and Park Service participates in the thirteen regions and is issued certificates by an independent certification body. (Kaivola 01/09/2005)”. From this and other information, government has limited involvement through working group representation and plays no direct role in the functioning of FFCS. However, FSC-Finland contests this.

According to an e-mail correspondence with Pasi Miettinen, “The Finnish Ministry for Agriculture and Forestry has 13 Forestry Centers, which are in charge of the forest law enforcement. Their functions are mainly financed by the government. The forest certification of FFCS/PEFC in Finland is area based. In practice, each Forestry Centre has its own certificate, and it compiles most of the documents needed for certification. Also, almost half of the criteria for FFCS certification are targeted for the Forestry Centres [Finnish government institutions], instead of the forest owners. Thus, the forest owners get FFCS certificate without doing anything, because they are not required to submit a letter of personal commitment. Many of them don't even know their forest is certified.” (Miettinen 06/01/2005). Therefore, the role of government involvement with FFCS is highly contested in exactly what role it plays.

FSC

According to The Draft FSC Standard for Finland (2002), several government institutions have functioned as key consultants and advisors assisting with the Working Group committee, however, this does not mean that they are committed to the FSC Principles and Criteria. The Forestry Development Centre-Tapio, Kustens Skogscentral (Regional Forest Centre), and the Ministry of Agriculture and Forestry had experts participating in the development of the Draft FSC Standard (The Draft FSC Standard for Finland 2002). Despite the consulting and advising assistance from the Finnish government Pasi Miettinen, FSC, states, “The Finnish Ministry for Agriculture and Forestry has been opposing FSC certification from the very beginning. Sometimes I tried to make a telephone call to discuss certain indicators, but they closed the line as soon as I introduced myself. There has been no hope to get financial support from the government. The Ministry of Environment has not supported [FSC] either. They did not even give us a Red Data Book of endangered species for free, and we could not afford purchasing it. We have been working with a zero budget.” (Miettinen 05/04/2005). Although it appears there has been some governmental involvement in FSC development, such involvement seems limited. In addition, some individuals working to develop FSC perceive that government is hostile to the FSC.

Question 9: Do the schemes have a label or information tool for consumers?

FFCS

The Finnish system does not include a product label for verification of sustainable forest management and chain-of-custody. According to the FFCS, the system is designed

in a way that the requirements of various labeling schemes (e.g. FSC and PEFC) are fulfilled as far as possible in the Finnish conditions (Finnish Forest Certification System: Development Process and Elements 1998). In reality, the PEFC is the global certification scheme that has endorsed the FFCS national scheme. According to PEFC it provides an assurance mechanism to purchasers of wood and paper products that they are promoting the sustainable management of forests (*PEFC-Mission and Objectives*). The PEFC logo (see figure 15) is attached to those who fulfill both the sustainable forest management and chain-of-custody requirements of FFCS as endorsed by PEFC.

FSC

The FSC does have its own eco-label (see figure 16). According to FSC the eco-label allows consumers worldwide to recognize products that support the growth of responsible forest management worldwide (*FSC-What is FSC?*). For those that fulfill both the sustainable forest management and chain-of-custody criteria the use of the FSC logo is granted.

Question 10: What are the standards and auditing process of each scheme?

FFCS

The FFCS system of standards developed for sustainable forest management is based on document and field assessed criteria and indicators. There are 37 criteria applied at the regional level and 23 at the forest holding level. The criteria are divided into 18



Figure 15: PEFC eco-label and company logo



Figure 16: FSC eco-label and company logo

ecological, 12 economic, and 9 social criteria (The forest management plan criterion is listed in all three areas). Each criterion is then defined, indicators of compliance are set, bases of assessment are established, sources of information for criteria are identified, and temporal requirements for monitoring are set. In the FFCS system the standards leave a great deal of discretion in interpretation for the FFCS independent auditing and certifying body.

The phases of the forest certification process are as follows: the UFMA, FMA, or individual forest landowner sends an application to the certification body. The certification body reviews the sent material (available data, criteria for the group or individual, etc.). Then, there is either a voluntary pre-audit or a complete audit of forest

management (initial meeting, data collection, assessment, presentation of results). After the auditing process the certification body announces their decision. There can be the (1) issuance of forest certification certificate, (2) issuance of a plan for corrective action and then issuance of certification or (3) corrective action and follow up audit and then issuance of certificate or non-issuance of certificate. If a certificate is awarded, monitoring audits are done at pre-determined times afterwards. The same process applies to awarding a chain-of-custody certificate. If an applicant achieves a forest certification and chain-of-custody award, then they are eligible to use the PEFC eco-label on the forest products.

FSC

The FSC-Finland scheme has 10 FSC international principles, 23 criteria, and 58 indicators. These principles, criteria, and indicators must be met to the satisfaction of the auditor in order to receive certification. Since there has yet to be a completed auditing process for FSC-Finland refer to figure 14 for a general flowchart of the process for approving FSC national schemes.

Question 11: What are the current issues of forest certification in Finland?

Given the general nature of this question, the discussion is not broken into two categories (FFCS and FSC) as in the other questions. The current issues of both schemes are intertwined and reflect certification at large in Finland. FFCS (as endorsed by PEFC) is, in effect, the only implemented certification system in Finland (representing 95% of all forest lands). It has come under an immense amount of scrutiny and conflict resulting

from a host of contentious issues such as: adequacy and motives of the stakeholders that participated in the Working Group (NGOs pulled out of the FFCS when they saw that the FFCS standards were not going to be sent to FSC), questionable adequacy of the social standards for Sami reindeer husbandry, conflicting statements about the development of FFCS and its relation with FSC, implementation of the standards, and adequacy of the ecological standards. A certification analysis done by the United Kingdom Department for the Environment, Food and Rural Affairs (DEFRA) concluded that only FSC and the Canadian Standards Act (CSA) were legal and sustainable (DEFRA 2004). The analysis indicated that PEFC could ensure legally sourced timber but was not adequate for DEFRA sustainability standards (DEFRA 2004). The report concludes the inadequacies are: (1) the absence of a mechanism to ensure it is not possible for an individual interest to dominate certification decision-making; (2) no requirement for any form of consultation in the certification process; and (3) no requirements for the certification audit to be available to public access (DEFRA 2004).

Most forest landowners and forest industry companies do not see a reason to participate in FSC. The Finnish Forest Industries Federation called for the members of the FSC Working Group to participate in the updating of the FFCS system (Forest Industry: Most Practical to Develop Forest Certification on the Basis of the Existing FFCS System 2001). Furthermore, the industry federation claim that the FFCS Working Group was made up of environmental, social, and economic stakeholders as proof that the standards were adequately prepared, but they fail to mention that the NGOs pulled out of the FFCS Working Group process indicating that the FFCS Standard was not closely aligned to the FSC (Forest Industry: Most Practical to Develop Forest

Certification on the Basis of the Existing FFCS System 2001). The FFCS claims that the system is compatible with the principles of the FSC, and the Finnish standard has been created through a process similar to that of the FSC (*Finland's System: International Compatibility and Product Labels*). However, based on the preexisting literature it appears that the system was created as a competitor and is not compatible with FSC (Forest Industry: Most Practical to Develop Forest Certification on the Basis of the Existing FFCS System 2001; Gerard 2001; Liimatainen and Harkki 2001; Lillandt 1998b; Finland Sets Own Forest Certification System 10/8/98). Therefore, the current status of FSC in Finland is directly tied to current status of legitimacy of FFCS.

Question 12: What is the current status of forest certification in Finland?

FFCS

In early 2005 The FFCS system became the first ever renewed PEFC endorsed scheme globally (PEFC Press Release: 03/22/2005). Currently, thirteen Forestry Centres/UFMAs representing over 315,000 private forest owners, forest industry holdings, community and municipality forest lands, and other owners are FFCS/PEFC certified. Certification by FFCS/PEFC represents 95% of all forestlands in Finland. Through the highly integrated, complex associational system of forest owners, FFCS certification has been achieved at an unprecedented rate and scale. There has been no detailed study of the impacts of FFCS certification on management of private forests (Pressi.com 10/20/2004). However, the costs of complying with ecological criteria have been cited as the most costly impact of certification (Malmi 2000). Indufor Oy, an independent consultant, will be carrying out a comparative assessment of forest

certification of the Nordic countries of Finland, Norway and Sweden in the near future (Pressi.com 10/20/2004).

FSC

Currently, the Stora Enso pilot testing is still ongoing and auditing by SCS will be conducted May 9-14, 2005 (Miettinen 04/18/2005). The draft standard of FSC-Finland is undergoing assessment for approval at the FSC's Accreditation Business Unit (Miettinen 04/18/2005). Presently, there is one forest area of 93 hectares, owned by Family Jalas' Forest, certified by FSC International, not the FSC draft Finland Standard (UPM 2005). However, with most forest industries and small forest landowners adamantly opposed to FSC certification, the future of FSC in Finland remains unclear if not bleak.

Chapter 4: Results and Analysis:

Objective 2- Explaining the Development and Evolution of Forest

Certification in Finland in Favor of PEFC and not FSC

Study Question 1: What are the factors that influenced the development and evolution of forest certification in Finland?

Based on chapter three and other evidence from document and e-mail correspondence sources, the factors in figures 17 and 18 are those that have influenced, and therefore explain, the development and evolution of forest certification in Finland in favor of PEFC and not FSC. Additionally, the factors have been grouped based on their interrelationships. A discussion of these factors is provided in study question 2.

Study Question 2: Why did certification develop and evolve in favor of PEFC and not FSC in Finland based on the isolated major factors?

Internal Factors (1-4)

Factor 1: Private landowners control the majority of commercially viable forestland and wood raw material supplies

Small non-industrial private landowners in Finland own approximately 62.2% of the forest holdings ranging in size from 5-100 hectares (Yrjola 2002) (see figure 19). In southern Finland, where the majority of forestry operations occur, private owners own

Internal Factors
1. Private landowners control the majority of commercially viable forestland and wood raw material supplies
2. Strength of forest owner association (MTK) despite highly fragmented ownership
3. Iron triangle of power between government, industry, and landowners-MTK
4. FSC deemed irrelevant by traditional forest interests
External Factors
5. The concurrent development of a global FSC competitor scheme
6. Lack of significant demand from end consumers in export markets for FSC certified products
Factors Leading Toward Polarization
7. Forestry representatives have lead role in PEFC, unlike FSC which is predominately lead by ENGOS
8. ENGOS vs. traditional forest community for control of forest management
9. Implied criticism of FSC towards traditional small non-industrial forest owners

Figure 17: Key factors explaining the development and evolution of forest certification in Finland in favor of PEFC and not FSC

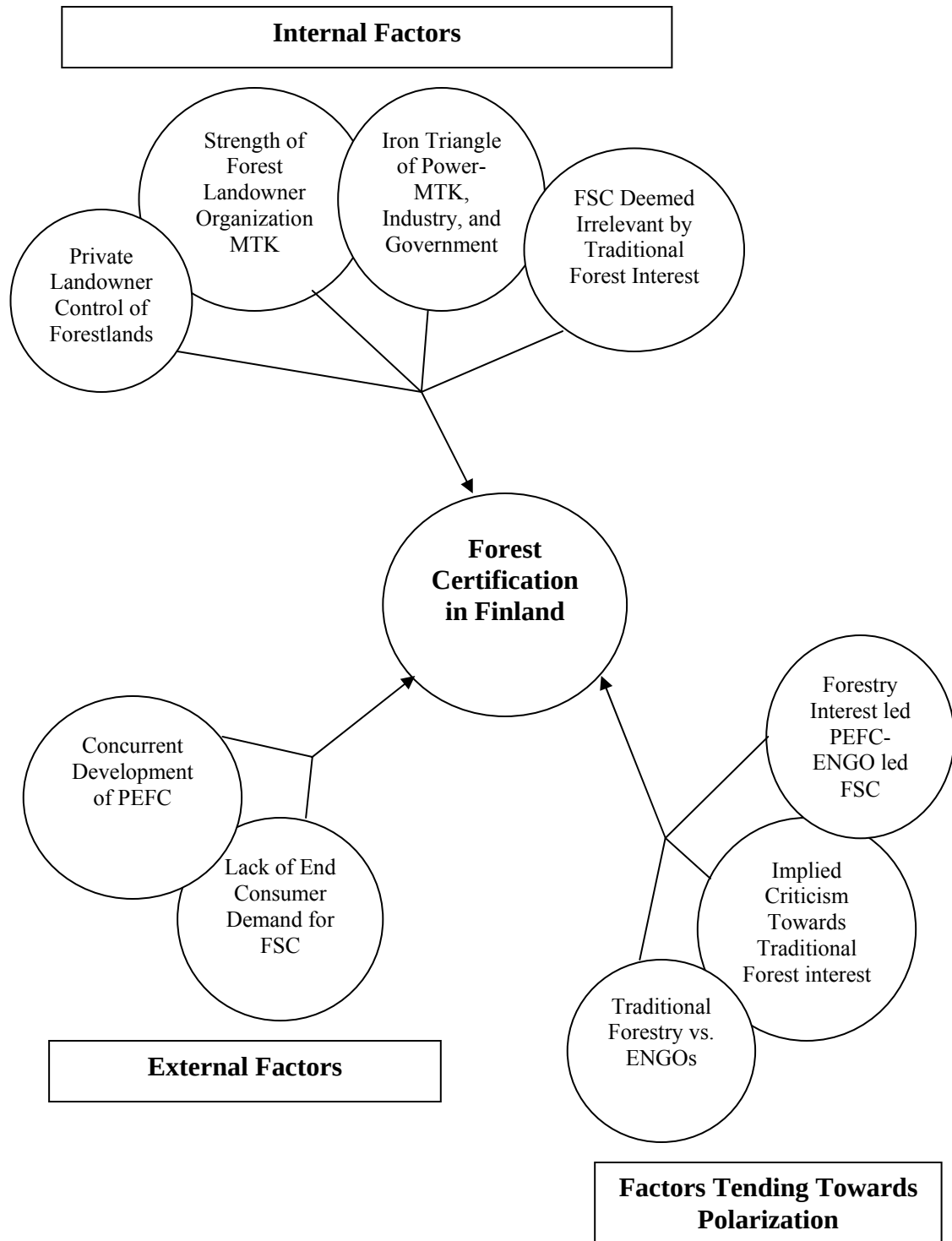


Figure 18: Factors influencing the development and evolution of forest certification in Finland in favor of PEFC and not FSC.

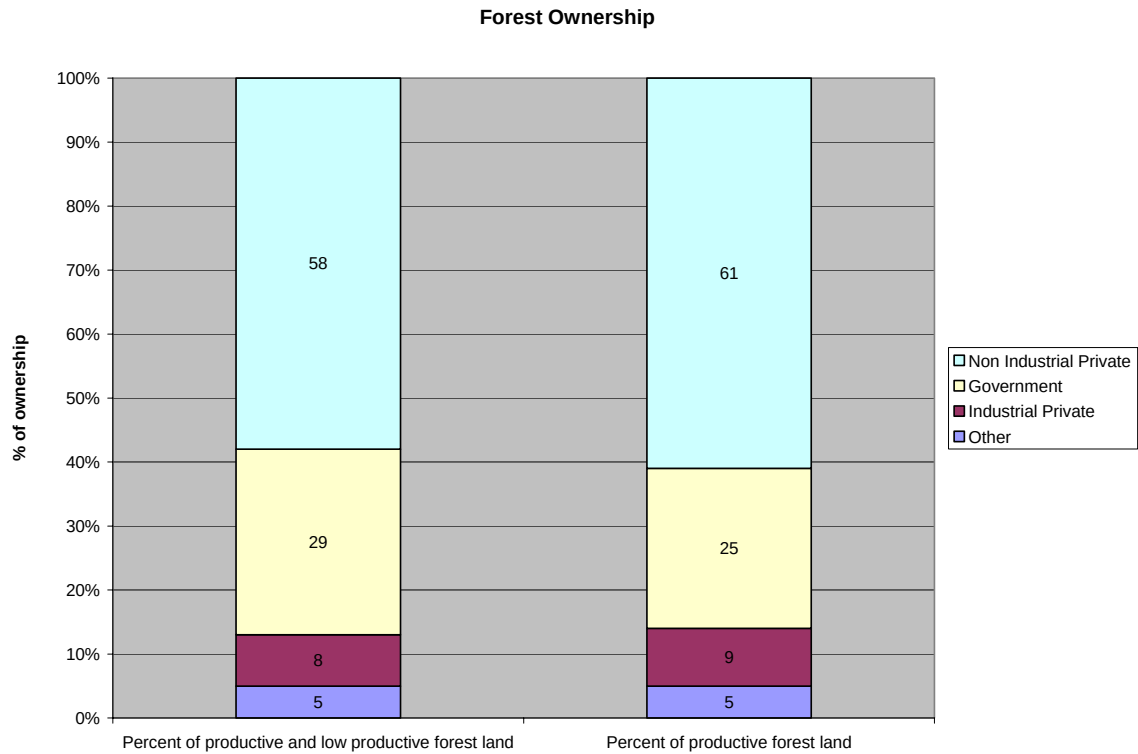


Figure 19: The Finnish forest ownership. The Finnish classification of forestry land is based on the annual forest increment. On productive forest land the annual increment per hectare is over one cubic meter. On low productive forest land the increment is 0.1–1 cubic meters, and on other land area for forestry less than 0.1 cubic meters per hectare per year. In addition to this, forestry land is taken to include logging roads, intermediate timber storage areas by the roadside and other similar areas. Source: (Finnish Statistical Yearbook of Forestry 2004)

73.5% of the forested lands (Yrjola 2002). The owners of small forested tracts of Finland strongly support PEFC (Hansen, Forsyth, and Juslin 1999). Further, the Finnish private landowners are an extremely proud and influential group in Finnish society (Miettinen 05/04/2005). These small landowners forestry operations account for 80% of the roundwood and 98% of the pulpwood to industry (Finnish Forest Certification System: Development Process and Elements 1998). Accordingly, these lands are the wood basket of the industrial forest sector and therefore are most important to forest industry, and the economic activity it generates in Finland. Also, Finnish landowners had an active and instrumental role in the development of both FFCS and PEFC. Therefore, it can be concluded that since the majority of forest lands in Finland are privately owned and the forest landowners overwhelmingly support PEFC, then this is a significant factor that influenced the evolution of forest certification in Finland in favor of PEFC.

Factor 2: Strength of forest owner association (MTK) despite highly fragmented ownership

The forest landowners of Finland are highly organized into local, regional and national associations and have long established ties with both government and industry. Although not unique to Finland, these associations and associated links with government and industry are stronger and have greater landowner participation than almost anywhere in the world. In Finland more than 311,000 forest owners of the estimated 440,000 with holdings <2 hectares are participating in the FFCS. These non-industrial landowners are members of local Forest Management Association (FMA) and a regional Union of Forest Management Association (UFMA). The regional UMFAs represent approximately the

same spatial area as the governmental Forestry Centres, making data collection, landowner assistance, communication, and other services more efficient. At the top of the private landowner organizational structure is the Central Union of Agricultural Producers and Forest Owners (MTK). This organization, which describes itself as “the rural professionals very own lobby”, (*MTK homepage (English)*) has played a significant role in the evolution of forest certification in Finland in favor of PEFC.

The MTK press releases from 1998 to the present display a high degree of animosity towards FSC and strong support for PEFC. On January 28, 1998, the MTK issued a press release titled: “FSC acts against its own Principles” (MTK Press Release: 01/28/1998). In this release MTK condemns the FSC for approving the FSC-Sweden forest certification standard without the support of the Swedish private forest owners, owning more than half of the Swedish forests (MTK Press Release: 01/28/1998). Further, MTK states that FSC favors big industry and large-scale forest owners leading to the discrimination against family forestry (MTK Press Release: 01/28/1998). MTK has played an active role in the development and testing of the FFCS and PEFC (MTK Press Release: 04/23/1998, Press Release: 08/25/1998) to make sure that the specific features of small-scale forestry are taken into consideration during the development of certification (MTK Press Release: 04/23/1998). With the evidence showing that MTK is an extremely influential organization and its active participation in FFCS and PEFC it is concluded that the strength of forest owner organization played a significant role, possibly the strongest, in forest certification in Finland developing in favor of PEFC and not FSC.

Factor 3: Iron triangle of power between government, industry, and landowners-MTK

To date, forest certification has been primarily driven by interest groups involved in sustainable forest management. In Finland the traditional players in forest management have been forest industry, small non-industrial forest landowners and landowner associations, the Finnish government, and to a lesser extent various social and environmental NGOs. Traditionally, the power of decision-making for natural resource governance has been in the control of the forest landowner associations, industry, and the Finnish government. The FSC is perceived to be a threat to this power and structure of decision making authority. Therefore, the demand from ENGOs that forest certification be developed in an FSC context threatened the current power structure of forest landowners, industry, and government. To relinquish control of forests management was not an option for the dominate stakeholders in Finland.

Cashore et al. (2004) and Bernstein and Cashore (2000) address two key reasons why power structures are threatened and, if strong enough, able to repeal FSC. In the Finnish case, these organizations were not only able to repeal FSC; they developed an alternative, rivaling system. First, FSC certification bypasses governmental decision-making processes, and is open to criticism that it represents rule-making from outside the national political system, since it is international in scope and operates independently of any one national government (Cashore, Auld, and Newsom 2004). Secondly, the notion of “popular sovereignty” which Bernstein and Cashore (2000) define as the “idea that government authority ultimately derives from the people governed”, works to limit the efforts of international groups to infiltrate the power structure because the current organization deems it inappropriate by those that reside within the domestic power

structure that is threatened. As the literature has shown the forest landowner, industry, and government power structure was strong enough to repel the advancement of FSC, which resides externally from the domestic arena and able to develop a competitor scheme.

Factor 4: FSC deemed irrelevant by traditional forest interests

In the 1990's Finnish forest legislation was completely revamped. The Nature Conservation Act, Forest and Park Service Act, Act on Forestry Centres and the Forestry Development Centre Tapio, Forest Act, and Act on the Financing of Sustainable Forestry were reformed or created from 1994 to 1997. According to the Finnish Ministry of Agriculture and Forestry all forest laws are now focused on promoting sustainable forestry, including the social, economic, and ecological aspects (*Ministry of Agriculture and Forestry-Forestry-Forest Policy*). The Ministry of Agriculture and Forestry states that: "The Finnish Forest and Nature Conservation Acts go a long way to ensure that the forests are utilized in a sustainable manner and most forest owners voluntarily follow silvicultural recommendations. Therefore, certification [FFCS as endorsed by PEFC] does not bring about any major changes in the sustainable utilization of Finnish forests." (*Ministry of Agriculture and Forestry-Forestry-Forest Policy*). Many of the requirements of FFCS certification are based on existing legislation and the data collection for compliance with each standard, respectively, is often based on existing government law enforcement processes (Finnish Forest Certification System: Development Process and Elements 1998).

One-third of the FFCS criteria (as endorsed by PEFC) are compliant with the requirements of current legislation, and two-thirds go beyond existing legislation (Finnish Forest Certification System: Development Process and Elements 1998). This seems to contradict the aforementioned statement from the Ministry of Agriculture and Forestry that the advent of certification does not significantly change the sustainable utilization of forests in Finland. Based on findings of this thesis, it appears that FFCS certification does not significantly alter forestry practices and even though two-thirds of the certification criteria go beyond existing legislation it is not a significant change from the forestry practices prior to FFCS.

The Finns have a long history of forestry and natural resource management that internal institutions and organizations deem sufficient, if not superior, to the management of natural resources of other countries. In the 2002 and 2005 Environmental Sustainability Index (ESI) reports, conducted by researchers at Yale and Columbia universities, Finland has ranked first in the world in environmental sustainability out of 146 countries with notable better scores on resource management compared to peers (World Economic Forum 2002; Esty et al. 2005).

Based on the evidence, traditional forestry interests and the Finnish government believe that existing legislation, coupled with FFCS/PEFC certification, are adequate to ensure sustainable forest use. Therefore, FSC certification, from the view of traditional forest interests, is not necessary in order for forestry in Finland to be ecologically, social, and economically sustainable.

External Factors (5-6)

Factor 5: The concurrent development of a global FSC competitor scheme

Unlike certification evolution in Sweden, when forest certification developed in Finland the concurrent development of PEFC by forest industry and landowners in Europe provided an alternative multi-national, eventually global, FSC competitor certification scheme. ENGOs entered the standard setting working group with aspirations that the Finnish national standard would be sent to FSC-International for review and eventual approval as an FSC national scheme (Tanninen 11/19/2004). What is not known was the status of Finnish forest industry and landowners involvement during the development of PEFC prior to the splintering of the Finnish Working Group in late 1997. Were the Finnish forest landowners and industry representatives involved in the development of FFCS and PEFC at the same time? If this is true, which seems likely, it can be inferred that the future prospective of a new, international certification scheme (PEFC) influenced the evolution of forest certification in Finland in favor of PEFC and not FSC.

The evidence shows that most Finnish forest industry and landowners have been critical of FSC for a number of reasons (Hansen and Juslin 1998; Finland Sets Own Forest Certification System 10/8/98; Finnish Forest Certification System: Development Process and Elements 1998; MTK Press Release: 01/28/1998; Lillandt 1998b). Additionally, it is known that the Finnish forest industries and landowners were major players in the development of PEFC (Hansen and Juslin 1998). In December of 1997 in Hamburg, Germany, several hundred people from ten European countries, claiming to represent 12 million European forest owners, demonstrated against FSC (Hansen and

Juslin 1998) setting the stage for an alternative to FSC certification. At approximately the same time as the demonstration, the ENGOs pulled out of the Finnish forest certification Working Group when, according to Timo Tanninen of WWF-Finland, “The forest representatives in the standard setting working group were not interested to develop the standard further in a FSC-context. Further, they did not want to send it to FSC for comments, try to get it endorsed by FSC, nor did they want to harmonize it with the draft Swedish FSC-standard. Additionally, they did not want to take the FSC member ENGO’s criticism into consideration at all.” (Tanninen 11/19/2004). Alternatively, Martin Lillandt, Forestry Director of MTK, contends that, “environmental organizations are not willing to participate in a common project if their one-sided, set pre-conditions are not accepted by the other parties (Lillandt 1998a).

FFCS was the first national scheme to receive endorsement from PEFC, which has made it a heavily targeted scheme by the ENGOs (Vilhunen et al. 2001). Despite the absence of information determining exactly when “official” dialogue between Finnish forest landowners and industry in creating PEFC occurred, it can be concluded that the development or potential development of PEFC played a significant role in the development of forest certification in Finland in favor of PEFC and not FSC.

Factor 6: Lack of significant demand from end consumers in export markets for FSC certified products

Despite the tension and conflict between interest groups and certification schemes only a small percentage of the potential annual supply of certified wood products is traded as certified, and a large majority of products are marketed without reference to

certification status (Gulbrandsen 2004; Poku-Marboah et al. 2003). Further, the marketplace is being pushed on the supply side by ENGOs and big-box retailers rather than being pulled by the demand of end consumers, and seems likely to remain in this status quo until the forest certification schemes direct public relations towards the consumers (Poku-Marboah et al. 2003). The limited market for certified products is almost exclusively for FSC and is demanded by buyer groups and retailers, not the end consumer. However, this demand is a niche market representing a marginal amount of the global forest products industry (Poku-Marboah et al. 2003).

Most of the emphasis by certification schemes is on area certified, not percentage of certified products that are traded as such. The total market share taken by certified forest products continues to be difficult to assess as a result of a lack of customs coding for official trade figures (Forest Products Annual Market Review 2003-2004 2004). Studies on demand for certified forest products suggest that demand is driven more by do-it-yourself retailers rather than individual customers, and other studies reveal that there is little willingness to pay any premium for certified forest products (Poku-Marboah et al. 2003). Clearly, forest certification has not been driven by consumer demand (Gulbrandsen 2004). Additionally, unless markets include a price premium, producers will tend to prefer certification schemes with weaker and/or more flexible standards (Gulbrandsen 2004).

Currently, 95% of forest lands (22.5 million hectares) are certified by FFCS and PEFC in Finland. Based on the evidence in this research, primarily from the ecological rigor results, it appears that FFCS/PEFC is heavily reliant on government data for auditing and most of the responsibilities and associated costs of certification are at the

regional and Forestry Centre level. FSC-Finland is directed towards group certification and is heavily reliant on addressing individual rights and responsibilities. Further, the following chapter of this thesis concludes that FSC forest certification is more ecologically rigorous than FFCS/PEFC and therefore goes further beyond the current forest legislation. Based on the extended rigor of FSC and associated costs of certification being a greater factor for the group or individual seeking and maintaining certification, it can be concluded that FSC is more costly than PEFC.

The annual timber cut in Finland is approximately 60 million m³ and depending on the sector 70-90% of forest products are destined for the export market (Sevola 2003). Little evidence has suggested that consumers are willing to pay a market premium for forest products (Poku-Marboah et al. 2003). Therefore, if Gulbrandsen (2004) is correct that unless markets include a price premium, producers will tend to prefer certification schemes with weaker and/or more flexible standards then it is pragmatic that Finnish landowners and industry support PEFC and are opposed to FSC. On this basis it can be concluded that the lack of consumer demand for FSC certified products was one of the factors for the unwillingness of Finnish forest owners and industry to exclusively support FSC, which they see as too costly and not necessary.

Factors Tending Towards Polarization (7-9)

Factor 7: Forestry representatives have lead role in PEFC, unlike FSC which is predominately lead by ENGOs

Forest owners have generally not accepted FSC and see PEFC as a viable alternative for European small non-industrial landowners (Hansen, Forsyth, and Juslin

1999). European forest landowners and industry explicitly designed PEFC to address forest managers' concerns that FSC did not adequately take small landowners interests into account (Cashore, Auld, and Newsom 2004). ENGOs have not participated in the development of PEFC and have been highly critical of the forest owners and industry scheme (Hansen, Forsyth, and Juslin 1999). Attempts have been made for forestry representative led PEFC and ENGO supported FSC to reach a point of mutual recognition of legitimacy. However, it appears that after several years of intense conflict the debate on mutual recognition is irreconcilable (Poku-Marboah et al. 2003). It is a fact that Finnish forest landowners and industry played a lead role in the development of FFCS and PEFC. Therefore, since forestry representatives have the lead role in PEFC, unlike FSC which is predominately led by ENGOs, this was a significant factor in the evolution of forest certification in Finland in support of PEFC and not FSC.

Factor 8: ENGOs vs. traditional forest community for control of forest management

There are two global certification schemes, FSC and PEFC. Presently, the FFCS national scheme is accepted by PEFC and not FSC. To the author's best knowledge, there is only one national scheme in Europe (UK Woodland Assurance Standard UKWAS) that is recognized by both global schemes, albeit with different auditing requirements (UPM 2005). It is intuitive that interest groups support certification schemes that best reflect their agenda. Moral support of a certification scheme consists of making a judgment that the decision to certify or support a certification scheme is the morally right thing to do (Suchman 1995; Cashore, Auld, and Newsom 2004). According to Cashore et al. (2004) endorsement of FSC by environmental groups is a moral act—

supporting FSC is the moral thing to do. There is considerable evidence that many small private landowners believe that FSC, and its supporters, are working against the interests of forest landowners. Accordingly and conversely, many small landowners feel that supporting an alternative certification scheme that works in their interests is also a moral act (Cashore, Auld, and Newsom 2004).

During the early development of FFCS (1995-1998) the PEFC did not exist. The FSC was operational in 1993. Therefore, the ENGOs entered the Finnish certification dialogue and Working Group in 1995 having already granted moral legitimacy to FSC and to no other scheme. However, the Finnish landowners and forest industry were reluctant to grant legitimacy to FSC and therefore entered the dialogue with distrust of the ENGOs who had already determined their end desires of FFCS being a national scheme recognized by FSC International. Alternatively, the ENGOs believe the forest industry and landowners are “green washing” by awarding themselves an undeserving level of legitimacy (Hansen, Forsyth, and Juslin 1999). This conflicting view of the legitimacy of each other has resulted in a great degree of distrust. Therefore, the battle between rivaling interest groups was a significant factor in the establishment of a power struggle over what certification scheme would dominate in Finland.

Factor 9: Implied criticism of FSC towards traditional small non-industrial forest owners

Finland has a long history of small family forestry that is very influential and proud (Miettinen 05/04/2005). MTK, which bills itself as “the rural professionals very own lobby”, wields influence over domestic forest policy and has a permanent lobby in

Brussels (*MTK homepage (English)*). Further, these traditional interests see the environmental and social chambers of FSC as a threat to their way of life (Miettinen 05/04/2005). These traditional interests see the environmental group led FSC as an unnecessary expense and an attempt by the ENGOs at power grabbing. The conflict was exacerbated in 1998 when the FSC approved the standard of the Swedish FSC Working Group without the support of the Swedish private forest owners, who own more than half of the Swedish forests (MTK Press Release: 01/28/1998). According to the Finnish Central Union of Agricultural Producers and Forest Owners (MTK), “FSC ignores family forestry and private forest owners’ ownership rights and decision making rights” (MTK Press Release: 01/28/1998). Further, MTK believes that when FSC endorsed the Swedish FSC standard in 1998, it lost its credibility as an independent organization (MTK Press Release: 01/28/1998). As previously stated, according to Francois Kremer, European Commission DG VI, “European countries have comprehensive forestry legislation, monitoring and information systems based on long-lasting traditions and related research. Thus the arguments for having comparable requirements to those initially used for tropical forest certification, are in European conditions, highly subjective, political and even commercial in nature (Kremer 1998).” The criticisms and grievances against forest certification were directed towards FSC. Therefore, the implied criticism of FSC standards to the long history of traditional small non-industrial forest landowners was a significant factor in the Finnish landowners supporting the landowner and industry created PEFC and not the FSC.

Chapter 5: Results and Analysis:

Objective 3- Evaluation of the FFCS and FSC Ecological Criteria to

Determine if the Standards Differ in Their Ecological Rigor

The unequivocal reason that forest certification was developed and continues to persist is to address the ecological impacts of forestry. This section will determine if the two competing schemes in Finland differ in their ecological rigor. The developments and evolution explained in the second objective are underpinned by the fact that while ENGOs state that the FFCS is less ecologically rigorous than FSC, forest landowners and industry state the two schemes are equal. This point of contention has provided much of the fuel for the debate over the legitimacy of certification in Finland. Intuitively, one must think that there would not be so much contention in Finland if both schemes were equal. Therefore, it is important to address whether, in fact, the schemes differ in their ecological rigor.

Forestry practices in Finland under the certification of FFCS/PEFC have been intensely scrutinized by national and multinational environmental groups (Liimatainen and Harkki 2001; Gerard 2001). The management of forests in Finland is extremely important for terrestrial biodiversity. It is estimated that 47% of Finland's endangered species are forest-dwelling organisms (Naskali 2002). Furthermore, probably one quarter of the total number of species inhabiting Finnish forests rely on decaying wood (Naskali 2002). According to Naskali (2002) reduction of old-growth forests, lack of decaying wood in commercial forests, diminishment of broadleaves, and other factors have

contributed to the diminishment of biodiversity. Furthermore, the criticism of managing key biotopes has been noted against FFCS.

In Finland special and unique forest areas are known as “key biotopes”, which have to be untouched and left in a natural state or subjected to gentle cutting (Forest Facts from Finland: Forest Protection 2003). In forestry management the habitats are classified as: (1) Sites protected by Nature Conservation Act, (2) habitats recognized as valuable under the Forest Act or (3) Other habitats regarded valuable enough to be protected, such as old-growth coniferous (Mielikainen and Hynynen 2003) (see table 1). In southern Finland, which has greater diversity primarily because of biogeographic and climatic reasons, the total area of sites under “key biotopes” accounts for between 4 and 8 per cent of the total area of multifunctional forests (Mielikainen and Hynynen 2003). Also known is that compliance (assuming logging is performed) with the key biotope criteria of FFCS costs (average) 9,755 Euros/ha (Malmi 2000). This estimate is derived from an estimated value of the growing timber stock forgone (Malmi 2000). Several critical reports on the inadequacy of the FFCS system in assuring that these sensitive habitats remain have been published recently (Liimatainen and Harkki 2001; Harkki 2004). Additionally, the known habitats of endangered species must be safeguarded to ensure that at least the maintenance of the current population can be retained (Mielikainen and Hynynen 2003).

WWF, who is the main supporter of FSC in Finland, states that, “WWF is very reluctant to evaluate or support systems that are not following FSC procedures and that FSC is the only international accreditation scheme for performance-based forest

Table 1: Finland's protected areas and state owned lands January 1, 2004

Area	Number	sq.km (total area)
National parks	35	8,170
Strict nature reserves	19	1,530
Mire reserves	173	4,490
Protected herb-rich forest areas	53	13
Protected old-growth forest areas	92	100
Grey seal protection areas	7	190
Other protected areas on state-owned land (including the areas established by Metsähallitus)	63	468
Total	442	14,961

In addition to these there are 3,438 protected areas on private land, totaling 1,220 sq.km. Apart from that, 12 [wilderness reserves](#), totaling 14,890 sq.km, have been established under the Act on Wilderness Reserves. Source: (*Finland's Protected Areas on State Owned Lands January 1, 2004*)

certification (Hauselmann 1998).” However, there has yet to be a study determining if the FFCS and FSC-Finland differ in their approach to ecologically sound forestry. The following table provides an account of ecological issues to determine comparative characteristics between FFCS/PEFC and FSC in order to determine if the two schemes differ in their ecological rigor (see table 2).

The following table represents the findings of comparative characteristics between the two competing schemes. The eleven ecological issues are presented in tabular format with bullets noting similarities and difference. An abbreviated list of the comparative ecological characteristics is provided in table 3. These tables are followed by a summary of the findings and conclusions regarding ecological rigor overall.

Table 2: Comparative characteristics between FFCS and FSC-Finland

#	Issue	Similarities and Differences Between FFCS and FSC-Finland in Addressing Selected Environmental Issues
1	Protecting Special and Unique Forest Areas	Similarities • Both explicitly state requirements for protecting special and unique forest areas with multiple criteria • Both require that forest management plans incorporate protection of key biotopes • Both require that habitat of endangered species are safeguarded • Both require performance and system/document based assessments • Measurability in both schemes is based on field sampling and mandatory government data collection Differences • The two schemes are fundamentally different in their approach to forest management plans. FFCS states that the number of forest plans taking biological and environmental values into account is increased annually so that the combined average of these plans and the previous forest plans in the region is at least 50%. FSC management plans explicitly require biological and environmental concerns taken into account irrespective of previous management plans FSC requires the following and FFCS does not • FSC requires that 5% of forest land be set aside for biodiversity protection (including areas under legal protection), indicated in the forest management plan, and is not subject to forestry operations. However, it does not state if the 5% must be in one patch or divided into many patches with equal to or greater than 5%. • FSC requires a 20m wide buffer for habitats defined in the Finland Forest Act, old growth forests and endangered species dependent on sheltered microclimates • Maps of the forest management plan are required under FSC

Table 2: Continued

#	Issue	Similarities and Differences Between FFCS and FSC-Finland in Addressing Selected Environmental Issues
2	Use of Chemicals and Genetically Modified Organisms	Similarities • Both schemes explicitly address the use of chemicals in forestry • Avoidance of using chemicals is emphasized • Compliance with superceding regulations (e.g. national and EU regulations) is stated • Measurability in both schemes is quantifiable based on document review of bookkeeping Differences • Primary concern of FSC is to develop an environmentally-friendly non-chemical method of pest management. FFCS is not attempting a completely chemical free pest management system, rather is primarily concerned with proper application • In the FFCS criterion, broadleaf brush is not treated while the FSC makes no reference • FSC explicitly prohibits the use of GMOs. While FFCS has no criteria for GMOs, FFCS does require compliance with the Act on Trade of Forest Reproductive Material, which sets guidelines for the use of GMOs • The FFCS auditing is document/system based on internal monitoring, while the FSC audit is based on document, interview, and field inspection

Table 2: Continued

#	Issue	Similarities and Differences Between FFCS and FSC-Finland in Addressing Selected Environmental Issues
3	Use and Management of Exotic Species	Similarities • Both explicitly state criteria for use and management of exotic species • The required use of native species is explicitly stated • Exotics are allowed in special cases such as research and experiments • Siberian Larch is equivalent to native species • Both are performance and document based assessments Differences • FSC requires the origin of seeds and seedlings used in cultivation be documented • FFCS requires that the use of exotic tree species is justified

Table 2: Continued

#	Issue	Similarities and Differences Between FFCS and FSC-Finland in Addressing Selected Environmental Issues
4	Water Quality and Riparian Zone Protection	Similarities • Both schemes have numerous criteria explicitly addressing water quality, peatlands, and riparian zone protection • No first time drainage of a peatland in a natural state is allowed in either scheme • Both require a buffer zone is left adjacent to waters • Both require water management in management plan • Both are performance and document audited Differences • FSC prohibits, under any circumstance, the draining of a peatland; however, the FFCS states that a peatland not included in criterion 10-key biotopes, treated with thinning is not considered a peatland in a natural state. Also, a single drain is not regarded as draining under criterion 25 of FFCS • Minimum Buffer Zone: The FSC requires a minimum buffer zone of at least 20 meters wide. FFCS criteria require a buffer zone, but does not set a minimum requirement. FFCS states that it did not define minimum limits as that determination is left for external auditors based on place-based conditions

Table 2: Continued

#	Issue	Similarities and Differences Between FFCS and FSC-Finland in Addressing Selected Environmental Issues
5	Road Impact Assessment	Similarities • Both explicitly address road impact assessment criteria • Both address biological and ecological concerns of road construction Differences • Fundamentally different in approach to road impacts on special and unique forest areas • The FFCS states that impacts and protection measure to special and unique forest areas are required in the environmental report for road impact assessments • FSC requires that construction of forest roads shall not harm the protected sites denoted in the FSC Standard or other existing or planned protected areas • The FFCS criteria regarding road impact assessments are document based evaluations • The FSC requires the audit to review management plan and a field inspection
6	Prescribed Fire	Similarities • Both explicitly address prescribed fire • Both require performance-based inspections Differences • The FFCS requires prescribed burning on suitable areas of at least a two-fold increase in a five year period before the scheme at the Forestry Centre-landscape scale • Under the FSC prescribed burning applies only to certified areas with more than 1,000 hectares of commercial forest lands • Natural forest fires are included in the FSC required burn area but are not in FFCS

Table 2: Continued

#	Issue	Similarities and Differences Between FFCS and FSC-Finland in Addressing Selected Environmental Issues
7	Sustained Yield	Similarities • Both explicitly require that the harvest yield is less than the growth increment • Both are performance based assessments • Both provide measurable metrics Differences • The FFCS states that total drain of growing stock is smaller than the total growth increment viewed over a 5-year period • FSC states that harvest doesn't exceed the long term productivity capacity of the forest • FFCS determines the total drain/growing stock using government data • FSC states that the management plan determines the long-term level of sustained harvest • Both are performance based assessments, however, the FSC requires sustainable yield in the management plan

Table 2: Continued

#	Issue	Similarities and Differences Between FFCS and FSC-Finland in Addressing Selected Environmental Issues
8	Retention Trees and Coarse Woody Debris	Similarities • Both explicitly state that snags, windfalls, and other dead trees are left in harvesting operations • Both make provisions for measurable requirements of retention trees to be left in areas of valuable habitats • Neither scheme explicitly address coarse woody debris to be left, however, it is implied and grouped in with all legacies • Both schemes require rare broadleaf trees be left • Both schemes require performance-based audits Differences • FSC states that if no dead wood is present, snags and other large downed logs shall be created during harvest to equal at least 5 trees/ha • FSC explicitly states that trees older than 200 years shall not be harvested. FFCS has no similar standard • At least 10 large (dbh≥20cm) living trees/ha must be preserved and shall not be removed in future harvesting in the FSC scheme
9	Maintenance and Conservation of Biological Diversity	Similarities • Both explicitly address maintenance and conservation of biological diversity in management plans, organic residuals, monitoring, and protecting key biotopes • Both have numerous criteria addressing this issue and are performance and document based assessments Differences • For forest owners with at least 10,000 hectares a landscape ecological plan is required under the FSC

Table 2: Continued

#	Issue	Similarities and Differences Between FFCS and FSC-Finland in Addressing Selected Environmental Issues
10	Maintenance of Ecological Function	Similarities • Both address maintenance of ecological function • Both have monitoring programs for habitat care • Both require performance and document based assessments Differences • FSC has a criterion that explicitly addresses ecological function and the FFCS implicitly addresses it • FSC requires that ecological function and values be maintained intact, enhanced, or restored during forest regeneration and succession; genetic, species, and ecosystem diversity; and natural cycles that affect the productivity of the forest ecosystem • The FFCS implies indicators of maintaining ecological function in several criteria. However, nowhere is it explicitly stated that maintenance of ecological function is required

Table 2: Continued

#	Issue	Similarities and Differences Between FFCS and FSC-Finland in Addressing Selected Environmental Issues
11	Assessment of Environmental Impacts	Similarities • Both explicitly address that forest harvesting unnecessary damage will be avoided • Both have numerous criteria that address the assessment of environmental impacts • Both are performance and document based assessments Differences • The FSC is more heavily focused on the environmental impacts of forestry operations regardless of economic considerations • FFCS states the economic part of the target program also includes an evaluation of the economic effects of preserving forest biodiversity.

Table 3: Abbreviated list of comparative ecological characteristics

#	Issue	FFCS/PEFC	FSC
1	Special/Unique Areas	No requirements beyond current legislation	Requires additional buffers and protection; areas must be mapped
2	Chemicals/ GMOs	Wise use of chemical application and follow government regulations regarding GMOs	Develop alternatives to chemicals, and GMO use is prohibited
3	Exotic Species	Prohibited except for research	Prohibited except for research
4	Harvesting and Riparian Zone	Required riparian zone but no minimum buffer established	Required and 20m minimum buffer zone
5	Road Impact	Impacts to special/unique areas required in assessment	No impacts to special/unique areas allowed
6	Prescribed Fire	Evaluated at Forestry Centre scale	Required for certified areas > 1000ha
7	Sustained Yield	Timber measure: Harvesting less than growth increment viewed over 5 years	Holistic measure: Harvest doesn't exceed long-term ecological capacity
8	Snag Trees and Woody Debris	To be left during harvest	To be left during harvest and created if not present
9	Conservation of Biodiversity	Required in management plan and monitoring	Required in management plan and monitoring
10	Ecological Function	<u>Implicitly</u> required in forestry operations	Retention of ecological function is <u>explicitly</u> required
11	Environmental Impacts	Requires the evaluation of economic effects of preserving biodiversity	Focused on environmental impacts of forestry regardless of economic considerations

Summary of Comparative Characteristics and Determination of Rigor

FFCS and FSC address, in some degree, all eleven ecological issues; however, there are numerous notable similarities and differences in the two schemes. One of the most recognizable similarities between the FSC and FFCS is that the standards are audited by a mix of performance and document based assessments. Performance based assessments are performed by field on-the-ground audits of compliance with the given criterion. Document based assessments, also known as system based assessments, are based on collection of data via documentation and do not require field inspection by the auditor. These assessments are performed by a third-party, independent audit body, separate from the certification scheme that developed the criteria. Both schemes require a comprehensive management plan to be developed encompassing ecological, social, and economic criteria and indicators.

The most notable difference is that FFCS relies on institutions other than FFCS for data collection and enforcement. The Finnish Forest Certification System: Development Process and Elements (1998) states that: “In general, the forest certification standards are aimed at a higher level of requirements than the present regulatory instruments. However, many of the requirements of the forest certification criteria are based on standards and data requirements in existing legislation. While exceeding the legal requirements, the respective data collection would often be based on the law enforcement process.” For example, FFCS criterion 10: preservation of key biotopes, requires a performance based audit by the certification body. However, the sources of information for the audit come from: the Environment Centre, Forestry Centre, and Forestry Development Centre-Tapio, all of which are government institutions. This suggests that

FFCS certification is more of an inference of compliance from data rather than a specific audit. In contrast, the FSC requires that all information for verification comes from, for example, a management plan, field inspections, restoration plan, and drainage plan for criteria that address the protection of special and unique forest areas all in addition to compliance with government regulations.

This contrast in methods of audit processes and requirements is a huge difference between the two schemes. One of the fundamental reasons for the development of forest certification was to create a non-governmental approach to forest management accountability. Another tenet of forest certification is the compliance with existing legislation and that certification should be independent from government institutions. The line is blurred between FFCS independence and the Finnish governmental institutions data collection that represents the bulk of FFCS requirements for compliance.

Another area of difference between the two schemes is that the FSC sets measurable standards for assessment within the scheme while FFCS leaves this determination as a professional judgment of the external auditor. For example, the FSC scheme establishes a defined minimum buffer zone for waterways (20 meters), amount of area to be set aside for biodiversity (5% of land), and other criteria. The FFCS takes a different approach to defining precise levels and limits. According to the Finnish Forest Certification System: Development Process and Elements (1998), “The Working Group did not define the precise minimum levels or limits for the assessment of the performance criteria, nor it classified possible nonconformities into major or minor. This is left for external auditors, as typical in the existing forest certification systems.”

There is a big difference between “a buffer zone should be established to protect riparian areas” and “a buffer zone minimum of 50 feet must be established to protect riparian areas”. The purpose of setting standards and criteria to assess those standards is for an independent auditing body to verify compliance with the given criteria. When the auditing body has a wide range of discretion, such as the case in FFCS, the line between auditor and standard setter is blurred. This squarely places the auditing body in the role of standard setter when they can determine the point at which compliance is verified. This stands in contrast to the criteria of FSC, which set measurable criteria leaving little room of discretion for the audit body.

Based on the analysis of information in tables two and three it is concluded that FSC-Finland and FFCS (as endorsed by PEFC) differ in their ecological rigor of the standards. This supports the hypothesis that ‘one of the reasons forestry representatives and ENGOs support different schemes in Finland is because the schemes differ in the ecological rigor.’

Furthermore, evidence to support the findings is from a parallel testing of forest certification standards study published by UPM (Forestry and Wood Sourcing Environmental Forestry Affairs) in co-operation with WWF. The UPM study was published after the completion of this research on ecological rigor. The study concluded that the absence of NGO support in developing FFCS in Finland has led to more limited focus on environmental and social criteria and in contrast the absence of industry participation in FSC-Finland has resulted in a greater focus on environmental and social issues (UPM 2005).

Chapter 6: Discussion and Conclusions

Discussion

According to Cashore, Auld, and Newsom (2004) forest certification has presented those interested in forest policy and governance with one of the most provocative and startling institutional designs since governments first began addressing the impacts of humans on the natural environment. The results of this research indicate that forest certification in Finland was highly contested and political, and there are key factors that can explain why certification in Finland developed in favor of FFCS/PEFC and not FSC. Through the description of key characteristics (objective 1), building of an explanatory theory (objective 2), and the evaluation of ecological rigor (objective 3) there are six major findings from this research.

First, there are some important and significant differences in the two schemes. First, FFCS tries to lower cost and actual audit requirements by tapping into existing regulations and information that is collected to implement those regulations. Second, FSC specifies many more field standards (e.g. buffer zone) while FFCS leaves this up to professional judgment as guided by national regulations. Accordingly, the audit requirements of FSC are more rigorous, time consuming, costly and reside external to the traditional power and structure of forestry in Finland.

A second major finding noted in the results is the continued lack of significant end consumer demand for certified products. The hypothesis made by Lars Gulbrandsen (2004) that “unless markets include a price premium, producers will tend to prefer certification schemes with weaker and/or more flexible standards” is a significant and timely observation of the evolution of forest certification. This hypothesis (Gulbrandsen

2004) is supported in the decision of the FFCS to seek endorsement from PEFC and not FSC. Currently certified forest products make up a very small percentage of the overall global industrial production, and even products that come from certified forests are rarely marketed as such (Gulbrandsen 2004; Poku-Marboah et al. 2003). The export market for Finnish forest products is not a niche commodity market. The forest sector generates about 7% of Finland's gross domestic product, one quarter of Finland's export revenue is derived from the forest industries, and in all but two of the twenty regions of Finland, the forest sector is the largest or second largest branch of industry and production (*Forest Sector is of Key Importance to Finland*). Based on the results it appears that in Finland, it would not be to the advantage of small forest landowners to seek FSC certification because (1) the limited market for certified products and (2) if consumers aren't demanding the more stringent certification scheme (FSC) then they will support the scheme that is less stringent (FFCS/PEFC). Given the higher cost and lack of demand for FSC products from consumers, there is limited incentive for FSC to be adopted in Finland.

A third finding is that the overwhelming influence and power of the non-industrial private forest owners via the Central Union of Agricultural Producers and Forest Owners (MTK) played a key role, if not the most influential role, in the evolution of forest certification in Finland in favor of FFCS/PEFC and not FSC. MTK was instrumental in ridiculing FSC while boasting the benefits and common goal(s) of FFCS/PEFC. MTK performed these functions in press releases and active participation in developing FFCS and PEFC. The MTK center of power was supplemented by forest industry influence and the Finnish government granting of legitimacy to FFCS and PEFC forestry practices.

A fourth finding is the historical triad of power (i.e. landowner associations, industry, and government) provided a difficult case for FSC (or other) penetration. Since certification has been primarily developed by interest groups, the line is often arbitrary between the certification scheme and the agenda of the interest groups developing and promoting the schemes. Hence the agenda of the certification scheme is often the agenda of the interests behind the scheme. In Finland, as an alternative to creating a new system of governance (i.e. adopt FSC certification) this historical triad of power, via FFCS and PEFC, have co-opted or adopted the existing regulatory and monitoring capacity of the Finnish government, land owner institutions, and others. Even though the Finnish government has not been an active participant in the development of FFCS and PEFC it has not been negative towards this “soft power” because it is not overtly contentious or intrusive as, the traditional power structure indicates, is the case for FSC. Therefore, this existing power structure did not create “new rules” for forest management. Instead, they institutionalized the status quo of forest management and solidified their power in doing so. Given the higher cost of FSC, lack of demand for FSC products from consumers, overwhelming influence of MTK, and the historical power of the triad of power, the results favoring the development of forest certification in Finland in favor of FFCS/PEFC are very obvious.

A fifth finding is new institutions (i.e. rules) of certification do not develop in a vacuum, and the history and power of existing rules and institutions are critical relative to the ability of new institutions to develop influence. This study shows that when existing institutions and institutional players are strong and exhibit strong history and institutional networks, new institutions (i.e. new rules) will find it more difficult to develop influence.

Also, how the process of new institutional evolution occurs is critical. If done in a power grab or threatening way, (or if existing stakeholder institutions perceive this), then a gridlock prone struggle will quickly develop as in Finland. Such new institutional development may need to be done in a very collaborative way, seeking to acknowledge the power and influence of traditional institutions (e.g. government, industry, and landowner groups) as new institutions try and provide influence. Interest groups and forest certification schemes that seek to, or are relegated to, operate without state support or cooperation often have to develop the ability to function as self-governing entities. In effect, these entities have to operate as if government didn't exist. If this is true, FSC and its interest groups have an uphill battle to gain support in Finland.

A sixth finding is that transaction costs and their avoidance and minimization is an important characteristic in the decision-making process of supporting a forest certification scheme. According to the classic work by Ronald Coase (1960), reliance on private transactions to resolve environmental disputes is generally eschewed because transaction costs are onerous. The scale of transaction costs, and who bears these costs, is of immense importance to the level of support a forest certification scheme receives. Forest certification displays important scale returns, because per-acre certification costs decrease significantly with the size of forest (Fischer et al. 2005). The transaction costs associated with forest certification are preparation, auditing, and monitoring/compliance. Owners of smaller forests have greater costs per acre because of the fixed costs of auditors, gathering information and preparing for audit, and monitoring (Fischer et al. 2005) that extend past what is already being monitored by the government.

In Finland who bears the transaction costs of forest certification and at what scale these costs occur are important. According to the evidence, the non-industrial private landowners, through landowner associations, are already doing a majority of the forest management requisites of FFCS/PEFC certification. The FFCS scheme adds limited certification transaction costs because of its reliance on the thirteen regional UFMAs and Forestry Centres. This effectively addresses the Fischer et al. (2005) statement on the importance of transaction costs associated with spatial scale of forest certification.

FSC requires more extensive field auditing than does FFCS. In addition, the scale of auditing of FSC is more focused on the individual or group, while the FFCS is focused on the UFMA/Forestry Centre scale. Because of the more extensive field auditing and the scale at which it is conducted, FSC places a larger transaction costs burden on the individual or group of landowners, therefore creating a system of diseconomies of scale relative to FFCS/PEFC. Conversely, as a trade-off with achieving an economy of scale, what is required or incumbent of the individual landowner in FFCS/PEFC certification appears to be not as important. As noted earlier in the thesis, FFCS/PEFC is a system based more on inference of compliance based on membership in a landowner system that requires certain standards, rather than on the ground verification. Hence if the data collected at the UFMA/Forestry Centre scale confirms compliance then the individual forest owner and FMA(s) are assumed to be in compliance. Additionally, the FFCS/PEFC was able to co-opt or piggyback the current regulatory and monitoring functions of the Finnish government, decreasing the transaction costs of monitoring and enforcement. Since FSC was seen to be intrusive to the current power structure and is

more focused on the local landowner level, it was not able to attain this scale of certification and the associated economies of scale.

Similarities and Differences with Related Studies

One publication that has been heavily cited in this work is *Governing Through Markets: Forest Certification and the Emergence of Non-State Authority* by Benjamin Cashore, Graeme Auld, and Deanna Newsom. This work, published in 2004, is a first of its kind attempt at providing an explanatory analysis of the development of forest certification in five case studies. The authors use two case accounts from North America (United States and British Columbia, Canada) and three from Europe (United Kingdom, Germany, and Sweden) by using existing literature and preliminary inductive reasoning to develop hypotheses about factors that measure the level of support for FSC. An analytical framework was developed to classify and highlight differences in the emergence and support for non-state forest certification. To the author's knowledge this is the first and only case study attempting to explain how and why forest certification developed in each respective case study. Several notable similarities and differences can be noted between Cashore et al. (2004) and this Finnish case study.

In Finland, cohesive associational systems were a factor in forest owners and industry ability to repeal the efforts of FSC and ENGOS. Globally, forestry associational systems have facilitated the development of FSC alternatives (e.g. PEFC, SFI, CSA) (Cashore, Auld, and Newsom 2004). The associational systems of non-industrial private landowners were particularly important. In the United States it appears that the role of non-industrial private landowners as the source of most of the country's fiber trumped the

effects of industrial forest company concentration and was able to repeal large scale FSC penetration into US landowners' forest management (Cashore, Auld, and Newsom 2004). Alternatively, in Sweden, as previously discussed, it appears that the forest industry exposure to foreign markets, and also being large and concentrated, trumped the influence of the landowner associational system (Cashore, Auld, and Newsom 2004). However, in contrast to the development of certification in Finland, the Swedish forestry sector did not have an FSC alternative scheme at the time certification developed.

An exception to the hypothesis of the synergetic influence of power structure and lack of demand is how certification developed in Sweden. Like Finland, Sweden has a majority of its forestlands in non-industrial private ownership (MTK Press Release: 01/28/1998). Unlike Finland, Sweden has the largest area of FSC certified forest (45% of forestlands), and provides more FSC certified wood than any country in the world (Poku-Marboah et al. 2003). Sweden has a long history of forest management, has ranked 3rd and 4th, in the 2002 and 2005 Environmental Sustainability Index, respectively, and has a strong forest power structure between forest landowners, industry, and government (Cashore, Auld, and Newsom 2004; World Economic Forum 2002; Esty et al. 2005). So why did forest certification in Sweden support FSC while Finland supported PEFC? There appear to be two important reasons.

First, as early as 1992 WWF began to create dialogue with forest companies in Sweden in hopes of finding a receptive audience to FSC (Cashore, Auld, and Newsom 2004). By 1995 a formal working group was set up leaving Swedish forest industry and landowners with the choice of either participating in the FSC or having no certification scheme at all and likely facing the increasing boycotts and international scrutiny

(Cashore, Auld, and Newsom 2004). In Finland the formal working group was organized in 1996 and functioned from 1996 to 1998 when the ENGOs pulled out in late 1997-1998 when the draft FFCS scheme was not sent to FSC for endorsement. This occurred at approximately the same time as the founding of PEFC. Therefore, Finnish landowners and industry had a choice between certification schemes unlike the earlier development of certification in Sweden.

Secondly, Swedish forest industry is highly concentrated, with corporations owning 33% of forest lands, and was under increasing scrutiny in the early 1990's (Cashore, Auld, and Newsom 2004). Five large Swedish forest companies own and manage one-third of Sweden's industrial forest lands, control approximately 95% of pulp and paper processing capacity, and together their lands produce one-third of the total harvest volume (Wilson, v. Kooten, and Vertinsky 1999; Cashore, Auld, and Newsom 2004). This stands in contrast to the ownership distribution in Finland where non-industrial private landowners own more than half of the forestlands, government owning one-quarter, and industry only nine percent (Finnish Statistical Yearbook of Forestry 2004). The concentration and volume of forest lands and horizontal industrial structure made Swedish firms more vulnerable to ENGO pressure (Cashore, Auld, and Newsome 2004). These two factors (no FSC alternative and vulnerability of industry) are the notable case-study exceptions to the generalizations made possible by the Finnish case study.

Significance of Findings

This case study has shed light on the temporal development, key characteristics of the competing schemes, postulated factors explaining the development and evolution in Finland, and determined comparative ecological characteristics of the two competing schemes. Additionally, this case study adds to the limited but growing body of literature seeking to explain why and how certification develops. Finally, there are numerous learning experiences that can be utilized by those interested in forest certification.

Areas of Further Study

The opportunities for further study on forest certification in Finland are varied and extensive. Finland presents the first large spatial scale opportunity to determine the impacts on forest management brought about by forest certification because so much of the forestlands are certified. From a landscape ecology and management perspective the certification of 95% of forestlands in Finland represents an unprecedented event. Originally, the thesis plan called for capturing FMAs perspectives on the ecological impacts of FFCS forest certification on their forest management through a survey. However, insufficient response did not allow this to be accomplished. A study of impacts before and after certification would be of immense importance to determine how FFCS certification has affected forest management.

The ecological impacts of forestry and forest certification in Finland are of great importance for the terrestrial biota. It is estimated that 47% of Finland's endangered species are forest-dwelling organisms (Naskali 2002). Furthermore, probably one quarter of the total number of species inhabiting Finnish forests rely on decaying wood (Naskali

2002). According to Naskali (2002) reduction of old-growth forests, lack of decaying wood in commercial forests, diminishment of broadleaves, and other factors have contributed to the diminishment of biodiversity. An area of further study would be a field-based assessment of forest certification to determine how certification changes forest use and management on selected threatened and endangered species.

Another area of study is further analysis of the role of government in forest certification. A comparative case study of several European countries or global scale is needed. Forest certification, in both process and outcome, provides public benefits through improved ecological, social, and external benefits that society receives. In a representative democracy government has a role in aiding social welfare. Forest certification is a collaborative process among stakeholders. Governments fill a wide range of roles, all of which influence both the process and outcomes of collaborative environmental management (Koontz et al. 2004). What has and will be the role of government in forest certification as it matures and develops is an important and insightful question.

Conclusions

It appears that a trend is emerging in forest industry and landowners promotion of their national schemes and PEFC as an international scheme. Simultaneously, the ENGOs seem more focused on criticizing these PEFC schemes and less on promoting FSC. The political fight in Finland over which certification scheme to choose is over. The forest landowners and industry have won with FFCS/PEFC certification of 95% of all forestlands in Finland. The grounds of debate have seemingly now shifted to

attacking the legitimacy and ecological rigor of the FFCS/PEFC. It also appears that the strength of organizational structure, particularly forest owner organizations, played the most important role in the development and evolution of forest certification in Finland.

Several key tools have been applied and developed in this research. Finnish and other European industry and landowner organizations created an FSC competitor forest certification scheme (PEFC) as an information tool, and not to improve forest management. PEFC and the national schemes were created to institutionalize and formally validate the status quo of forest management in Finland. From forest industry and landowners perspective, Finnish forestry practices were already sufficient, if not superior to other countries. FSC was created by environmental and social interest to improve ecological, social, and economically responsible forestry. Therefore, FSC was created to improve upon current forest practices-- hence more rigorous than the status quo. If this is true, then there is the expectation that the forest landowner and industry created schemes (i.e. FFCS/PEFC) and ENGO created scheme (FSC) differ in their ecological rigor. Therefore, the ecological rigor test is a simple, informative and objective tool to discern notable similarities and differences between certification schemes in their ecological rigor. Another tool is the use of case study methodology (Yin 1994) to construct a theory postulating the development of forest certification. As previously noted, the author's best knowledge indicates that only one literature source (Cashore et al. 2004) has attempted to develop an analytical and explanatory framework for forest certification. Based on the conclusions of this thesis it appears that case study methodology can be successful in yielding fruitful and informative results in the pursuit

of describing and explaining the dynamic and challenging arena of forest certification research.

This case study adds to a growing body of literature attempting to analyze and construct key factors contributing to the development and evolution of forest certification. Demystifying the intricacies of forest certification is paramount to developing a cognitive understanding of the past, present, and future of how and why certification develops and evolves. This thesis provides further development in shedding light on this area of study.

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Vita

Keith Mars was born in Oak Ridge, TN, on January 12, 1980. He graduated from Clinton High School in 1998. From there, he enrolled at Carson-Newman College where he received his B.A. in Political Science with extensive coursework in Biology in December of 2002. During the summer before his junior year Keith studied tropical ecology with the School for Field Studies in Queensland, Australia. Prior to starting his masters at the University of Tennessee Keith interned at Yellowstone National Park. Before the last year of his masters, Keith participated in a Transatlantic Fellowship summer program at the University of Bonn, Germany. Keith defended his thesis in August of 2005 in fulfillment of the major in Forestry and minor in Environmental Policy. Keith is moving to Austin, TX, in August 2005 to be with his wife while she finishes graduate school at the LBJ School of Public Affairs at the University of Texas-Austin.

His fields of interest are conservation biology, international conservation, endangered species management, international education, environmental policy, and ecology. He intends to pursue his doctorate in conservation science in the proceeding years. Eventually, his goal is to be a professor in the area of conservation science.