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Forest Land Ownership Change in Finland

COST Action FP1201 FACESMAP Country Report

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COST Action FP1201
Forest Land Ownership Change in Europe:
Significance for Management and Policy
(FACESMAP)

Forest Land Ownership Change in Finland

COST Action FP1201 FACESMAP Country Report

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COST (European Cooperation in Science and Technology) is a pan-European intergovernmental organisation allowing scientists, engineers and scholars to jointly develop their ideas and initiatives across all scientific disciplines. It does so by funding science and technology networks called COST Actions, which give impetus to research, careers and innovation.

Overall, COST Actions help coordinate nationally funded research activities throughout Europe. COST ensures that less research-intensive countries gain better access to European knowledge hubs, which also allows for their integration in the European Research Area.

By promoting trans-disciplinary, original approaches and topics, addressing societal questions, COST enables breakthrough scientific and technological developments leading to new concepts and products. It thereby contributes to strengthening Europe's research and innovation capacities.

COST is implemented through the COST Association, an international not-for-profit association under Belgian law, whose members are the COST Member Countries.

Background of the project

Forest ownership is changing across Europe. In some areas a growing number of so-called "new" forest owners hold only small parcels, have no agricultural or forestry knowledge and no capacity or interest to manage their forests, while in others new community and private owners are bringing fresh interest and new objectives to woodland management. This is the outcome of various societal and political developments, including structural changes to agriculture, changes in lifestyles, as well as restitution, privatization and decentralization policies. The interactions between ownership type, actual or appropriate forest management approaches, and policy, are of fundamental importance in understanding and shaping forestry, but represent an often neglected research area.

The European COST Action FP1201 FOREST LAND OWNERSHIP CHANGES IN EUROPE: SIGNIFICANCE FOR MANAGEMENT AND POLICY (FACESMAP) aims to bring together the state-of-knowledge in this field across Europe and can build on expertise from 30 participating countries. Drawing on an evidence review across these countries, the objectives of the Action are as follows:

(1) To analyse attitudes and constraints of different forest owner types in Europe and the ongoing changes (outputs: literature survey, meta-analyses and maps).
(2) To explore innovative management approaches for new forest owner types (outputs: case studies, critical assessment).
(3) To study effective policy instruments with a comparative analysis approach (outputs: literature survey, case studies, policy analyses).
(4) To draw conclusions and recommendations for forest-related policies, forest management practice, further education and future research.

Part of the work of the COST Action is the collection of data into country reports. These are written following prepared guidelines and to a common structure in order to allow comparisons across the countries. They also stand by themselves, giving a comprehensive account on the state of knowledge on forest ownership changes in each country.

The common work in all countries comprises of a collection of quantitative data as well as qualitative description of relevant issues. The COUNTRY REPORTS of the COST Action serve the following purposes:

- Give an overview of forest ownership structures and respective changes in each country and insight on specific issues in the countries;
- Provide data for some of the central outputs that are planned in the Action, including the literature reviews;
- Provide information for further work in the Action, including sub-groups on specific topics.

A specific focus of the COST Action is on new forest owner types. It is not so much about "new forest owners" in the sense of owners who have only recently acquired their forest, but the interest is rather on new types of ownership – owners with non-traditional goals of ownership and methods of management. For the purpose of the Action, a broad definition of "new forest owner types" was chosen. In a broad understanding of new or non-traditional forest ownership we include several characteristics as possible determinants of new forest owners. The following groups may all be determined to be new forest owners:

(1) individuals or organizations that previously have not owned forest land,
(2) traditional forest owner categories who have changed motives, or introduced new goals and/or management practices for their forests,
(3) transformed public ownership categories (e.g., through privatisation, contracting out forest management, transfer to municipalities, etc.), and
(4) new legal forms of ownership in the countries (e.g. new common property regimes, community ownership), both for private and state land.

This embraces all relevant phenomena of changing forest ownership, including urban, absentee, and non-traditional or non-farm owners as well as investments of forest funds or ownership by new community initiatives, etc. Although the COST Action wants to grasp all kinds of ownership changes it has to be noted that the special interest lies on non-state forms of ownership.

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Acronyms and abbreviations

CPR	Commons - forest common property regimes
EC	European Commission
EU	European Union
FACESMAP	Forest Land Ownership Changes in Europe: Significance for Management and Policy
FAO	Food and Agriculture Organization of the United Nations
FMP	Forest Management Plan
FMU	Forest Management Unit
FRA	Forest Resources Assessments
FSC	Forest Stewardship Council
GFRA	Global Forest Resources Assessment
ILO	International Labour Organization
LUKE	Natural Resources Institute Finland
METLA	The Finnish Forest Research Institute
MTK	The Central Union of Agricultural Producers and Forest Owners
NFP	National Forest Program
NIPF	Non-industrial private forest holdings
NGO	Non-governmental Organisation
PFOA	Private Forest Owners Association
PTT	Pellervo Economic Research
WWII	The Second World War

1. Introduction

1.1. Forests, forest ownership and forest management

Forests cover 86% of Finland's land area and the area of productive forest land is 20.3 mill. ha (Finnish Statistical … 2014). According to the most recent statistics, the total timber stock is 2,357 mill. m^3 and the annual growth is 104 mill. m^3 which exceeds annual fellings by some 30 mill. m^3. The majority of Finland is situated in the boreal climatic zone. Fifty percent of the volume of the timber stock consists of pine (*Pinus sylvestris*). Other important species are spruce (*Picea abies*) with 30%, downy birch (*Betula pubescens*) with 12% and silver birch (*Betula pendula*) with 5%. The majority of Finnish forests are a mixture of coniferous and deciduous forests.

According to the Finnish Tax Administration, private individuals and families own 62% of the productive forest land in Finland. The state owns 26% of the forest land, private industries, such as forest industry companies, 9%, and other owners, 5% (Finnish Statistical … 2014). There are currently 347,000 non-industrial private forest holdings (NIPF) in Finland. All parcels owned by the same owner despite their location in the country exceeding in total two ha of forest land are included in the same ownership unit. On average, these holdings comprised of 30 ha of forest land. The corresponding number of forest owners is estimated to be 632,000 (Leppänen and Torvelainen 2015).

Finnish forests are managed by compartments, the average size of a compartment being less than two hectares. The rotation periods vary between 60 and 120 years, depending on the tree species and the site characteristics (Forest.fi). Around 15% of the regenerated area is reforested naturally and around 85% artificially, i.e. by replanting or seeding (Finnish Statistical … 2014). However, artificially established seedling stands usually contain also naturally-born seedlings. Site preparation is usually executed before regeneration.

In Finland, logging is based on the cut-to-length assortment system, which means that a trunk is cut into saw-timber and pulpwood when harvested. Most of the timber is sold by standing sales, so the timber buyer takes care of the logging and hauling, often using subcontractors (Forest.fi). Less than one fifth of the total cutting volume comprise of delivery cuttings where forest owners themselves take care of logging and hauling or organize the wood procurement by using subcontractors (Finnish Statistical … 2014).

1.2. Overview of the country report

According to the study results, timber supply from private forests, i.e. some 80% of domestic roundwood, is negatively affected by forest owners' age and female ownership, and in turn, positively by farmer ownership (Kuuluvainen et al. 2011, Kuuluvainen et al. 2014). Furthermore, multiobjective owners are most active, and recreationists and indifferent owners most passive in their timber harvests. Public subsidies seem to have a positive effect on stand improvement and forestry professionals have an important role in decision-making: a majority of forest owners seem to place strong trust in professionals and take their advice. Forest holdings are important to their owners as a link to the family or chain of generations and they also contribute to forest owners' identity building. Forest owners know the forest law quite well and are willing to obey it and they recognize the different ecosystem services, and often take them into account in their forest management.

In Finland, approx. 10,000 NIPF holdings change owners annually. However, only 15% of the forest holdings is purchased in the open market (Hänninen et al. 2011). The majority of holdings is inherited from or donated by (45%) or purchased from the family and relatives (40%). The length of land tenure is used to define 'new' forest owners. Usually those owners who have owned their holdings less than five years are included in this category. Around every fifth owner belongs to this category of new owners (Hänninen and Ripatti 2007). New owners are also more often absentee owners and live more often in urban settings than long-tenure owners. Interestingly, ownership objectives of new owners seem to be as similarly distributed as among long-tenure owners

(Hänninen and Ripatti 2007, Rämö and Toivonen 2009).

There are also differences in the timber supply behavior between short-tenure (less than five years) and long-tenure owners (Kuuluvainen et al. 2011, Kuuluvainen et al. 2014). On average, new owners have been more or less as active in their timber sales as long-tenure owners. The study results, however, imply that timber supply among the young, relatively low-income and 'new' forest owners is rather high. In addition, forestland area affected the mean-per-hectare harvest statistically significantly among short-tenure forest owners as opposed to long-time forest owners. Should the government aim to ensure active forest management in the future, it may want to use policies that promote multiobjective ownership, speed up ownership changes and support creation of large woodlots. This, in fact, is the general tendency in forest policy currently followed in Finland.

According to timber supply analysis (Kuuluvainen et al. 2011, Kuuluvainen et al. 2014), another type of new ownership, i.e. women sold one m^3/ha/yr (about 30%) less than men did. Female owners also sold less frequently, but larger quantities at a time than did male owners. Also farmers as compared to non-farmers sold on average one cubic meter more per hectare per year. As regards potentially increasing owner types with respect to the objectives of forest ownership, recreationists and indifferent owners sold approximately two cubic meters per hectare per year less than more traditional multiobjective owners.

New forest ownership types may fall within an uncertain class of forest owners with no clear understanding of one's own objectives and suitable service providers. They may rely on local forest management associations or search a loyalty customership from among the industrial service providers actively marketing their services for urban absentee owners. Alternatively, they may look for other service entrepreneurs providing soft forest management (Hänninen et al. 2011, Korhonen et al. 2012). New forest owner types may also stay outside the timber market and other services due to to being not yet properly recognized and served by the traditionally orientated service providers (Häyrinen et al. 2014).

Recent changes in the Finnish forest legislation provide new approaches in addition to the traditional even-aged forest management which has been criticized increasingly. For example, 56% of forest owners and 76% of non-owners disapproved clearcutting in a representative survey (Valkeapää and Karppinen 2013). The revision of forest law aims to increase forest owners' freedom of choice and to widen forest management possibilities (Ministry of Agriculture and Forestry 2011). These new approaches might satisfy the objectives of the individuals or organizations that previously have not owned forestland or traditional forest owners who have changed motives, or introduced new goals or management practices for their forests. Concerning uneven-aged forest management, the increasing outsourcing of forest activities may be an opportunity or a great challenge depending on the forest service providers' ability to adopt new practices. One of the greatest silvicultural challenges – and thus a call for innovative management approaches – is how to 'restore' uneven-age production after decades of even-age management.

Now there is a wider range of approaches available, i.e. traditional even-aged forest management, intensive short-rotation management and uneven-aged forest management. In developing new or innovative forest management approaches the main obstacles are the long traditions of the predominant practices and rather well optimized technical systems of forestry operations and wood procurement, forest professionals' attitudes and skills and lack of illustrative simulation tools for helping forest owners to understand and choose between forest management alternatives.

In Finland, the state has not recognized private small-scale forestry as an entrepreneurial business but considered it rather as a financial investment: policy instruments have been adopted from the financial sector rather than from the SME business sector, which may have harmed the adoption of most efficient policy instruments enhancing profitable forestry business on the holding (enterprise) level. Instead, advisory

services and silvicultural financing has been employed on forest owner/holding or forest stand level with aims of increasing e.g. the total area of young stand management or the total roundwood offered on the timber market. Moreover, forest holdings without an active farm attached are not considered as business enterprises in generational changes but treated as investments causing discontinuity in sustainable forest management and owners abandoning forestry entrepreneurship.

For a long time Finnish forest policy formulation has been dominated by discourse relating to fragmentation, passiveness of owners as timber suppliers and insecurity of long-term timber supply. The change of forest ownership from traditional farmer-owners increasingly to highly educated city-dwellers has been part of the discourse long before this change has actually taken place and affected timber supply and service demand. Policy innovation has suffered from organizational inertia. There has been a rather strong political lobby that has prevented creative policy innovations from being discovered or accepted. Also the ageing of forest owners has maintained a rather conservative profile of the owners, and the anticipated ownership changes have been delayed and perhaps caused some frustration among policy innovators. Regulation of access to forest resource information, such as National Forest Inventory results, as well as market regulation, have also been considered barriers in establishing new policies, institutions and activity models. However, as the overhaul of the Finnish forest policy has deregulated the market and organizations, changes in institutions, markets and practices are anticipated in the forthcoming years.

2. Methods

2.1. General approach

The country report aims to give a comprehensive overview of forest ownership issues in the country, based on a mix of methods. These include a review of literature and secondary data and the expert knowledge of the authors.

Data include quantitative data (from official statistics and scientific studies) as well as qualitative data (authors' own expert knowledge, expert interviews and results from studies). A literature review describes the state-of-knowledge in the participating countries and contributes to a European scale state-of-art report. Case examples are used for illustration and to gain a better understanding of mechanisms of change and of new forest owner types. The data and case study analyses provided in the country reports will be analysed in subsequent stages of the COST Action.

2.2. Methods used

This report is mostly based on literature review and references are given accordingly in the text. For example, one of the most cited references is Hänninen et al. (2011), which is a basic description of family forest owners in Finland in 2009. In particular, several forest owner surveys have been conducted providing empirical literature. Statistical sources, such as the statistical service of Natural Resources Institute Finland (Luke), formerly known as the Finnish Forest Research Institute Metla, have also been utilized. Typically National Forest Inventory information and silviculture statistics are used via this service. Some parts of the report are based mostly on the expert assessments of the authors supported by a legislative review, such as the description of charitable, NGO or not-for-profit owners of forests. The assessment on the obstacles in developing new or innovative forest management is also based mainly on the expertise of the authors. The section concerning policy issues (6) does not include many references and is hence based mainly on expertise of the authors.

3. Literature review on forest ownership in change

The COST Action national representatives undertook a review and compiled information on changes in forest ownership in their countries based on peer reviewed and grey academic literature, including reports and articles in national languages and official statistics, formal guidance or advisory notes from official websites etc.

The scope of the literature review was as follows:

- Forest ownership change (with a specific focus on new forest ownership types), private forest owners' motives and behaviour, management approaches for new forest owner types and related policies and policy instruments.

The 10 most relevant publications were selected from the collected literature and described according to a pre-determined format and included as the Annex to this report. All available literature was reviewed for this report but only those which are referenced in the text are listed in section 7.

The literature review considers the following questions:

- Which research frameworks and research approaches are used by researchers?
- What forms of new forest ownership types have been identified?
- Do any of these have specific forest management approaches?
- Which policies possibly influence ownership changes in the country and which policy instruments are directed at the needs of new forest owner types?

3.1. Research framework and research approaches

The main themes considered in the Finnish literature are:

1) structural changes of family forest owners, i.e. demographic changes and changes in forest holding size structure
2) changes in values and objectives of forest ownership
3) forest owners' forest management behaviour including silvicultural activities and timber sales behaviour
4) the effects of forest policy means on forestry behaviour such as the effects of cost–sharing and forestry extension services

The most comprehensive data on forest owners has been collected by the Finnish Forest Research Institute (Metla) by developing a monitoring system to collect nation-wide regionally representative data using a 10-year interval (Karppinen and Hänninen 2006, Hänninen et al. 2011). The researchers of University of Helsinki have also often been involved in the analysis of monitoring data. A private research organization, Pellervo Economic Research (PTT), has also conducted several forest ownership studies. The studies have mostly been funded from national public sources (state budget funds of the organizations, external research funding programs). Also private funding has been available, such as funding from foundations, forest industries and Agricultural Producers' Organization MTK. However, the role of this private funding has been significantly smaller than the state funding.

In timber supply analysis economic theory has been applied, e.g. Fisherian two-period consumption-savings model (Kuuluvainen et al. 1996) and utility-based Faustmann model (Favada et al. 2009). Economic approach has also been applied in stand improvement analysis, where investment decisions are theoretically described with a two-period model with amenity values (Ovaskainen et al. 2006). Also choice modelling method based on the random utility theory has been applied when examining the conditions of timber supply decision making (Rämö et al. 2011) Theories of social psychology have been applied as well, such as the Theory of Planned Behavior in the choice of reforestation method (Karppinen 2005) and in analyzing timber stand improvement decisions (Karppinen and Berghäll 2015), Schwartz's value theory (Karppinen and Korhonen 2013) and recently also the Theory of Psychological Ownership (Lähdesmäki and Matilainen 2014a). Also customer value

concepts derived from business and marketing research have been applied (Hujala et al. 2013). The basic approach in most of the studies is sociological or socio-psychological. The majority of the studies analyze quantitative nation-wide mail inquiry data but also regional quantitative data has been used. However, in particular, recently also the qualitative approach and interview data have been applied (e.g. Karppinen and Tiainen 2010, Lähdesmäki and Matilainen 2014a).

The main findings in the literature in addition to the monitoring of the development structural changes in family forest ownership (see p.15-19) can be summarized as follows:

1) the negative effect of forest owners' age on the timber supply (m^3/ha/year) which can be interpreted either as a life-cycle effect or an age cohort effect or their mixture
2) the negative effect of female ownership on timber supply
3) the positive effect of farmer ownership on timber supply
4) the ambiguous effect of forest holding size on timber supply
5) the role of the objectives of forest ownerships (see p.16-19) concerning timber supply: multiobjective owners most active, recreationists and indifferent owners most passive
6) the evidenced effect of public subsidies on the probability and extent of stand improvements
7) the important role of forestry professionals: majority of forest owners seem to place strong trust in professionals and take their advice
8) short-tenure new owners, more often absentee, urban owners
9) the ownership objectives of both new short-tenure owners and future owners resemble those of current owners
10) the decision-making of forest owners is based on multiple attributes, not only on profits or other economic measures
11) forest holdings are important to their owners as a link to the family or chain of generations and they also contribute to forest owners' identity building
12) forest owners know the forest law quite well and are willing to obey it
13) forest owners recognize the different ecosystem services, and often take them into account in their forest management decisions
14) there exists a non-responsive forest owner segment that stays unreachable by current economic-forestry-dominated services.

Forest owner studies have mainly focused on the forest owners as timber producers, growers and sellers. With increasing multiple and non-timber objectives, there is a need to study forest owners also as consumers of forest products and services in the future (Hänninen and Karppinen 2010). This could mean a special investigation of small holdings (less than five hectares) or studies of urban owners from the point of view of social sustainability or welfare. These small holdings can provide substantial recreational benefits for the owner or for the public through the more or less deliberate provision of public goods. There is also a growing literature on forest owners' role in maintaining and commercialising ecosystem services (Rämö et al. 2013), such as carbon sequestration. A technical problem with mail inquiries is the increasing number of non-responding forest owners, which underlines the importance of the analysis of non-response. The role of the qualitative approach could also be strengthened.

3.2. New forest ownership types

In Finland, the most relevant new owner type is individuals who previously have not owned forestland. The second relevant new forest owner type is the urban absentee owner segment. The third to some extent relevant new owner type is new legal forms of ownership for private land.

In Finland, approx. 10,000 NIPF holdings change owners annually. However, only 15% of the forest holdings is purchased in the open market (Hänninen et al. 2011). The majority of holdings is inherited from or donated by (45%) or purchased from the family and relatives (40%). The length of land tenure is used to define 'new' forest owners. Usually those owners who have owned their holdings less than five years are included in

this category. Around every fifth owner belongs to this category of new owners. Almost half of these short-tenure forest owners are wage earners while their share is one third among long-tenure owners. New owners are less often farmers than long-tenure owners but as many as every fifth of the new owners is already retired (Hänninen and Ripatti 2007). The average age of new owners is 54 years (Rämö and Toivonen 2009). New owners are also more often absentee owners and live more often in urban settings than long-tenure owners. Interestingly, ownership objectives of new owners seem to be similarly distributed as among long-tenure owners (Hänninen and Ripatti 2007, Rämö and Toivonen 2009).

There are also differences in the timber supply behavior between short-tenure (less than five years) and long-tenure owners (Kuuluvainen et al. 2011, Kuuluvainen et al. 2014). On average, new owners are as active in their timber sales as long-tenure owners. However, the average size of annual timber selling of the new owners is larger than among the forest owners in general (Rämö and Toivonen 2009). According to the model results, unlike for long-tenure owners, ownership objectives, main occupation (farmer) and gender did not affect the mean expected harvest for short-tenure owners. On the other hand, the negative elasticity of both owners' age and income level on harvest were clearly greater in absolute terms among short-tenure forest owners. This, combined with the fact that average harvest levels between 'new' and long-time forest owners are similar, implies that timber supply among the young, relatively low-income and 'new' forest owners is rather high. In addition, forestland area affected the mean per hectare harvest statistically significantly among short-tenure forest owners as opposed to long-time forest owners. Should the government aim to ensure active forest management in the future, it may want to use policies that promote multiobjective ownership, speed up ownership changes and support creation of large woodlots. This, in fact, is the general tendency in forest policy currently followed in Finland.

Although urban absentee owners have existed for a long time, they have emerged as a notable new forest owner type during the last decade. Until recent years, it has been mostly non-owners who have moved from the countryside to the towns and cities, while the urbanizing trend of owners has been relatively slow. Moreover, a majority of absentee owners have lived next to their forests in their childhood, which has maintained psychological attachment to the land (Hujala and Tikkanen 2008). During the last decade, however, new service needs have emerged among the absentee owners, and all major timber-buying companies as well as forest owners' associations have established service offices in cities and today actively organize seminars and fair events to the urban absentee owners. In addition, absentee owners' associations have been fairly recently established in several cities to organize activities and lobby for their interests alongside the more traditionally orientated forest management associations. Urban absentee owners are also potential customers of emerging e-advisory services and potentially active participants in owners' Internet communities (Hamunen et al. 2015).

We can also regard female ownership to be a new forest owner type although it has existed for a long time. Female ownership has been expected to increase. According to timber supply analysis, women sold one m^3/ha/yr (about 30%) less than men did. Female owners also sold less frequently, but larger quantities at a time than did male owners. Also farmers as compared to non-farmers sold on average one cubic meter more per hectare per year. As regards objectives of forest ownership (see p. 16-19), potentially increasing owner types, recreationists and indifferent owners sold approximately two m^3/ha/yr less than more traditional multiobjective owners.

As regards new legal forms of ownership for private land, there is no real estate investment trust (REIT) legislation concerning forest ownership in Finland. This has prevented major restructuring of company forest ownership, in particular. However, a new Jointly Owned Forest Act of 2003 has been employed to change jointly owned family forest holdings as jointly owned forests benefiting e.g. from tax incentives. Some of the jointly owned forests also have started to expand their forest lands supported by the new legislation, which was also the target of

the Finnish government.

In addition, forestry seems to have been left outside from attempts to prevent international tax competition. In Finland, legislation is applied to international concern debts, where subsidiary A of a concern lends to subsidiary B of the same concern. A concern may receive considerable tax benefits, if the taxation of interest revenues in the home country of the subsidiary A is low and the taxation of subsidiary B earnings is high. Therefore, international interest costs deductible in taxation of subsidiary are restricted. In Finland, restrictions for international concern debt interest deductions in case of limited companies are not applied to forestry, which is not regarded as business but financial investment. Therefore, new international forest owners have emerged, which have employed the so-called tax havens to transfer taxable forestry income from Finland.

3.3. Forest management approaches

For those new forest owners who did not own forest land earlier, there are mainly two main lines of discussed forest management approaches, the first being uneven-aged forestry (Kumela and Hänninen 2011) and the second re-emerged self-active small-scale forest management for recreational and game-related purposes. However, research has thus far not found significantly differing management approaches among these new owners. The most distinguishing feature of new forest owners is their slowly increasing urbanization, which means that more and more all-inclusive services and online services are demanded in order to manage forest ownership. The strong role of forest professionals in the advisory and forest management planning system in Finland prevents owners' own innovations from evolving. There are some signs that owners whose values and objectives notably differ from the prevailing economic-forestry-based service mindset rather place themselves outside the current forest institutions and appear in research as passive or non-responsive owners (Häyrinen et al. 2014).

3.4. Policy change / policy instruments

The lower tax rate (28% vs. 30-32%) on capital tax of timber sales serves as an incentive to form jointly owned forest. About 56% of forest owners see it as a nearly necessary condition for forming a jointly owned forest (Rämö and Tilli 2007) and 61% of a case study on present owners of jointly owned forest regard the lower tax important (Rämö et al. 2013).

The challenge presented by new forest ownership is unfamiliarity with forest management and forest law (Rämö and Toivonen 2009). The size of the holdings does not affect the timber supply directly as the small holdings sell as much timber per hectare as the larger ones, but it increases the transaction and operational costs of timber buyers.

From the perspective of emerging absentee owners, the recently established Metsaan.fi – service can be seen as a major policy instrument aiming to serve the new forest owners' motivations and lifestyles. The publicly funded service, available on the Internet, views the owners' forest information, provides information about cutting opportunities and valuable habitats and allows sharing the information with selected service providers.

4. Forest ownership

The aim of this chapter is to give a detailed overview of forest ownership in Finland. The most detailed information at national level is often structured in different ways in different countries. In order to show the most accurate information, it was decided to use the national data sets in the country reports. To make this information more comparable still, the information is also collected in an international format that is used in the Forest Resources Assessments (FRA) by FAO. The transfer from national data sets to international definitions is, however, not always easy. This report therefore critically assesses how far the national categories and definitions may be transformed into the international FRA data structure and the extent to which there are inconsistencies between them.

4.1. Forest ownership structure

4.1.1. National data set

The total area of productive forestland in Finland is 20.3 mill ha, and the area of forestry land including also less productive and unproductive land is 26.2 mill ha (see Table 1). The major share of the productive forestland in Finland is owned by private owners, mostly NIPF owners, i.e. family owners. Their share is 61% and the state owns 25% of forestland. Forest industries or institutional investors owned by the forest industries have 8% of forestland in their possession. The remaining 6% belongs to municipalities, parishes and various kinds of communities.

Municipalities as well as parishes are normally regarded in Finland as local public ownership, although in some international definitions e.g. parishes are regarded as private entities. Both municipalities and parishes have rights for local tax collection. Other communities are mostly private, e.g. jointly owned forests are regarded as private entities. This rather imprecise categorisation with regard to private-public ownership comes from the national forest inventory methodology, which does not recognize small or spatially fragmented forest ownership groups with reasonable precision.

Table 1: The ownership of forest and forestry land in Finland

Ownership of forestry land						
	Inventory	*Private*	*Companies*	*State*	*Others*	*Total*
		1,000 ha				
11th National Forest Inventory						
Whole country	2009–2013	13,900	1,877	9,082	1,336	26,194
		53%	7%	35%	5%	100%
Ownership of forest land						
	Inventory	*Private*	*Companies*	*State*	*Others*	*Total*
		1,000 ha				
11th National Forest Inventory						
Whole country	2009–2013	12,355	1,665	5,144	1,104	20,268
		61%	8%	25%	6%	100%

Ownership categories:
Private: Non-industrial, private forest owners, heirs, private firms etc.
Companies: Limited companies and their pension foundations (excl. housing companies)
State: Metsähallitus (state enterprise) and other state organisations
Others: Municipalities, parishes and associations. Associations consist of co-operatives, jointly owned forests, limited partnerships, housing companies and foundations.

Forest land: Potential average annual increment of the timber stock at least 1.0 m3/ha
Poorly productive forest land: Potential average annual increment of the timber stock more than 0.1 m3/ha but less than 1.0 m3/ha
Unproductive land: Potential average annual increment of the timber stock less than 0.1 m3/ha
Forest roads, depots etc.

Forestry land = Forest land + Poorly productive forest land + Unproductive land + Forest roads, depots etc.

Source: Finnish Statistical…2014

4.1.2. Critical comparison with national data in FRA reporting

Another possibility is to employ an internationally comparable FAO definition for forest (e.g. 10% canopy cover of trees able to reach 5 m height) (Table 2). The amount of forest hectares is according to Global Forest Resources Assessment (2010) (GFRA) is in Finland 22.2 million hectares and the ownership classes are somewhat different compared to national classification. However, it must be recognised that the GFRA is a special case, and typical forest statistics in Finland are not available in this form.

Table 2: The ownership of forestland in Finland according to GFRA 2010 (see the report on the ownership classification in GFRA).

FRA 2010 Categories	Forest area (1,000 hectares)
	2005
Public ownership	6,988
Private ownership	15,168
...of which owned by individuals	12,765
...of which owned by private business entities and institutions	2,404
...of which owned by local communities	0
...of which owned by indigenous / tribal communities	0
Other types of ownership	0
TOTAL	**22,157**

4.2. Unclear or disputed forest ownership

Property rights can be described as a continuum from no rights at all to a full title to the land. All above mentioned owner categories have a full title to their forest land. However in Finland, as in many other countries, all forest visitors can enjoy a limited use right called Everyman's Rights or Freedom of Public Access. These rights are a commonly agreed way of using nature, they are not an actual subjective right and can be called the 'right of public use' (Laaksonen 1999). This traditional right allows visitors to hike, pick up berries and mushrooms, ski and even camp for one night (without making a fire) in the forests of all owner categories without asking for a permit from the forest owner. However, Everyman's Rights do not permit one to damage or disturb nature or cause unreasonable disadvantages to the forest owner. These rights do not apply the courtyard of the residence of the landowner. In addition, Everyman's Rights are based on occasional use of forests (Kuusiniemi et al. 2000). Even though the rights of access granted by Everyman's Rights are relatively clear, the concepts of unreasonable disadvantages and occasional use of forests are always disputable.

The Sami land ownership in Northern Lapland has been debated and investigated for a long time. The question has not been fully accomplished. For instance, the ILO Convention No. 169 concerning the rights of the indigenous and tribal people has not been ratified in Finland or Sweden. Norway has ratified the agreement (for ratification situation by countries, see: www.ilo.org/dyn/normlex/en/).

4.3. Legal provisions on buying or inheriting forests

4.3.1. Legal restrictions for buying or selling forests

There are no more legal restrictions for the forest land market in Finland.

4.3.2. Specific inheritance (or marriage) rules applied to forests

Inheritance rules are defined in Inheritance Act 40/1965 and the respective taxation in Inheritance and Donation Act 378/1940. These rules form an incentive for division of land property and hence fragmentation of ownership. Forest property can also be owned jointly by private partnerships or heirs. Especially estates owned by heirs are often considered to be an unwanted type of ownership because of the decision-making problems. Due to the potential lack of unanimity, the forest management activities in these forests are often fewer than in other

ownership forms, and this ownership type is often considered a passive one in their forest management.

4.4. Changes of the forest ownership structure in the last three decades

4.4.1. Changes between public and private ownership

Forest ownership in Finland is in a slow change. Since the 1950s, the national forest inventories indicate that the total area of forestry land has remained rather stable at 26.2 mill ha. Only in the 1960s and 70s was the forestry land area temporarily larger. When monitoring forestry land development by major ownership groups (Fig. 1), it can be detected that private persons gained forestry land in the 1950s, mainly due to settlement policies after WWII. Private forest owners owned over half of the ceded land. Since the 1960s the forestry land area of private persons has been declining remarkably. The area of jointly owned forests has increased (private) and also some other owners, such as municipalities, have increased their ownership.

Because the group 'others' includes both private and public ownership of forestry land, it may be argued that private-public ownerships have in the long term remained rather unchanged. During the last three decades, however, the share of public ownership of forestry land has increased in Finland.

Since the 1970s the area under nature conservation or restricted use has threefolded. Most of this land is under state governance, but the responsible ministry has changed from the Ministry of Agriculture and Forestry to the Ministry of the Environment.

In the short term since 2006, the ownership development can be examined according to tax registers, indicating the productive forestland by ownership subgroups (Leppänen and Torvelainen 2015). However, the extent of productive forestland is greater in national forest inventory than in holding-based tax register. In the latter statistics the main group 'Private persons' in total has gained productive forest land, mainly due to increase of tax partnerships, whereas ownership by single persons or spouses together, and especially properties owned jointly by heirs, have had a decreasing trend in their acreage of productive forest land. In the main group 'Others', jointly owned forests, as well as foundations, have increased their ownership. All other groups in total seem to have lost productive forestland, although subgroup exceptions and annual variation exist.

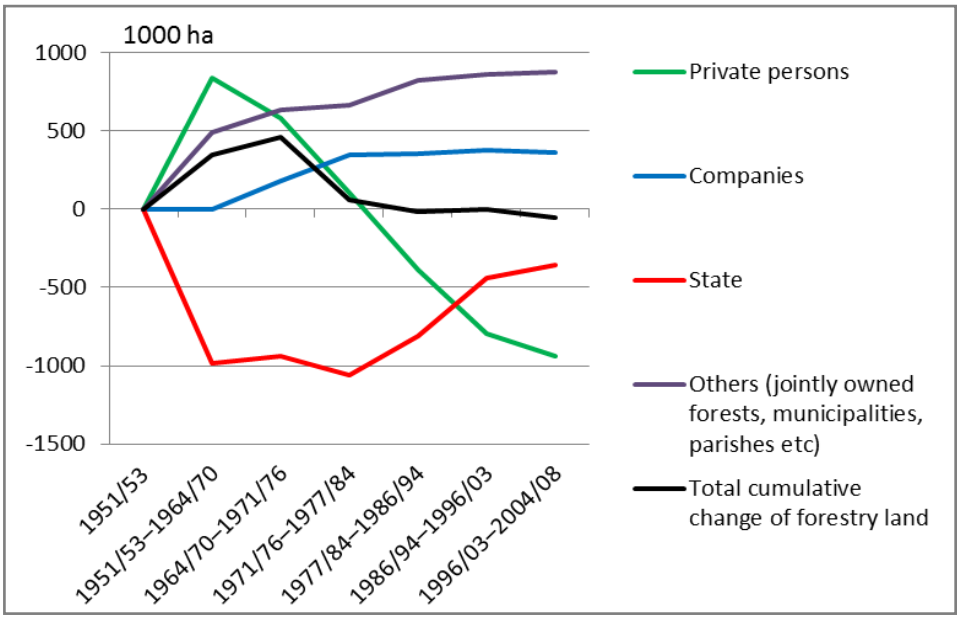


Figure 1: Cumulative development of forestry land in Finland in four major ownership groups, national forest inventory of 1951-53 indexed as a starting point (Finnish Statistical … 2014)

4.4.2. Changes within public ownership categories

Public ownership of productive forest land has been increasing since the 1960s. (Finnish Statistical … 2014). This is mainly due to land acquisitions by the state forest enterprise Metsähallitus. Forestry land in public ownership has been increasing both for conservation and forestry use. Some 10 years ago, the Ministry of Agriculture and Forestry rejected the forest land acquisitions by Metsähallitus for forestry purposes due to financial reasons. Today, Metsähallitus is selling forestry estates, but this development has been still rather moderate.

4.4.3. Changes within private forest ownership

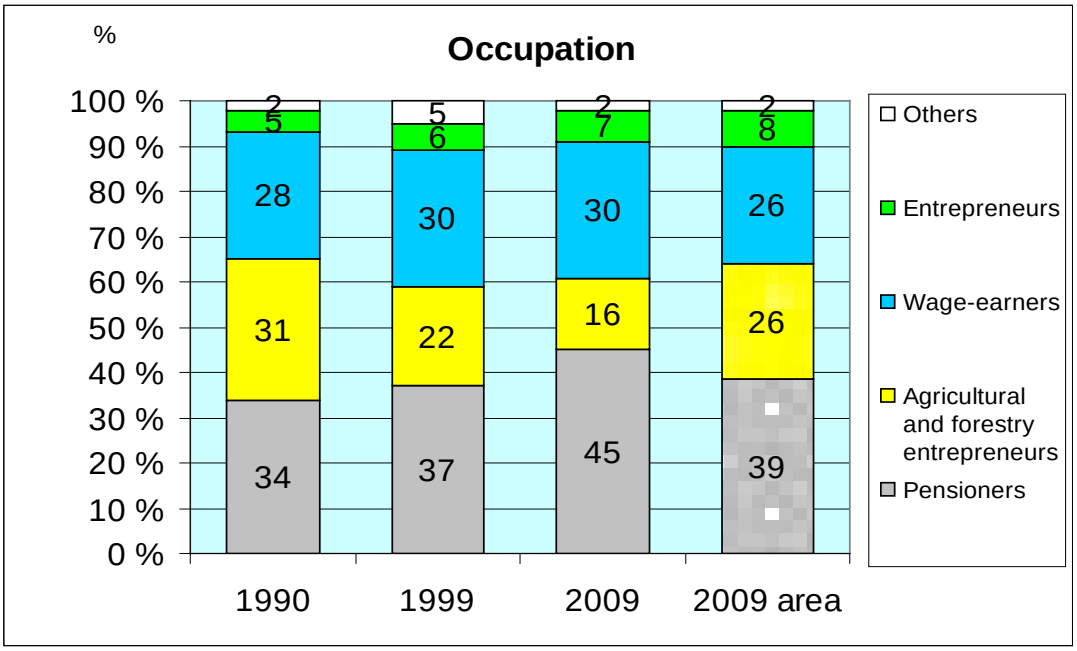
The main changes occurring in the structure of NIPF forest ownership in the last three decades were a decline in the number of farmer owners, an increase in the number of absentee owners, partly related to migration to urban areas, and an ageing of the forest owners (Fig. 2). Fragmentation and an increase in the number of small forest holdings was taking place especially during the latter half of the 20th century. Since then, polarization has also taken place in the size distribution of forest holdings, which means increased numbers of both large and small holdings (Hänninen et al. 2011).

There are currently 347,000 NIPF holdings in Finland. This figure includes as one ownership unit all parcels owned by the same owner despite their location in the country exceeding two hectares of forestland in total. On average, these holdings comprised of 30 ha of forestland. The corresponding number of forest owners is estimated at 632,000 (Leppänen and Torvelainen 2015). The proportion of forest owners who are active farmers (i.e. main-occupied agricultural and forestry entrepreneurs) declined from one third to 16% during these three decades. This is no surprise, as the number of farms has decreased as a result, for example, of European Union membership. However, active farmers still own 26% of the total area of NIPF. If both main- and side-occupied farmers are included, farmers own 30% of the area of NIPF (excluding main-occupied forestry entrepreneurs without side-occupied agriculture) (Hänninen et al. 2011).

Forest ownership by wage earners and pensioners has also increased. More than half of all forest owners are at least 60 years old. The average age of forest owners has risen from 54 to 60 during three decades. This rise in mean age is due to the increased number of non-farming forest owners. Despite the overall movement in Finland to cities and towns, 55% of forest owners still live in sparsely populated rural areas and almost one fifth live in population centers or small towns. Twenty-six percent of forest owners live in urban areas of more than 20,000 inhabitants. Less than half (42%) of all forest owners reside permanently on their forest holdings, and 65% live in the same municipality with their holding (Hänninen et al. 2011).

Forest owners have also been classified into five groups based on their stated objectives of forest ownership: ‘multiobjective owners’, ‘recreationists’, ‘self-employed owners’, ‘investors’ and ‘indifferent owners’ (Fig. 2). Multiobjective owners value both the monetary and amenity benefits of their forests. Recreationists emphasize the non-timber and non-monetary values of forest ownership. Self-employed owners emphasize the employment opportunities, labor income and outdoor recreation provided by the forest property. For the investors, the forest property is an asset and a source of regular sales income and economic security. The indifferent owners either do not have any specific objectives or did not reveal them. The largest group is multiobjective owners (30% of the owners) and the smallest indifferent owners (10%) (Hänninen et al. 2011).

% of forest owners



% of forest owners

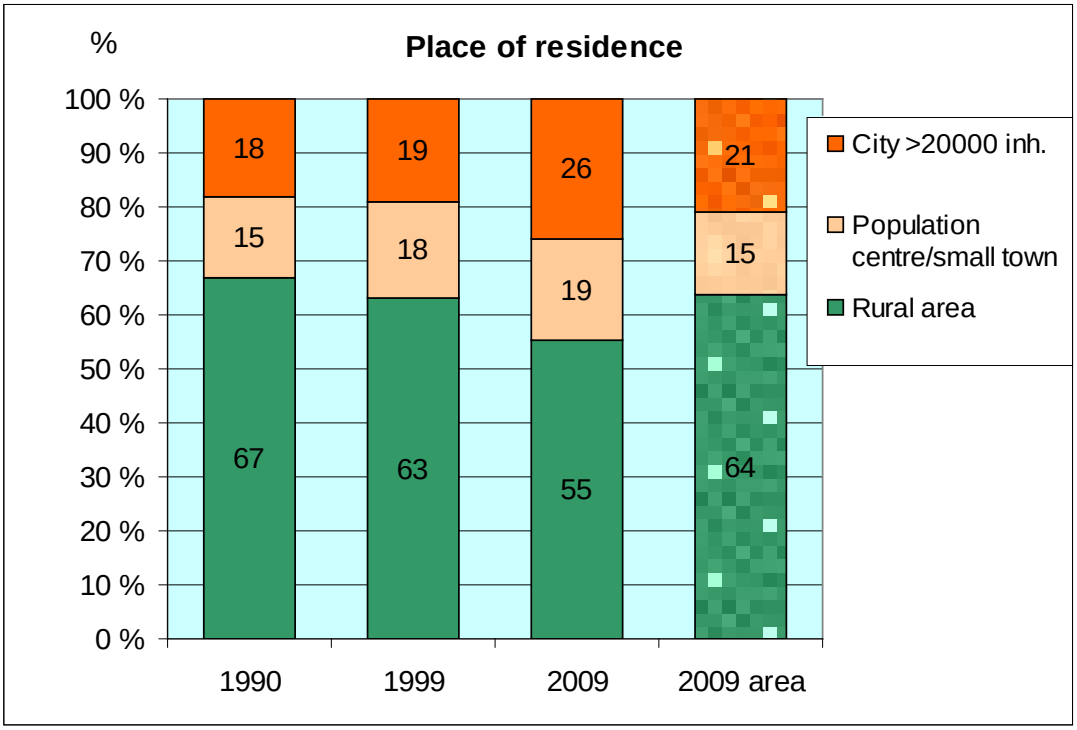
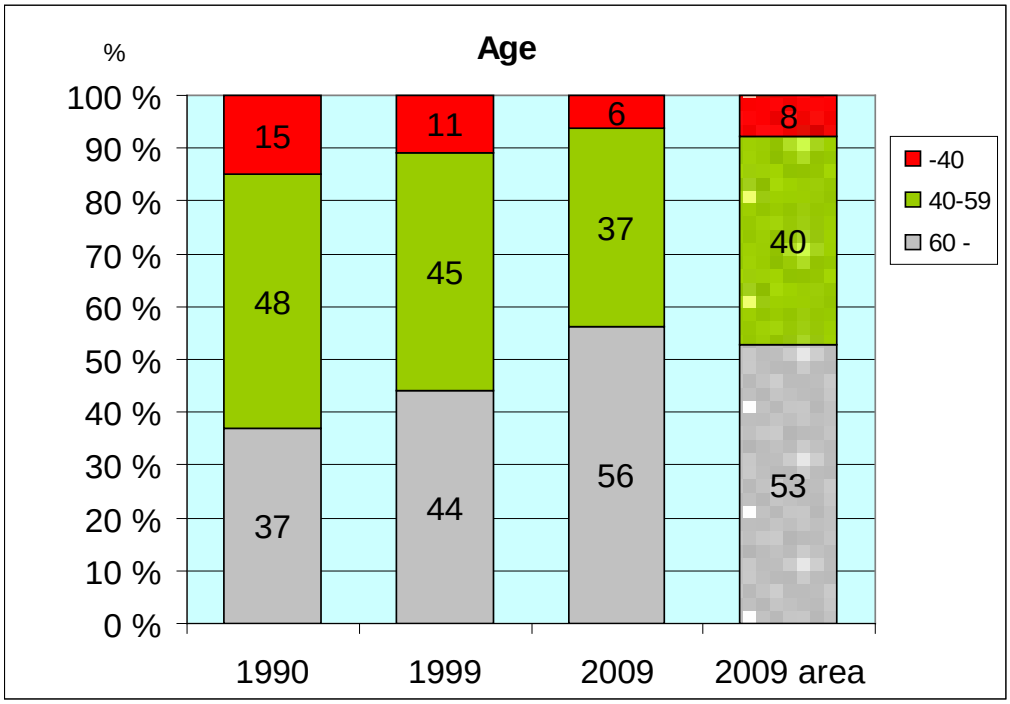
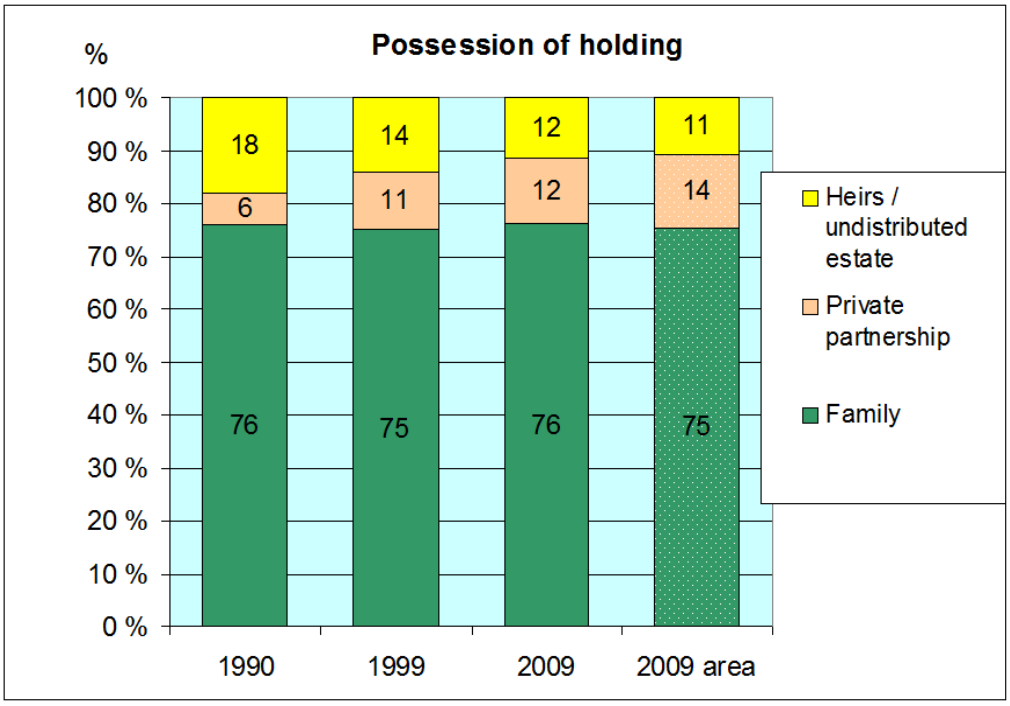


Figure 2: a) Structural changes in family forest ownership in Finland (Hänninen et al. 2011)

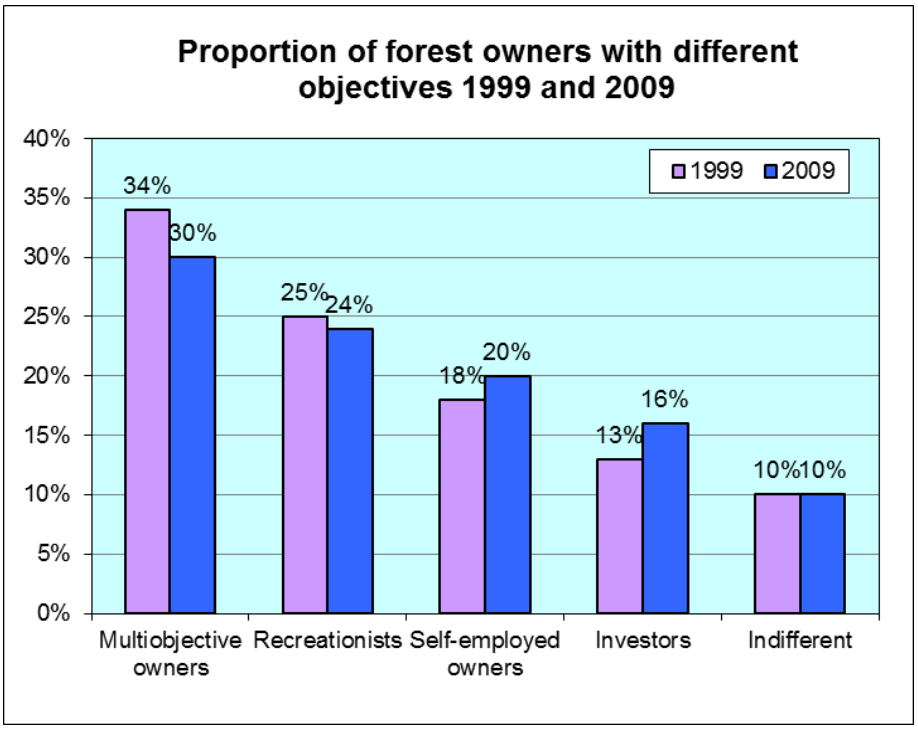
% of forest owners

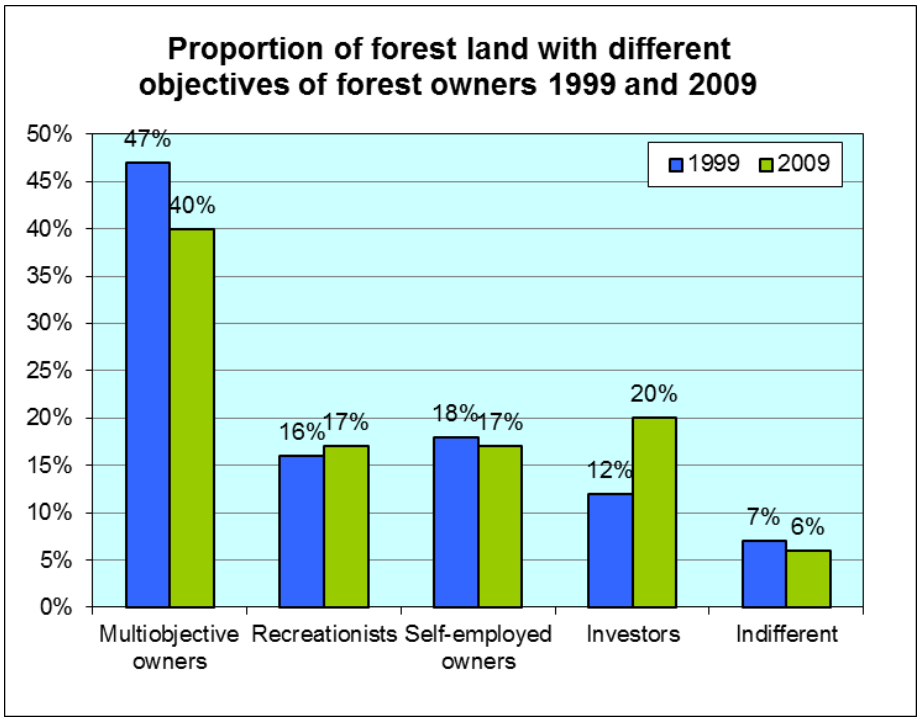


% forest owners



b) Structural changes in family forest ownership in Finland (Hänninen et al. 2011)





c) Structural changes in family forest ownership in Finland (Hänninen et al. 2011)

4.4.4. Main trends of forest ownership change

Across Europe, the following drivers for ownership changes had been identified in the COST Action:

- Privatization, or restitution, of forest land (giving or selling state forest land to private people or bodies)
- Privatization of public forest management (introduction of private forms of management, e.g. state owned company)
- New private forest owners who have bought forests

- New forest ownership through afforestation of formerly agricultural or waste lands
- Changing life style, motivations and attitudes of forest owners (e.g. when farms are given up or heirs are not farmers any more).

Trends in forest ownership: New forest ownership through…	**Significance***
• Privatization, or restitution, of forest land (giving or selling state forest land to private people or bodies)	**0**
• Privatization of public forest management (introduction of private forms of management, e.g. state owned company)	**2** (The law concerning Metsähallitus, the state forest enterprise, is being renewed with the aim of making the forestry of Metsähallitus a limited company, or by other means deregulating state forest management)
• New private forest owners who have bought forests	**1** (Investment funds of various forms have in recent years acquired forestry land especially from forest industry companies)
• New forest ownership through afforestation of formerly agricultural or waste lands	**0**
• Changing life style, motivations and attitudes of forest owners (e.g. when farms are given up or heirs are not farmers any more)	**3** (The structural development has been described above in 4.4.3)
• Other trends, namely: 1) Incorporation of forest ownership of forest industry into separate companies	**2** (In the 2000s, two large Finnish forest companies gave up direct forest ownership by establishing two new companies to which they transferred their forests (Tornator and Finsilva). These two companies became the second and the third largest forest owners in the country, owning 610,000 and 135,000 hectares, respectively)
2) Formation and enlargement of jointly owned forests	**1** (Jointly owned forests have been formed in Finland since the late 19th century in order to improve roundwood supply from private forests. The revision of the legislation in 2003 relaxed the establishment of jointly owned forests resulting in e.g. family/relative owned new joint forests. Jointly owned forests have a specific fixed tax rate, which is lower than normal capital tax rate)
3) Enlargement of conservation areas (restricted or forbidden use) in state and private lands	**2**

** 0 (not relevant); 1 (to some extent); 2 (rather important); 3 (highly important)*

CASE STUDY 1: THE CHANGE OF FOREST OWNERSHIP IN SOUTHERN OSTROBOTHNIA REGION, FINLAND

Changing life style, motivations and attitudes of forest owners

As in the whole country, forest owners' average age is growing in Southern Ostrobothnia. However, due to the strong agricultural activities in the region, the change is smaller than in some other parts of Finland. A relatively large share of the forests still change owners as a part of a farm. Typically, only one heir inherits or buys the forests when taking over the farming activities. Therefore, the agriculture affiliated forest owners typically inherit their forests when they are a little younger than other owners-to-be. The age structure of the forest owners in the region is estimated to be in 2025 similar to the age structure in the whole country in 2009. In 2009, 21% of the forest owners in the regions of Southern and Central Ostrobothnia lived in the urban areas with 25,000 or more inhabitants. It can be estimated that in 2025 this figure would be 40%.

Forest owners have a wide spectrum of values concerning their forests. In addition to the economic values also the conservation values are important to a growing group of forest owners. Also due to the very fragmented forest ownership in Ostrobohnia, the average size of forest holdings is smaller than in Finland in general. Therefore, the economic benefits of the forest are small and this may passivate forest owners' forest management. Many farmer forest owners use timber and biomass from their small holdings for their domestic use, and timber never enters the market. Forest management is often considered a recreational hobby due to a low profitability on the holding level, which may lead to non-effective management or negligence of forest management recommendations.

Source: Pohjala, J. 2014. Metsänomistajuuden rakenne Etelä- ja Keski- Pohjanmaalla vuonna 2025. In Matilainen, A. & Lähdesmäki, M. (eds.). Metsänomistuksen tulevaisuus Etelä- ja Keski-Pohjanmaalla. Selvitys metsänomistajakunnan muutoksesta ja palvelutarpeesta. Helsingin yliopisto Ruralia-instituutin raportteja126.

4.5. Gender issues in relation to forest ownership

In Finland, there have been neither studies nor official statistics based on Land Register classifying forest owners according to gender. According to the forest owner survey (Hänninen et al. 2011) the share of female owners of forest owners is 25%, and the corresponding share of private forest land is 21%. The problem with the survey data is that the share of female owners has been underestimated. One questionnaire is sent to a forest holding and the recommended respondent is the person taking care of forestry matters in the family. It can be assumed that husbands in many cases take care of their wives' and joint forest properties (Hänninen et al. 2011).

4.6. Charitable, NGO or not-for-profit ownership of the forests

This section is concerned with forests owned by organisations such as conservation and heritage NGOs, self-organised community-based institutions and other philanthropic ('characterized or motivated by philanthropy; benevolent; humane' OED) organisations. The management objective for these forests is usually to deliver social or environmental aims with maximisation of financial or timber returns as a secondary concern. Most owners are corporate and may invoke at least an element of group or participatory decision-making on management objectives and high ethical standards. It is possible for such ownership to be entirely private. However, the provision of public benefits (e.g. biodiversity, amenity, recreation etc.) which are free for everyone to enjoy or provide benefits to local communities (employment for disadvantaged people etc.) are sometimes recognised in the form of charitable registration. This in turn puts restrictions on the rights of the owners to use profits and to dispose of assets in exchange for tax exemptions and access to charitable funding.

Forests owned by …	Yes	No	Uncertain
• Foundations or trusts	X		
• NGO with environmental or social objectives	X		
• Self-organised local community groups	X		
• Co-operatives/forest owner associations	X		
• Social enterprises	X		
• Recognized charitable status for land-owners	X		
• Other forms of charitable ownerships,:	X		

4.6.1. Foundations and trusts

In Finland, foundations are based on Foundations Act 109/1930. According to statistics on the ownership of productive forestland, there were 298 foundations as forest owners in the end of 2012. They owned 46,450 ha of productive forestland. Taxation of foundations is based on a fixed tax rate, which is substantially lower compared with other actors. The tax rate applied to e.g. forestry was 7.67% in 2014. Trusts for the public good may be based on Foundation Act or Associations Act 503/1989. Their forestry-related functioning and tax rates are equal to foundations. There are no separate statistics on associations as forest owners, but their forest land ownership is only minor (probably some thousands of hectares).

Foundation-based forest ownerships in Finland may have the aim to preserve and fund forestry culture and related research (e.g. Metsämiesten Säätiö, 'The Foundation of Finnish Foresters'), or to contribute to regional forestry education and regional/local economy (e.g. 'Forest Management School Foundation of North Savolax').

4.6.2. NGO with environmental or social objectives

There are non-governmental foundations and associations (and most probably also other organizational forms) with environmental and social objectives. One example of these is the Finnish Natural Heritage Foundation, established in 1995. Its main objective is to purchase old pristine forests with donation funds and apply for a permanent protection for them according to the Nature

Conservation Act 1096/1996. This particular foundation owned over 700 hectares of forest land in the end of 2013 (http://luonnonperintosaatio.fi).

4.6.3. Self-organised local community groups

Joint land and water areas belonging to several real estates are based on the Joint Area Act 758/1989. Every real estate has a defined share to joint area, based on e.g. the old tax value of the real estate. In the end of 2014 there were 374 joint areas corresponding to 10,500 hectares of productive forest. In addition, there are forestry-specific joint areas in Finland: jointly owned forests are based on the Act on the Jointly Owned Forests 109/2003. They have been formed in Finland since the Forest Act of 1886 in order to improve roundwood supply from private forests. There were 241 jointly owned forests in the end of 2012 to corresponding 318,500 hectares of productive forestland. Joint areas and jointly owned forests have a specific fixed tax rate, which was 28% in 2014. There are also different forms of regional collaborative management schemes, which often aim at enhancing some specific ecosystem service. Membership is voluntary and often loose if no compensation is paid for forsaking economic benefits (Rämö et al. 2013).

The Act on Jointly Owned Forests states that the JOF's main objective should be timber production. The area can be used to other purposes if it is economically or otherwise purposeful.

4.6.4. Co-operatives / forest owner associations

Forest co-operatives and forest owners' associations have a 'one man, one vote' principle in their decision making. Forest co-operatives are based on Co-operatives Act 421/2013. There are 67 co-operatives as forest owners in Finland, representing 3,600 hectares of productive forest land. Forest owner associations are based on the Associations Act 503/1989, or more specifically, on the Act on Forest Management Associations 534/1998 (renewed 2015). There are no separate statistics on the forest ownership related directly to the associations in Finland. However, these associations do not own forests as such but their member forest owners have a full title to their forestland.

4.6.5. Social enterprises

For instance, state forest business enterprise, Metsähallitus, has wide social responsibilities.

4.6.6. Recognized charitable status for land-owners

See foundations and associations for public good.

One third of NIP forest owners purposefully leave some areas for nature conservation out of their own initiative and without compensation (Horne et al. 2004). Forest owners also recognise the importance of their forest to the amenity values in the local area or even the benefits for the broader societal well-being (Rämö et al. 2013). As this charitable side of private forest management often takes place without authoritative intervention, there are no statistics available.

4.6.7. Other forms of charitable ownerships

Non-recognized forms probably exist, but they do not have any specific treatment in legislation.

CASE STUDY 2: JOINTLY OWNED FOREST OF KAUHAVA

Self-organised local community groups

The jointly owned forest in Kauhava covers 1,400 ha of forest land. It was established in 2010 and has 45 shareholders, of which some shares are owned jointly by heirs and private (tax) partnerships. One of the main partners is the town of Kauhava, which has invested 400 ha of forest land to the joint forest. The remaining 1,000 ha comprises private small forest holdings. More than half of the partners of the Kauhava jointly owned forest live outside the Kauhava municipality, mostly in the Helsinki region, which is located approx. 450 km from Kauhava. For these forest owners the main reason to join the Kauhava jointly owned forest was the administrative easiness of owning a joint forest and the guarantee of the proper forest management. One of the main reasons to join was also regular timber sales income. Since all partners benefit from all sales in the whole area, timber sale income is much more regular than in other private forests.

In addition to the distant forest owners, another large owner group in the Kauhava joint forest are people who plan to transfer their forests to the next generation. The forest owners living in Kauhava foresee that their heirs do not have the knowledge of or interest in forest management. By joining their forest to the jointly owned forest, the heirs can still keep their share of the forest holding and do not have to directly deal with the forest management issues. This provides a feasible alternative, since according to the studies, only a few forest owners are ready to sell the inherited forest, regardless of whether they have any use for it or not.

The fact that the town of Kauhava participated with large forest area provided the positive image for the joint forest initiative. The private forest owners trusted that the jointly owned forest will be properly taken care of, if the town also has a significant interest to take part in the initiative.

The management decisions in the jointly owned forests are made by the management board. Therefore, the main obstacle inhibiting the interest in the joint forest was the fear of losing the control over the decisions concerning inherited forests.

Source: Lähdesmäki M. & Matilainen, A. 2014b. Kokemuksia toimimisesta Kauhavan yhteismetsässä [Experiences from the joint forest of Kauhava]. Matilainen, A. & Lähdesmäki, M. (eds.). Metsänomistuksen tulevaisuus Etelä- ja Keski-Pohjanmaalla. Selvitys metsänomistajakunnan muutoksesta ja palvelutarpeesta. Helsingin yliopisto Ruralia-instituutin raportteja126.

4.7. Common pool resources regimes

Commons - forest common pool resource regimes (CPR) - are resource regimes where property is shared among users and management rules are derived and operated on self-management, collective actions and self-organization (of rules and decisions). Examples of traditional CPR regimes are pastures, forestland communities in Sweden, Slovakia, Romania, Italy and other European countries and irrigation systems in Africa or Asia. The number of new common property regimes is growing and it is a challenge for this Action to transfer knowledge and skills of traditional CPRs to new CPRs and vice versa. An example of a new (quasi-) CPR regime is the community woodlands in the UK, established in the last 20 years, mainly in Scotland and Wales. Our interest in 'traditional' and 'new' common pool resources regimes (CPRs) in the European forest is based on the understanding that robust resource regimes are critical for sustainable forest management regardless of the property rights. Ongoing practice shows that local land users may also be CPR regimes if they have the rights to determine management rules even though they may not own the land itself. Thus proper rules on management (harvesting, decision making and conflict resolution mechanism, cost/benefit sharing, sanctioning etc.) are key for sustainable use of CPR regimes.

In Finland, joint areas with forest and water areas, and some of the jointly owned forests, can be included into this category.

5. Forest management approaches for new forest owner types

The Action is interested if there are any new forest management approaches that specifically address new forest owner types, or that could be particularly relevant for new forest owner types. We are aware that there is not much awareness for this and that there is not much literature available; however, we are convinced that this is an issue: if owners have different goals for their forests, there must be new kinds of management; if they have not the skills any more to do it themselves then there must be new service offers etc. There are assumingly implications in silviculture, technology, work organisation, business models etc. Such new approaches may be discussed under the key word of new ownership types but often not.

5.1. Forest management in Finland

5.1.1. Forest managers

Private entrepreneurs or small-sized companies take care of some 80% of harvesting. They are often sub-contractors or companions of timber-buying sections of wood processing companies, sawmills or forest management associations. In early 2015 there are 81 forest management associations (FMA) with 330,000 members at the moment (for change in legislation see 6.1.2.). FMAs are forest owners' organisations and they have formed Unions, which are regarded as a part of the organisation of 'MTK', the Central Union of Agricultural Producers and Forest Owners. Since 2015 these unions have been cancelled and FMAs can be directly members of MTK. The purpose of FMAs is to promote profitability of forestry and the realisation of the other goals forest owners have set for forestry.

Individual forest owners often use consultancy, for instance for their wood-sales planning from local forest management associations. They report to provide consulting services in wood sales planning and wood sales transactions: about 80% of the activities related to timber production in private forests as well as approximately 75% of preliminary planning of timber sales are carried out by these owner organizations.

In many cases owners also outsource the whole timber sales process (invitations to bid, signing contracts, supervising the harvesting, handling the money), i.e. they give a power of attorney to the forest management association. The proportion of this kind of outsourcing forest owners is 35%, and they own, on average, smaller holdings (30% of the private forest area). Alternatively, the owners may be loyalty customers of timber-buying companies. The share of forest owners having an agreement at least on timber sales with a forest firm is 22% and their share of the private forest area is 31% (Hänninen et al. 2011). However, long-time contracts such as licensing or forest leasing are currently not used in Finland. The share of delivery cuttings where forest owners take care of logging and hauling by themselves or by hiring a contractor comprises approximately one sixth of the commercial roundwood removals in private forests (16%, Finnish Statistical … 2014). However, around half of the harvested roundwood and two fifths of the hauled roundwood is conducted by forest owners themselves or their family members. Typically farmers living on their holding are this kind of self-active forest owners. Hence, the share of self-active harvesting has declined during the past three decades.

As shown in Fig 3., the share of self-activity, i.e. the use of own family labor force, has been slowly diminishing also in silvicultural measures. Nowadays forest owners still typically do planting and stand improvement in their forests (Hänninen et al. 2011).

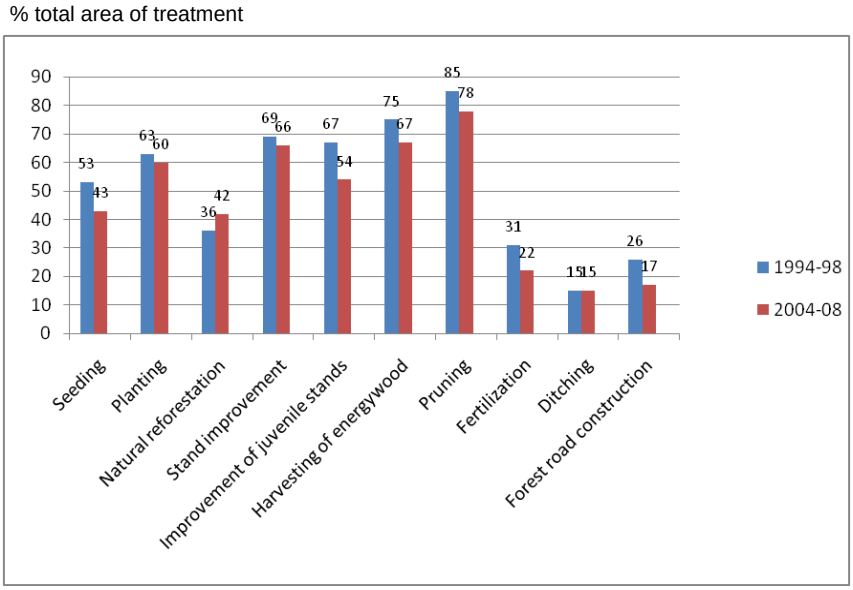


Figure 3: Change in the use of own family labor force in non-industrial private forests by silvicultural measures (Hänninen et al. 2011)

New forest ownership types may i) fall within an uncertain class of forest owners with no clear understanding of one's own objectives and suitable service providers, ii) rely on local forest management associations, iii) search a loyalty customership from among the industrial service providers that are actively marketing their services for urban absentee owners or iv) look for alternative service providers that would fulfil their wishes about soft forest management (Hänninen et al. 2011, Korhonen et al. 2012).

5.2. New or innovative forest management approaches relevant for new forest owner types

5.2.1. Uneven-aged forest management

Recent changes in Finnish forest legislation provide new approaches in addition to the traditional even-aged forest management, which have been criticized increasingly. According to Kumela and Hänninen (2011), one sixth of the forest owners see the current forest management activities, e.g. clear-cuts and use of heavy logging machines, unsatisfactory. The reform of forest law aims to increase forest owners' freedom of choice and to widen forest management possibilities (Ministry of Agriculture and Forestry 2011). Furthermore, because forest ownership is a field of business, controlling of the society should be decreased in order to promote the freedom of decision-making of forest owners (Ministry of Agriculture and Forestry 2011).

These new approaches might satisfy the objectives of the individuals or organizations that previously have not owned forestland or traditional forest owners who have changed motives, or introduced new goals or management practices for their forests. According to Asikainen (2013) and Asikainen et al. (2014), forest owners are clearly and broadly interested in the diversification of forest management and in testing alternative forest management practices. The typical silvicultural methods used in uneven-aged forest management are based on selective cutting where a single tree or a group of trees are removed for regeneration. Forest owners found uneven-sized forest management as the most pleasing alternative when aiming at good forest management and preserving environmental values (Asikainen 2013). Some recent studies (Pukkala et al. 2010; Pukkala et al. 2011) indicate that uneven-aged forest management can be cost-effective and more profitable than even-aged forest management when higher interest rates, e.g. 4-5%, are used in calculations. The interest of extending forest management towards uneven-aged and uneven-sized forest management has created new entrepreneurship. Some enterprises offer services for forest owners who do not see clear-cuts as options for forest management.

Thus, new business models are needed in changing markets of forest management services.

5.3. Main opportunities for innovative forest management

5.3.1. Uneven-aged forest management

Concerning uneven - aged forest management, the increasing outsourcing of forest activities may be an opportunity or a great challenge depending on the forest service providers' ability to adopt new practices. One of the greatest silvicultural challenges is how to 'restore' uneven-age production after decades of even-age management. Forest owners may also realize after some time that the tempting option of uneven age production of roundwood might produce less timber sales income due to rather high harvesting costs and in the long-run the method may lead to a decreasing timber stock.

5.4. Obstacles for innovative forest management approaches

5.4.1. Traditional attitudes and practices

Up to recently, rather strict regulations of forest management in the Forest Act (1996) have been seen as obstacles in developing innovative approaches. This obstacle has been removed when the new, more liberal Forest Act became effective in the beginning of 2014. Now there are a wider range of approaches available, i.e. traditional even-aged forest management, intensive short-rotation management and uneven-aged forest management. In developing new or innovative forest management approaches the main obstacles are:

1) Long traditions of the predominant practices and rather well optimized technical systems of forestry operations and wood procurement. It is culturally and technically challenging to break the prevailing practices in these circumstances. The change would require modifications in the procedures in the whole value network.
2) Forest professionals' attitudes and skills of suggesting innovative alternatives. Many forest professionals have a strong faith in the superiority of the predominant even-aged forest management with clear-cuts and artificial regeneration. It is very hard for them to start contemplating different alternatives in a neutral way.
3) Lack of illustrative simulation tools for helping forest owners to understand and choose between forest management alternatives. There is an evident and urgent need to design and learn to use such tools.

6. Policies influencing ownership development / Policy instruments for new forest owners

Policy and ownership are related in various ways. Firstly, policies directly or indirectly influence ownership development or even encourage or create new forms of ownership. Secondly, policy instruments are emerging in response to ownership changes, including instruments addressed to support new types of owners e.g. through advisory services, cooperative or joint forest management etc.

6.1. Influences of policies on the development of forest ownership

6.1.1. Fragmentation of forest holdings

Finland supports equal rights of siblings to inherit forest land. Through the decades, this principle has increasingly led to a situation in which family forest holdings are not any more left to the oldest male inheritor but split between heirs, leading to fragmentation of forest holdings. Currently there are no regulations regarding the size of holdings or parcels created in the transfer to the next generation. However, forest property needs to be sold with a price over 75% of the fair price to avoid donation tax, whereas an agricultural farm (possibly including forest as well) only needs to be sold with a price over 50% of the fair price. This has led to the situation that the receiver has not been able to buy the whole forest holding and it has been split.

The Ministry of Agriculture and Forestry has put a lot of effort in improving the forest holding size structure. The policy aim, declared in the National Forest Programme 2015 (2011), is that mean forest holding size increases from the current 30 ha to 50 ha by 2050. Regarding this aim, development projects and communication campaigns have been conducted (e.g. Vierimaa 2010, Ministry of Agriculture and Forestry 2012). The Ministry's project 2009-2012 yielded a boost in advisory campaigns and legal services aiming at advancing transfers to the next generation, in order to get holdings in the hands of a new younger generation that would be more active in forest management and timber sales. The aims included increasing the number and area of jointly owned forests (in order to cease fragmentation and enable cost-efficient outsourced forest management). In addition to the reduced taxing rate, the establishment of new jointly owned forests has been promoted with the aid of campaigns organized together by forestry organizations and the Land Administration. The above efforts have had observable but still rather little impact on forest ownership dynamics.

6.1.2. Forest Management Associations

Until 2014, Finnish family forest owners have had to pay an obligatory forest management fee (some two to four €/ha per year), which has then been transferred to the local Forest Management Association with the aim to guarantee forest policy implementation on the grassroots level and guarantee the availability of forest management services for all forest owners. There is a reason to assume that this system has maintained the use of advisory services and timber sales activeness among smaller holdings and older owners.

Recently, Finland has decided to quit the forest management fee system in order to enable increased competition of forestry services in the market by revising the law concerning Forest Management Associations. The change is aimed to increase forest owners' freedom of choice and to improve the competitive position of other forest service providers. The Forest Management Associations will from the beginning of 2015 be private associations, which are funded by membership fees and business activities. They have the freedom to offer services without geographical limitations and, on the other hand, forest owners are free to choose whether to stay as members. This situation has hastened the efforts of FMAs to develop new competitive services, and simultaneously other market players have prepared for winning new customers. What kind of attention market players will place on small-holders remains to be seen. If they are not ignored but offered new appealing services, a new active forest owner category might

emerge. The forthcoming years will show whether significant changes in advisory service market really take place and whether there is enough demand among forest owners that new types of services emerge. The pessimistic scenario is that only traditional services remain as profitable for the service providers and a large share of new forest owners with their diversifying emerging needs is left without proper services.

6.1.3. Field afforestation

Up to recently, Finland has subsidized afforestation of agricultural land with a full prize of saplings, materials and herbicides and 20–70% of planting work costs. The total area of afforestation was in 2012 some 1,700 ha, all on private lands. The new Act on Financing Forest Management will remove afforestation of agricultural fields from subsidy targets in order to simplify the financing administration and to allocate decreasing forestry financing to more effective targets in forestry.

6.2. Influences of policies in forest management

6.2.1. Forest management planning

Up to 2011, the state subsidized forest management plans (FMP) so that the owner only paid less than half of the total field inventory and planning costs. Since then, the forest resource data acquisition and maintenance system has renewed so that the state collects the forest resource data with a laser-scanning based inventory and offers basic information via a forest fact sheet for free for owners, but forest management plans and other planning calculations are market services. Along with deregulating FMPs, the distinction between public and private services has thus been made clearer. However, in the current situation, FMPs based on owners' own objectives are much more expensive than owners are familiar with, and for many owners the publicly funded recommendations are enough, although the public service does not include and takes no responsibility on considering sustainability and optimal treatment schedules on holding level. The owner may purchase an account to the Metsään.fi online information service with 40 €/year or 120 €/3 years, where s/he can see the basic information of his/her holding as well as harvesting opportunities. Service providers can reach holding-level forest information and offer their services only with the owner's specified permission, because the Finnish Data Protection Ombudsman has regarded the detailed forest property information as personal information.

Having a forest management plan has all the time been voluntary for individual family forest owners or group of heirs. However, for jointly owned forests, the specific Act for the jointly owned forests requires a forest management plan, but the share of this ownership group is only 2% of productive forestland in Finland.

Forest management plans are compiled to follow the guidelines for good silviculture, (Best Practice Guidelines for Forest Management) although taking into account the owner's special wishes of leaving some specific stand outside harvesting or willingness to have more or less equal stream of income. The new Forest Act, in effect from the beginning of 2014, has no more strict requirements for final cuttings, and it explicitly allows selection cuttings and uneven-aged forestry. These are rather radical innovations in Finnish forest policy that has since 1950s relied strongly on even-aged forest management regime. For forest owners and their service providers the new situation means that one model of good silviculture can no longer be the strategy of preparing a forest management plan. This situation requires more attention to inquiring after the owner's wishes and more skills and tools to provide forest management alternatives from which the owner can choose. It is expected that the recent and still ongoing policy change will affect owners' goal structures. The objective is to respect owners' values and offer them more freedom in selecting forest management approaches.

A further notable matter in the current system is that many market players are offering forest owners FMPs and related market services with the background motivation of engaging them as customers. For example, a timber buying company may order and pay a FMP for a loyalty customer's holding. The price of the FMP may be 20 euros per hectare, and while the owner gets it free of charge at the

point of delivery, s/he may pay the expenses in the form of hidden extra profit in forthcoming services or lower timber prices. This raises a question of honesty and ethics within the market-based advisory services.

6.2.2. Biodiversity: Key habitats and retention trees

The Forest Act determines valuable habitats that need to be set aside in harvesting or treated so that their characteristics remain. These habitats are defined typically as small and should not make a significant loss in economic terms. There are about 105,000 hectares of such sites, or 0.7% of private forests (Siitonen 2013) However, if a valuable habitat makes a significant loss, an owner is eligible to be compensated on the basis of the value of commercial timber. The owner is also entitled to compensation for the foregone forest revenue if he/she voluntarily offers a forest area for either a temporary or permanent protection within the METSO biodiversity protection policy program.

The Forest Act renewal in the 1990s brought retention trees to the agenda of final cuttings. The aim with retention trees is to increase the quantity, quality and diversity of decaying wood in economic forests and to keep economic forests suitable for a greater number of species. The idea of retention trees was not easily understood: many owners logged fallen retention trees away or thought that they were only seed trees and harvested them after a few years. Currently the situation is better: the concept of retention trees is included in the prevailing practices of private forests and preserving retention trees is included in the certification criteria. Also nowadays the best trees in terms of biodiversity (e.g. big aspens) are left in the forests, and more often retention trees are left in groups. However, while the relatively small number of retention trees has small impact on owners' timber sales incomes, the positive effect on biodiversity is also considered very small.

6.3. Policy instruments specifically addressing different ownership categories

6.3.1. Absentee and other new owner types

For new forest owners, the public Forestry Centre organization offers information seminars and training courses about the basics of forestry and forest ownership. Regional advisory campaigns and courses for female forest owners have also taken place. Association of distant forest owners has been promoted by means of training events as well as mass media communication focusing on how to establish jointly owned forests. The Metsään.fi online service has partly been motivated by the acknowledged need to offer opportunities for city-dwellers and other absentee forest owners to be better able to manage their forest ownership.

Absentee owners are regularly invited to attend fair events or investor evenings in the cities. These events are often jointly organized by public and private organizations. Since the 1990s, timber buying companies have increasingly actively established service offices to larger cities, and forest owners' associations have followed the path in recent years. It seems, however, that these offices and services have mainly reached rural-urban owners (see Hujala and Tikkanen 2008) with rather traditional timber-growing objectives rather than being able to serve urbanizing forest owners with more diverse motivations related to multi-purpose forestry, aesthetics and biodiversity (see also Kumela et al. 2013). The public discussion on different new forest owner types contains a paradox: while the urban, female and nature-oriented new owner types have been forecasted long before their large-scale emergence, policies targeted specifically for those owner types have not yet been designed. Simultaneously, some new owner types are emerging without proper recognition (Häyrinen et al. 2014).

There seems to be a need to refine the sociological understanding of what in new owner types is really new and what the near and further future owner types will be like.

6.4. Factors affecting innovation in policies

In Finland, forestry as such has not been recognized as a business, but considered rather a financial investment, which may have harmed the adoption of most efficient policy instruments enhancing forestry on the holding (enterprise) level. Instead, advisory services and silvicultural financing has been employed on the owner or stand level. Finnish forest policy formulation has for a long time been dominated by discourse relating to fragmentation, passiveness of owners as timber suppliers and insecurity of long-term timber supply. The change of forest ownership from traditional farmer-owners increasingly to highly educated city-dwellers has been part of the discourse long before this change has actually taken place and affected timber supply or service demand. Policy innovation has suffered from organizational inertia. There has been no lack but rather too strong political lobby that has prevented creative policy innovations from being discovered or accepted. Also the ageing of forest owners has maintained a rather conservative profile of the owners and the anticipated ownership changes have been delayed and perhaps caused some frustration among policy innovators. Regulations of access to forest resource information as well as market regulation have also been considered a barrier in establishing new policies, institutions and activity models.

Policymakers' and main forestry stakeholders' focus has been on safeguarding the short-term operational environment of forestry, i.e. enabling the smooth timber market, negotiating sufficient budget funding for forestry subsidies etc. The policy framework has been reactive rather than proactive. Much of this changed in the beginning of the 2010s when the forest legislation renewal began. A dominant feature of the private forestry in Finland of the 2010s is the systematic effort to ease regulations. Releasing tree species choice, actively allowing uneven-aged forest management as an alternative to clear cuttings, relaxing remaining stock requirements and regeneration criteria, deregulating forest management associations, and open service-market for competition are among the renewals. These changes may be seen as rather radical developments in the operational environment. Many traditional action models will be replaced by new ones and the advisory service market will be redistributed.

CASE STUDY 3: DEREGULATION OF FOREST MANAGEMENT ASSOCIATIONS

In Finland, the Act of Forest Management Associations (1998) has determined an obligatory forest management fee that has been collected annually from small-scale forest owners with more than 4-12 (depends on the location in the country) ha of productive forest land. The collected funds have been directed to local forest management associations for maintaining advisory services and communication, with the aim of implementing national forest policy at the local level. Recently, the market neutrality of such a system was critically questioned. When deregulating forest services, the current forest legislation revision removed obligatory forest management fees. Forest management associations now compete freely with other service providers having voluntary membership fees and fees from services. In the Forest Management Association Päijät-Häme, which is one of the largest associations in the southern Finland, surveys on the members' willingness to stay as members and the amount of suitable membership fee have been conducted. New services concerning uneven-aged forest management and new IT tools to support advisory services and forest planning have been developed and the staff has been trained to improve customer service.

Source/Further information: Executive director Jari Yli-Talonen, executive board member Jussi Leppänen.

CASE STUDY 4: FOREST BIODIVERSITY PROTECTION PROGRAMME METSO

To halt the ongoing decline of forest biodiversity and to improve the acceptability of forest protection, Finland has launched an ambitious policy program for biodiversity conservation that relies on voluntary participation of small-scale forest owners, monetary compensation of protected forest areas and intensive communication efforts between owners, authorities and service providers. The METSO program has been successful in making forest owners' attitudes more positive towards forest conservation. The cooperation between authorities has improved, and the program has contributed to the institutional adaptation of forest sector actors to take biodiversity aspects better into account in everyday activity. It is expected that in the course of forest land ownership change, the demand of forest conservation services will increase among forest owners, and the METSO program offers a promising frame for being ready for that. However, the challenge remains to safeguard as good ecological impact as possible, and there are still tensions between forest and environmental authorities, NGOs and lobby organizations concerning the priority between temporary and permanent protection schemes.

Further information: Paula Horne, author of METSO evaluation report 2012 (Laita et al. 2012).

7. Literature

Asikainen, A.-R. 2013. Metsälain muutos ja metsänkäsittelyn monipuolistaminen metsänhoitoyhdistyksen jäsenten ja toimihenkilöiden näkökulmista. Metsänhoitoyhdistys Päijät-Hämeen tapaustutkimus. Itä-Suomen yliopisto, luonnontieteiden ja metsätieteiden tiedekunta, metsätieteiden osasto, metsätieteen pro gradu [The reform of forest law and the diversification of forest management from the perspectives of forest management association's members and authorities] A case study of Forest management association Päijät-Häme. University of Eastern Finland, Faculty of Science and Forestry, School of Forest Sciences, Master's thesis on forest sciences. 88 p.

Asikainen, A.-R., Hujala, T. & Kurttila, M. 2014. Maanomistajien näkemykset metsänkäsittelyn vaihtoehdoista ja metsäammattilaisten palvelunkehittämisnäkökulmat – Metsänhoitoyhdistys Päijät-Hämeen tapaustutkimus [Land owners' views on forest management alternatives and forest professionals' service development perspectives – A case study of Forest Management Association Päijät-Häme]. Metsätieteen aikakauskirja 2014(3): 149-162.

Favada, I.M., Karppinen, H., Kuuluvainen, J., Mikkola, J. & Stavness, C. 2009. Effects of timber prices, ownership objectives, and owner characteristics on timber supply. Forest Science 55(6): 512-523.

Finnish Statistical Yearbook of Forestry. 2014. Official Statistics of Finland: Agriculture Forestry and Fishery. Finnish Forest Research Institute Vantaa. 428 p. http://www.metla.fi/metinfo/tilasto/julkaisut/vsk/2014/index.html

Global Forest Resources Assessment. 2010. Forestry Department Food and Agriculture Organization of the United Nations.

Hamunen, K., Virkkula, O., Hujala, T., Hiedanpää, J. & Hujala, T. 2015. Enhancing informal interaction and knowledge co-construction among forest owners. To appear in Silva Fennica.

Horne, P., Koskela, T. & Ovaskainen, V. (eds.). 2004. Metsänomistajien ja kansalaisten näkemykset metsäluonnon nomimuotoisuuden turvaamisesta [Forest owners' and citizens' views on safeguarding forest biodiversity]. Metsäntutkimuslaitoksen tiedonantoja 933. In Finnish, English abstract. 110 p.

Hujala, T. & Tikkanen, J. 2008. Boosters of and barriers to smooth communication in family forest owners' decision making. Scandinavian Journal of Forest Research 23(5): 466–477.

Hujala, T., Kurttila, M. & Karppinen, H. 2013. Customer segments among family forest owners: Combining ownership objectives and decision-making styles. Small-scale Forestry 12: 335-351.

Hänninen, H. & Ripatti, P. 2007. Uudet metsänomistajat. [New forest owners] TTS tutkimuksen tiedote,Luonnonvara-ala: metsä 707. (Finnish with English summary)

Hänninen, H. & Karppinen, H. 2010. Yksityismetsänomistajat puntarissa. [Finnish family forestry under the spotlight] In: Sevola, Y. (toim.). Metsä, talous, yhteiskunta. Katsauksia metsäekonomiseen tutkimukseen. Working Papers of the Finnish Forest Research Institute 145: 55-67.

Hänninen, H., Karppinen, H. & Leppänen, J. 2011. Suomalainen metsänomistaja 2010. [Finnish Forest Owner 2010] Working Papers of the Finnish Forest Research Institute 208. 94 p.

Häyrinen, L., Mattila, O., Berghäll, S. & Toppinen, A. 2014. Forest Owners' Socio-demographic Characteristics as Predictors of Customer Value: Evidence from Finland. To appear in Small-scale Forestry.

Karppinen, H. 2005. Forest owners' choice of reforestation method: An application of the theory of planned behavior. Forest Policy and Economics 7(3): 393-409.

Karppinen, H. 2012. New forest owners and owners-to-be: Apples and oranges? Small-scale Forestry 11(1): 15-26.

Karppinen, H. & Hänninen, H. 2006. Monitoring Finnish family forestry. The Forestry Chronicle 82(5): 657-661.

Karppinen, H. & Ahlberg, M. 2008. Metsänomistajakunnan rakenne 2020: Yleiseen väestömuutokseen perustuvat ennustemallit [Forest owners in 2020: Predicting the structural characteristics of Finnish private forest owners by population forecasts]. Metsätieteen aikakauskirja 1/2008: 17-32.

Karppinen, H. & Tiainen, L. 2010. ‘Semmonen niinkun metsäkansa’ – suurten ikäluokkien perijät tulevaisuuden metsänomistajina [‘Sort of forest people’ - Future forest owners: Descendants of the post-war baby boom generation]. Metsätieteen aikakauskirja 1/2010: 19-38.

Karppinen, H. & Korhonen, M. 2013. Do forest owners share the public’s values? An application of Schwartz’s value theory. Silva Fennica 47(1) article id 894.

Karppinen, H. & Berghäll, S. 2015. Forest owners’ stand improvement decisions: Applying the Theory of Planned Behavior. Forest Policy and Economics 50: 275–284.

Korhonen, K., Hujala, T. & Kurttila, M. 2012. Reaching forest owners through their social networks in timber sales. Scandinavian Journal of Forest Research 27(1): 88-99.

Kumela, H. & Hänninen, H. 2011. Metsänomistajien näkemykset metsänkäsittelymenetelmien monipuolistamisesta [Forest owners’ view on new forest management methods]). Metlan työraportteja/Working Papers of the Finnish Forest Research Institute 203. 76 p.

Kumela, H., Hujala, T., Pykäläinen, J., Rantala, M. & Kurttila, M. 2013. Metsänomistajille tarjottavat luontoarvopalvelut: nykytila ja kehitysnäkymiä.[Nature protection services for forest owners: current situation and future prospects] Metlan työraportteja/Working Papers of the Finnish Forest Research Institute 253. 50 p.

Kuuluvainen, J., Karppinen, H. & Ovaskainen, V. 1996. Landowner objectives and nonindustrial private timber supply. Forest Science 42(3): 300-309.

Kuuluvainen, J., Karppinen, H., Hänninen, H., Pajuoja, J. & Uusivuori, J. 2011. Yksityismetsien puuntarjonta - Uudet metsänomistajat [Timber supply from private forests – new owners]. Metsätehon katsaus 47. 4 p.

Kuuluvainen, J., Karppinen, H., Hänninen, H. & Uusivuori, J. 2014. Effects of gender and length of land tenure on timber supply in Finland. Journal of Forest Economics 20(4): 363-379.

Kuusiniemi, K., Majamaa, V. & Vihervuori, P. 2000. Maa-, vesi- ja ympäristöoikeuden käsikirja [Manual of land law, water rights legislation and environmental law]. Helsinki.

Laaksonen, K. 1999. Jokamiehenoikeudet, laki ja perustuslaki [Everyman’s rights, legislation and constitution]. In: Laaksonen, K. (ed.). Juhlajulkaisu Veikko O. Hyvönen, 1929-18/9-1999, Helsinki: Kauppakamari OYJ, Lakimiesliiton Kustannus.

Laita, A., Horne, P., Kniivilä, M., Komonen, A., Kotiaho, J., Lahtinen, M., Mönkkönen, M. & Rämö, A.-K. 2012. METSO-ohjelman väliarvio 2012 [Intermediate assessment of the METSO programme 2012]. 63 p.

Lähdesmäki, M. & Matilainen, A. 2014a. Born to be a forest owner? An empirical study of the aspects of psychological ownership in the context of inherited forests in Finland. Scandinavian Journal of Forest Research 29(2): 101-110.

Lähdesmäki, M. & Matilainen A. 2014b. Kokemuksia toimimisesta Kauhavan yhteismetsässä [Experiences from the joint forest of Kauhava]. In: Matilainen, A. & Lähdesmäki, M. (eds.). Metsänomistuksen tulevaisuus Etelä- ja Keski-Pohjanmaalla. Selvitys metsänomistajakunnan muutoksesta ja palvelutarpeesta. Helsingin yliopisto Ruralia-instituutin raportteja/Ruralia Institute Reports 126.

Leppänen, J. & Torvelainen, J. 2015. Metsämaan omistus 2013. [Forest ownership in 2013] Luonnonvara- ja biotalouden tutkimus 5/2015. Luonnonvarakeskus, Helsinki. 11p.

Matilainen, A. & Lähdesmäki, M. 2009. Nature-based entrepreneurship in private forests - The preconditions for the sustainable co-operation between private forest owners and entrepreneurs. University of Helsinki, Ruralia Institute Reports 48. 73 p.

Ministry of Agriculture and Forestry. 2011. Metsänkäsittelymenetelmien monipuolistaminen. MMM:n julkaisuja 1/2011. [Diversification of forest management methods.] Publications of the Ministry of Agriculture and Forestry 1/2011]

Ministry of Agriculture and Forestry. 2012. Metsätilakoon ja rakenteen kehittäminen - Työryhmän loppuraportti [Developing forest holding size and structure – Final report]. Working group memorandum 2012: 1.

Ovaskainen, V., Hänninen, H., Mikkola, J. & Lehtonen, E. 2006. Cost-sharing and private timber stand improvements: A two-step estimation approach. Forest Science 52(1): 44-54.

Pohjala, J. 2014. Metsänomistajuuden rakenne Etelä- ja Keski- Pohjanmaalla vuonna 2025 [Forest ownership structure in South- and Middle-Ostrobothnia in 2025]. In: Matilainen, A. & Lähdesmäki, M. (eds.). Metsänomistuksen tulevaisuus Etelä- ja Keski-Pohjanmaalla. Selvitys metsänomistajakunnan muutoksesta ja palvelutarpeesta. Helsingin yliopisto Ruralia-instituutin raportteja 126.

Pukkala, T., Lähde, E. & Laiho, O. 2010. Optimizing the structure and management of uneven-sized stands of Finland. Forestry 83: 129–142.

Pukkala, T., Lähde, E., Laiho, O., Salo, K. & Hotanen, J.-P. 2011. A multifunctional comparison of even-aged and uneven-aged forest management in a boreal region. Canadian Journal of Forest Research 41(4): 851–862.

Rämö, A.-K. & Tilli, T. 2007. Private forest owners' views on forms of co-ownership of forests in Finland. (in Finnish). PTT reports 204.

Rämö, A.-K. & Toivonen, R. 2009. Forest related attitudes, motives and intentions among new private forest owners in Finland (in Finnish). PTT reports 216.

Rämö, A.-K., Haltia, E., Horne, P. & Hänninen, H. 2011. Yksityismetsien puuntarjonta – Puunmyyntipäätökseen vaikuttavat tekijät [Timber supply from private forests – Factors influencing timber selling decisions] (in Finnish, English summary). PTT reports 226. 79 p.

Rämö, A.-K., Horne, P. & Primmer, E. 2013. Yksityismetsänomistajien näkemykset metsistä saatavista hyödyistä [Finnish private forest owners' (NIPF) perceptions of forest ecosystem services]. PTT reports 241. 107 p.

Siitonen, J. 2013. Muuttaisiko metsälakiehdotus metsäluonnon arvokkaiden elinympäristöjen turvaamisen käytäntöjä? [Would the new forest law proposal change the practice in safeguarding forest biodiversity habitats?] Metsätieteen aikakauskirja 1/2013: 78-84.

Valkeapää, A. & Karppinen, H. 2013. Citizens' view of legitimacy in the context of Finnish forest policy. Forest Policy and Economics 28: 52–59.

Vierimaa, M. 2010. Policies and processes for improving forest holding size and structure in Finland. Scandinavian Forest Economics 43: 222-223.

List of online sources (websites):

www.forest.fi

www.luonnonperintosaatio.fi

www.metsaan.fi

www.ilo.org/dyn/normlex/en

8. Annexes

8.1. Tables with detailed descriptions of 10 most important publications

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	**Hänninen, H., Karppinen, H. & Leppänen, J. 2011. Suomalainen metsänomistaja 2010 [Finnish Forest Owner 2010]. Metlan työraportteja / Working Papers of the Finnish Forest Research Institute 208. 94 p.**
English language summary/abstract	Finnish Forest Research Institute has conducted survey studies on forest owners since the 1970s. The latest data collection round took place in 2009. Demographic characteristics of forest owners and holding characteristics as well as forest owners' behavior 2004-2008 were investigated by mail inquiry. The study sample consisted of 13,000 forest holdings exceeding five ha of forest land which were chosen by Forestry Centers and the total population was around 300,000. The final response rate was 49, and the sample used in the analysis was 6,318. The study results are descriptive, percentage proportions and means calculated both from the number of forest owners and the area of private forests. The results suggest that structural change in non-industrial private forest ownership is still going on. Aging of forest owners has been especially rapid: the mean age is now 60 years. The share of full-time farmers is 16% of forest owners and the proportion of retired persons 45%. Wage-earners' share was 30% and entrepreneurs' share 7 %. 76% of forest holdings were owned by a single person or a family together, and the share of private partnerships and undistributed estates owned jointly by heirs was 12 % each. 64% of owners still lived in the same municipality close to their forest and 42% resided permanently on their holding. The mean size of forest holdings was 35 ha. Forest owners could be classified into five groups based on their stated objectives: 30% of the owners were multiobjective, 24 % belonged to recreationists, 20% were self-employed owners, 16% could be labeled investors and indifferent owners' share was 10%. Stand improvement (50% of the holdings) and replanting or seeding (48 %) were the most commonly conducted silvicultural measures during 2004-2008. 42% of the owners had received public subsidies for some silvicultural measure. 62% of the forest owners had sold timber during 2004–08. On average, forest owners sold roundwood 3.5 m^3/ha/year. The sales frequency among those who had sold timber was 3.4 years and the volume of the sold item per year was 530 m^3. 85% of the forest owners had been in personal contact with forestry professional at least once during 2004–08. The rate of attendance in seminars, lectures or excursions was 35% and 14% had taken courses. 45 % of owners had a valid forest management plan corresponding to the share of 60 % of the private forest area.
Language of the study/publication	Finnish
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	☐ University ☑ Public Research Insitiute ☐ Private Research Institute ☐ Other (please name below)

Type of funding used (multiple answers allowed)	☐ Private Industry ☑ Private other ☑ National ☐ Public Sub-National ☐ Public EU/cross-national Europe ☐ Public International beyond Europe ☐ Public other
Regional scope	☑ Sub-national ☑ National ☐ Cross-national Europe ☐ International beyond Europe
Theoretical approach	Descriptive report, sociology
Methodical approach	Quantitative mail survey
Thematic focus	☑ ownership change (incl. on changes in quantitative terms, emerging new ownership types, etc.) ☑ motives and behaviour of ownership types ☐ new management approaches ☑ policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
Weblink	http://www.metla.fi/julkaisut/workingpapers/2011/mwp208.htm

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	**Ovaskainen, V., Hänninen, H., Mikkola, J & Lehtonen, E. 2006. Cost-sharing and private timber stand improvements: A two-step estimation approach. Forest Science 52(1): 44-54.**
English language summary/abstract	The effects of cost-sharing and information assistance on nonindustrial private forest owners' investment in timber stand improvements are analyzed using a two-step estimation method. We use survey data on Finnish nonindustrial private forestland owners' stand improvements in 1994–1998, including precommercial thinnings, cleaning of seedling stands, and restoration thinnings of juvenile stands. The investment decision is theoretically considered in a two-period model with amenity values. To allow for the joint determination of participation in the cost-sharing program and the decision to invest, a two-step estimation method is used. The predicted probability of using public subsidy from the first-step model is included in the second-step model for the probability or relative extent of stand improvements. For robust inference, quasi-maximum likelihood estimation is applied. Public subsidy, personal assistance, and forest planning expectedly increased the probability of investing. Public subsidy especially had substantial effects on the probability and extent of stand improvements. Besides overcoming the endogeneity of cost-sharing, the two-step approach showed that personal assistance also encourages stand improvements indirectly through its effect on the use of public subsidy.
Language of the study/publication	English
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	☐ University ☑ Public Research Insitiute ☐ Private Research Institute ☐ Other (please name below)
Type of funding used (multiple answers allowed)	☐ Private Industry ☐ Private other ☑ Private other ☑ National ☐ Public Sub-National ☐ Public EU/cross-national Europe ☐ Public International beyond Europe ☐ Public other
Regional scope	☐ Sub-national ☑ National ☐ Cross-national Europe ☐ International beyond Europe
Theoretical approach	Economics: Stand improvements are theoretically considered as an investment decision in a two-period model with amenity values.
Methodical approach	Quantitative mail survey

Thematic focus	☐ ownership change (incl. on changes in quantitative terms, emerging new ownership types, etc.) ☑ motives and behaviour of ownership types ☐ new management approaches ☑ policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
Weblink	

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	**Favada, I.M., Karppinen, H., Kuuluvainen, J., Mikkola, J. & Stavness, C. 2009. Effects of timber prices, ownership objectives, and owner characteristics on timber supply. Forest Science 55(6): 512-523.**
English language summary/abstract	In this article, we examine factors affecting nonindustrial private timber supply using a consistent estimation method for a limited dependent variable model. The survey data, collected in 1999 from 3,051 Finnish forest owners, includes information on objectives for ownership as well as annual harvest volumes between 1994 and 1998. Ownership objectives are identified using principal component analysis, and five forest ownership objective groups are generated using K-means clustering: multiobjective owners, investors, self-employed owners, recreationists, and indifferent owners. Along with stumpage price, reforestation costs and forest and owner characteristics, including the above objective groups, are used as explanatory variables in estimating the supply equation. A consistent estimation method allowing for heteroscedasticity and non-normality is used. Statistically significant elasticity of the unconditional mean harvest with respect to timber price is 1.3. Recreationists and indifferent forest owners, ceteris paribus, harvest about 2 m3/ha/year less than multiobjective owners and self-employed owners, whereas investors and indifferent owners are more price-responsive than the other groups.
Language of the study/publication	English
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	☑ University ☑ Public Research Insitiute ☐ Private Research Institute ☐ Other (please name below)
Type of funding used (multiple answers allowed)	☐ Private Industry ☐ Private other ☑ National ☐ Public Sub-National ☐ Public EU/cross-national Europe ☐ Public International beyond Europe ☐ Public other
Regional scope	☐ Sub-national ☑ National ☐ Cross-national Europe ☐ International beyond Europe
Theoretical approach	Economics: Utility-based Faustmann model
Methodical approach	Quantitative mail survey, estimation method IHS Tobit model allowing for heteroscedasticity and non-normality of errors
Thematic focus	☑ ownership change (incl. on changes in quantitative terms, emerging new ownership types, etc.) ☑ motives and behaviour of ownership types ☐ new management approaches ☐ policy instruments addressing ownership
Weblink	www.ingentaconnect.com/content/saf/fs/2009/00000055/00000006/art00005

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	**Hujala, T., Kurttila, M. & Karppinen, H. 2013. Customer segments among family forest owners: Combining ownership objectives and decision-making styles. Small-scale Forestry 12: 335-351.**
English language summary/abstract	Empirical forest owner classifications typically distinguish groups based on owners' behaviour or motivations. Typologies are used to inform forest and environmental policies and market-based service provision. However, single typologies may be weak in discerning owner groups that would bring new insights for policymakers or service providers. The present study aims to put together two previously documented owner classification frameworks to form and analyse customer segments for decision-support services. The first grouping is based on owners' objectives for forest ownership, while the second grouping focuses on owners' decision-making styles. These two typologies deal with subjects of interest and motivations for communication, respectively. The study uses a subsample of the Finnish Forest Owner 2010 survey data, collected in 2009 (n = 2,106). Via cross-tabulation of the two groupings, the four largest and potentially most interesting combined owner groups are discerned: multiobjective learners (13%), multiobjective thinkers (9%), learning recreationists (8%) and learning investors (7%), while the other 16 combined groups each account for less than 6% of owners. The result thus reveals the need for learning-oriented services for three differing principal subjects of interest as well as multiobjective services for deliberate thinkers, i.e. comparative information about forest management alternatives. The message for policy makers and service providers is that the majority of forest owners may be served with educative interactive services. Learning-oriented indifferent owners need special services to recognize their latent goals. Delegators need ready-made services for outsourced decision making and self-reliant owners need information packages of varying contents. Combinations of groups prove feasible for producing policy advice.
Language of the study/publication	English
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	☐ University ☑ Public Research Insitiute ☐ Private Research Institute ☐ Other (please name below)
Type of funding used (multiple answers allowed)	☐ Private Industry ☐ Private other ☑ National ☐ Public Sub-National ☐ Public EU/cross-national Europe ☐ Public International beyond Europe ☐ Public other
Regional scope	☐ Sub-national ☑ National ☐ Cross-national Europe ☐ International beyond Europe
Theoretical approach	Sociology, social psychology
Methodical approach	Quantitative mail survey

Thematic focus	☑ ownership change (incl. on changes in quantitative terms, emerging new ownership types, etc.) ☑ motives and behaviour of ownership types ☐ new management approaches ☐ policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
Weblink	http://dx.doi.org/10.1007/s11842-012-9215-1

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	**Karppinen, H. 2012. New forest owners and owners-to-be: Apples and oranges? Small-Scale Forestry 11(1): 15-26.**
English language summary/abstract	This literature review focuses on two groups of landowners in the US and Finland: those current family owners who have recently become forest owners, with a relatively short duration of ownership, and private individuals who can be expected to become forest owners in the future are compared. The former group is called 'new owners', and the latter 'future owners', respectively. This study aims to find what can be concluded about future owners from studies of new owners based on the assumption that new owners are interpreted to represent future owners in these studies. The data consists of eight studies conducted after the mid-90s.The literature analysis reveals that studies on current owners with short-term experience as forest owners might suggest some developments in ownership structure and service needs, and potentially confirm some forecast trends. Examples of these generation-bound findings, which can probably be generalized across future owners, are new owners' higher level of education and higher likelihood of living in urban areas. Findings concerning certain behavioral patterns or structural features should be regarded cautiously. Former studies suggest that new owners are quite active harvesters. New forest owners are younger, and younger owners seem to cut more than older owners. However, conclusions concerning future owners' timber supply behavior are certainly different if they are based on the assumption of an age cohort effect as opposed to a life-cycle effect. Qualitative studies on future owners cannot reveal future owner and holding characteristics or behavioral patterns, but they can give insight on the often generation-bound values and objectives of forest ownership.
Language of the study/publication	English
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	☑ University ☑ Public Research Insitiute ☐ Private Research Institute ☐ Other (please name below)
Type of funding used (multiple answers allowed)	☐ Private Industry ☐ Private other ☐ Private other ☑ National ☐ Public Sub-National ☐ Public EU/cross-national Europe ☐ Public International beyond Europe ☐ Public other
Regional scope	☐ Sub-national ☐ National ☐ Cross-national Europe ☑ International beyond Europe
Theoretical approach	Sociology
Methodical approach	Meta-analysis

Thematic focus	☑ ownership change (incl. on changes in quantitative terms, emerging new ownership types, etc.) ☑ motives and behaviour of ownership types ☐ new management approaches ☐ policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
Weblink	http://dx.doi.org/10.1007/s11842-011-9165-z

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	**Karppinen, H. & Ahlberg, M. 2008. Metsänomistajakunnan rakenne 2020: Yleiseen väestömuutokseen perustuvat ennustemallit [Forest owners in 2020: Predicting the structural characteristics of Finnish private forest owners by population forecasts]. Metsätieteen aikakauskirja 1/2008: 17-32.**
English language summary/abstract	The structural changes in forest ownership are explained by general demographic changes in the Finnish population using regression-based models. The forecasts of structural changes among NIPF owners are then calculated by replacing corresponding population forecasts in these models. In addition to this, linear and non-linear trends are estimated. The study uses forest owner survey data from several cross-section studies and general population statistics and forecasts. The aging of the population, urbanization and changes in industries seem to continue also in the future. Thus, the structural trends in forest ownership will remain the same as before. There will be more elderly forest owners, more retirees and more female owners, and less farmer forest owners in the future. Forest owners will also be better educated than now. The wage-owners share of the forest owners will not be increasing, because new owners will often be rather old. The structural changes in forest ownership and related changes in forest owners' forestry behavior are interesting from the point of view of forest policy. If the development of the general demographic factors would forecast changes among forest owners in a reliable manner, structural forecasts could be updated with short intervals without collecting expensive survey data on forest owners. However, based on the current data it seems to be to almost impossible to estimate sufficiently reliable forecast models.
Language of the study/publication	Finnish
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	☑ University ☑ Public Research Insitiute ☐ Private Research Institute ☐ Other (please name below)
Type of funding used (multiple answers allowed)	☐ Private Industry ☐ Private other ☑ National ☐ Public Sub-National ☐ Public EU/cross-national Europe ☐ Public International beyond Europe ☐ Public other
Regional scope	☐ Sub-national ☑ National ☐ Cross-national Europe ☐ International beyond Europe
Theoretical approach	Sociology
Methodical approach	Forecasting, survey data

Thematic focus	☑ ownership change (incl. on changes in quantitative terms, emerging new ownership types, etc.) ☐ motives and behaviour of ownership types ☐ new management approaches ☐ policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
Weblink	http://www.metla.fi/aikakauskirja/abs/fa08/fa081017.htm

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	**Rämö, A.-K. & Toivonen, R. 2009. Uusien metsänomistajien asenteet, motiivit ja aikomukset metsiin ja metsänomistukseen liittyvissä asioissa [Forest related attitudes, motives and intentions among new private forest owners in Finland]. Pellervo Economic Research Institute Reports No. 216 (summary in English).**
English language summary/abstract	In the early 2000s Finnish private forest owners are still getting the forests in their possession in advanced years, near retiring. Their background characteristics and objectives of forest ownership differ to some extent from the forest owners' average. On the basis of characteristics and forest and forestry related values there can be found five different groups among the new forest owners. These results are based on a mail survey aimed at Finnish forest owners having forest estates in their possessions since 1999 or later. The survey was conducted in spring 2008 and the questionnaire was mailed altogether to 150 private forest owners. The number of accepted responses totalled 80 meaning a response rate of 61%. The study has its basis on the structural change among the Finnish forest owners. As a result Finnish private forest owners are likely to be in 20 years' time notably different from those of the early 2000s. Preparing for the change properly requires knowledge about future forest owners' attitudes and behaviour related to forests. Hints of these can be received by examining today's new forest owners. This study describes these issues. This study is a part of a larger project 'Private Forest Ownership in a State of Change: Finnish Forest Owners' Profile in 2030'.
Language of the study/publication	Finnish
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	☐ University ☐ Public Research Insitiute ☑ Private Research Institute ☐ Other (please name below)
Type of funding used (multiple answers allowed)	☐ Private Industry ☑ Private other ☐ National ☐ Public Sub-National ☐ Public EU/cross-national Europe ☐ Public International beyond Europe ☐ Public other
Regional scope	☐ Sub-national ☑ National ☐ Cross-national Europe ☐ International beyond Europe
Theoretical approach	Sociology
Methodical approach	Quantitative mail survey

Thematic focus	☑ ownership change (incl. on changes in quantitative terms, emerging new ownership types, etc.) ☑ motives and behaviour of ownership types ☐ new management approaches ☐ policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
Weblink	http://ptt.fi/en/prognosis/216-anna-kaisa-ramo-ritva-toivonen-uusien-metsanomistajien-asenteet-motiivit-ja-aikomukset-metsiin-ja-metsanomistukseen-liittyvissa-asioissa

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	**Lähdesmäki, M. & Matilainen, A. 2014a. Born to be a forest owner? An empirical study of the aspects of psychological ownership in the context of inherited forests in Finland. To appear in Scandinavian Journal of Forest Research.**
English language summary/abstract	Ownership is a multidimensional phenomenon that includes legal, social and emotional aspects. In addition to legal aspects, the social and emotional aspects, 'feelings of ownership', potentially have behavioral effects. Nevertheless, these aspects are often overlooked in the research influencing the forest owners' behavior and thus their forest management decisions. This article examines how private forest owners with inherited forest holdings construct feelings of ownership toward their forests and how these constructions are reflected in their forest management decisions. Forest ownership is addressed through the theory of psychological ownership. On the basis of 15 thematic in-depth interviews, we suggest that a sense of identity and control, as dimensions of psychological ownership, can influence whether forest management decisions are guided by tradition, economic incentives, or responsibility toward property. Based on the results, a forest owner typology (restricted, indifferent, informed and detached forest owners) was constructed, further enabling us to understand the differences among private forest owners and the roots of their forest management decisions. More generally, the study highlights the important role of emotions in forest management decisions.
Language of the study/publication	English
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	☑ University ☐ Public Research Insitiute ☐ Private Research Institute ☐ Other (please name below)
Type of funding used (multiple answers allowed)	☐ Private Industry ☑ Private other ☐ Private other ☑ National ☐ Public Sub-National ☐ Public EU/cross-national Europe ☐ Public International beyond Europe ☐ Public other
Regional scope	☐ Sub-national ☐ National ☐ Cross-national Europe ☐ International beyond Europe
Theoretical approach	Interpretative approach, social science
Methodical approach	Qualitative interviews

Thematic focus	☑ ownership change (incl. on changes in quantitative terms, emerging new ownership types, etc.) ☑ motives and behaviour of ownership types ☐ new management approaches ☐ policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
Weblink	http://dx.doi.org/10.1080/02827581.2013.869348

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	**Matilainen, A. and Lähdesmäki, M. 2009. Nature-based entrepreneurship in private forests - The preconditions for the sustainable co-operation between private forest owners and entrepreneurs. University of Helsinki, Ruralia Institute Reports 48. 73 p.**
English language summary/abstract	Nature-based tourism is one of the fastest growing tourism sectors at the moment. It is also the form of tourism that often benefits the economy of rural areas. In addition to state owned forests, nature-based tourism is in many countries situated in private forests, which are not owned by entrepreneurs themselves. Therefore, the ownership issues and property rights form central challenges for the business activities. The maintenance of good relationships between private forest owners and entrepreneurs, as well as combining their interests, becomes vital. These relationships are typically exceptionally asymmetrical, granting the forest owner unilateral rights regulating the business activities in their forests. Despite this, the co-operation is typically very informal and the existing economic compensation models do not necessarily cover all the forest owners' costs. The ownership issues bring their own characteristics to the relationship. Therefore, we argue that different aspects of ownership, especially psychological ones, have to be more critically examined and taken into consideration in order to build truly successful relations between these parties. This is crucial for sustaining the business activities. The core of psychological ownership is the sense of possession. Psychological ownership can be defined as a state, in which individuals perceive the target of ownership, the object or idea, as 'theirs'. The concept of psychological ownership has so far been mainly used in the context of professional organizations. In this research, it has been used to explain the relationships between private forest owners and nature-based entrepreneurs. The aim of this study is to provide new information concerning the effect of psychological ownership on the collaboration and to highlight the good practices. To address the complexity of the phenomenon, qualitative case study methods were adopted to understand the role of ownership at the level of subjective experience. The empirical data was based on 27 in-depth interviews with private forest owners and nature-based tourism entrepreneurs. The data was analysed by using the methods of qualitative analysis to construct different typologies to describe the essence of successful collaboration. As a result of the study, the special characteristics and the practical level expressions of the psychological ownership in the privately owned forest context were analysed. Four different strategies to perceive these ownership characteristics in co-operation relationships were found. By taking the psychological ownership into consideration via these strategies, the nature-based entrepreneurs aim to balance the co-operation relationship and minimise the risks in long term activities based on privately owned forests.
Language of the study/publication	English, extended summary in Finnish
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	☑ University ☐ Public Research Insitiute ☐ Private Research Institute ☐ Other (please name below)

Type of funding used (multiple answers allowed)	☐ Private Industry ☐ Private other ☑ National ☐ Public Sub-National ☐ Public EU/cross-national Europe ☐ Public International beyond Europe ☐ Public other
Regional scope	☐ Sub-national ☐ National ☐ Cross-national Europe ☐ International beyond Europe
Theoretical approach	Interpretative approach, social science
Methodical approach	Qualitative interviews
Thematic focus	☑ ownership change (incl. on changes in quantitative terms, emerging new ownership types, etc.) ☑ motives and behaviour of ownership types ☑ new management approaches ☐ policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
Weblink	http://www.helsinki.fi/ruralia/julkaisut/pdf/Reports48.pdf

SELECTED REPORTS/PUBLICATIONS	
Full reference of study/publication	**Rämö, A.-K., Horne, P. and Primmer, E. 2013. Yksityismetsänomistajien näkemykset metsistä saatavista hyödyistä [Finnish private forest owners' perceptions of forest ecosystem services]. PTT reports 241. 107 p.**
English language summary/abstract	Finnish private forest owners (NIPFs) recognize plenty of ecosystem services in their forests and they are interested in producing them according to a survey conducted in 2012. So far, quite a few respondents had commercialized ecosystem services in their forests. The sample of the study consisted of 1,300 private forest owners in Finland. They were picked from different parts of Finland representing nine cooperation networks. The data was collected by a mail survey using structured questionnaire. The number of accepted responses was about 360, the response rate being 29 %.
Language of the study/publication	Finnish
Type of organization conducting the study (in case of multi-institutional studies multiple answers allowed)	☐ University ☑ Public Research Insitiute ☑ Private Research Institute ☐ Other (please name below)
Type of funding used (multiple answers allowed)	☐ Private Industry ☐ Private other ☑ National ☐ Public Sub-National ☐ Public EU/cross-national Europe ☐ Public International beyond Europe ☐ Public other
Regional scope	☐ Sub-national ☑ National ☐ Cross-national Europe ☐ International beyond Europe
Theoretical approach	Economics, sociology
Methodical approach	Survey data, interview data
Thematic focus	☐ ownership change (incl. on changes in quantitative terms, emerging new ownership types, etc.) ☑ motives and behaviour of ownership types ☑ new management approaches ☑ policy instruments addressing ownership
Main results should be given here if not yet included in the summary.	
Weblink	http://ptt.fi/wp-content/uploads/2013/05/rap241.pdf

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