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# Finnish family forest owner 2010 survey

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## Abstract

The Finnish Forest Research Institute has carried out monitoring surveys on Finnish family forest owners since the 1970s. The most recent survey data was collected at the beginning of the year 2009. The mail survey consisted of 13,000 of a total 300,000 family forest holdings over 5 hectares of productive forestland. The response rate was 49 per cent. The results show, for instance, that the average age of Finnish forest owners is 60 years. According to major occupation, 45 per cent of forest owners are pensioners, 30 per cent are wage earners, 16 per cent are agricultural and forestry entrepreneurs and 7 per cent are 'other' entrepreneurs. With regard to ownership form, 76 per cent of family forest holdings are in single person or family ownership, whereas both private partnerships and heirs represent 12 per cent of forest holdings. Forest owners are not greatly urbanised yet, as 55 per cent live in rural areas and the rest live in villages or towns. Sixty-four per cent live in the same municipality with their forest holding. Forest owners most commonly have multiple objectives, as this objective group represents 34 per cent of owners and 48 per cent of forest area. During the last ten years, the share of *multiobjective*, *indifferent* and *recreational owners* has increased, whereas the share of *self-employed* and *investor owners* has decreased.

**Keywords:** mail survey, forest owners, family forests

## 1. Introduction

The Finnish Forest Research Institute (Metla) has carried out monitoring surveys on Finnish family forest owners since the 1970s (Karppinen and Hänninen 2006). Since then, the topics that have been analysed by employing survey materials have been various. For instance, which factors affect forest owners' roundwood sales? What are forest owners' objectives for their forestry? How is public financing for forestry works affecting forest owners' behaviour? What is the role of forest extension with regard to forest owners' behaviour? Which factors explain the self-activity of forest owners?

Although behavioural and economic studies are forest-ownership researchers' key area of interest, most of the public interest is focused on

more general factors. Who are the 'forest owners' of their profession? How many forest owners live in cities? How much forest do they own? What is the proportion of female owners? There are many questions and a lot of misinformation circulating among the general public that can be addressed by reports based on forest owner surveys. However, the most important users are policy makers, civil servants and other researchers, who need to have correct – and as much up-to-date information – as is possible.

This article aims at describing some features of Finnish forest ownership. The latest survey data were collected in the beginning of the year 2009. A comprehensive report on Finnish family forest owners is to be published in Finnish during the winter period 2010-11 (Hänninen et al. 2010).

## **2. Survey of 2009**

The survey of 2009 was designed based on the experiences of the previous survey of 1999 (Karppinen et al. 2002). Large parts of the survey questionnaire were left almost unchanged for monitoring purposes. Topical issues were added, and a new base design was introduced: The survey questionnaire included a common part and three variable parts on different topics. This facilitated the shortening of the questionnaire to an individual forest owner, who had to fill only one of the three variable parts. On the other hand, results from variable parts will not be representative regionally.

The common (or fixed) part of the questionnaire included questions on the features of the owner and holding. The most time-consuming sections for a forest owner were questions on the cuttings and silvicultural works, which had been carried out on the holding during the preceding five years (2004-2008). The variable part had three separate topics: Decision making for tending of young stands, forest planning and forest conservation through the Finnish 'METSO-programme'.

The sampling, contact addresses and other available information were based on existing tax registers. Private ownership had to be direct, i.e. personal or family ownership, private partnership or heirs (undistributed ownership). Other private ownership forms like companies or jointly owned forest were excluded. The sample was set at 1,000 holdings per forestry centre, because regionally representative results were needed for local policy making. Information on productive forest area from tax registers was employed in stratified sampling according to forest size for every region.

Because there are 13 forestry centres in Finland, the mail survey consisted of 13,000 of a total 300,000 family forest holdings over 5 hectares of productive forestland. The survey was conducted on the Finnish mainland only, i.e. the province of Åland was excluded. Forest holding was defined to be located within one municipality. Holdings owned by spouses were regarded as a single holding, even if spouses had separate holdings in their

possession. The response time was set at between the 9th of February and the 30th of March 2009, but some questionnaires were returned later than this. Over 6,300 questionnaires were returned, which after adjustments accounts for a response rate of about 49 per cent. The questionnaire form was also designed to be completed electronically on the internet, but this option was used by only 345 respondents.

Non-response analysis was carried out on 201 forest holdings by phone, which created problems in finding a contact person in cases where holdings had several owners. Another problem was that farmers seemed to be easier to contact, and their proportion was clearly overestimated in non-response analysis. However, the sample already included information on private partnerships and heirs, and their proportions were not different with regard to the responses. In addition, agricultural statistics on the number of farmers and their forest ownership were employed for non-response evaluation.

The conclusion from non-response analysis was that responding owners differed from non-respondents only with regard to the proportion of agricultural entrepreneurs. This is quite understandable from the time-consumption point of view, since farmers have annually to complete quite an amount of differing documents. Therefore, weights based on agricultural field area were developed to adjust for the non-response error.

### **3. Family forest ownership structure 1990-2010**

#### **3.1 Forest holding and ownership structure**

Approximately 80 per cent of municipally defined family forest holdings are smaller than 50 hectares of productive forest land (Figure 1). If all holdings in the country with one owner are summed up, this proportion decreases to 75 per cent. Only six per cent (or nine per cent in case of summing up) of the holdings are over 100 hectares. The largest holdings are very usually located in several municipalities or even regions: Some 2/3 of forest holdings, which at country level are over 200 hectares, are located in at least two municipalities.

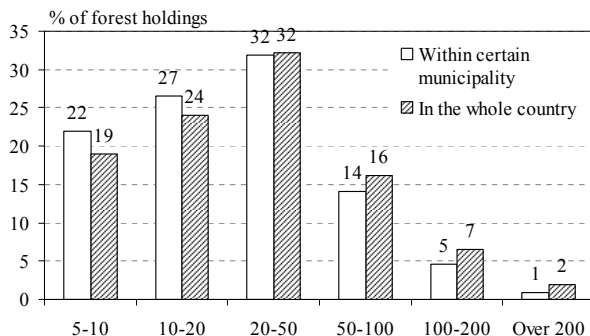


Figure 1. Distribution of forest holdings according to holding size class in 2009 (ha).

Those holdings, which are over 50 hectares, cover 55-60 per cent of productive forest area, depending how a holding is regionally defined (Figure 2). Although holdings under 20 hectares are great in number, they cover only circa 15 per cent of forest area. Holdings over 100 hectares cover 24-31 per cent of productive forest area.

The long-term development of family forest holdings in Finland has been analysed by Leppänen (2008). According to recent statistics including all forest holdings over 2 hectares, there are 735,000 individual forest owners (Hänninen and Peltola 2010). This represents 14 per cent of the Finnish population of approximately 5,350,000 inhabitants.

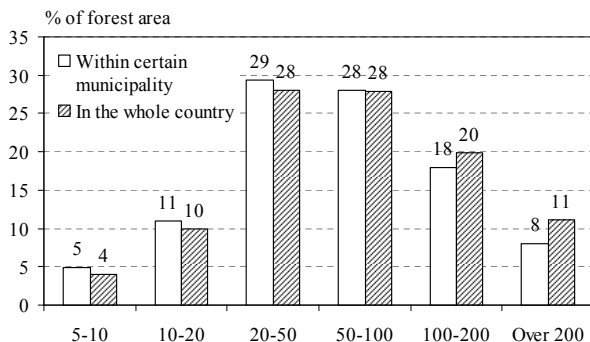


Figure 2. Distribution of forest area according to holding size class in 2009 (ha).

With regard to ownership forms of family holdings, 76 per cent of the holdings are in single person or family ownership (hereafter family-owned holdings). Private partnerships represent 12 and heirs 12 per cent of forest holdings. The development in ownership forms looks rather stable where family-owned holdings are concerned. The most significant changes have occurred in the proportions of heirs and private partnerships. The proportion of heirs has been decreasing as much as the proportion of partnerships has increased.

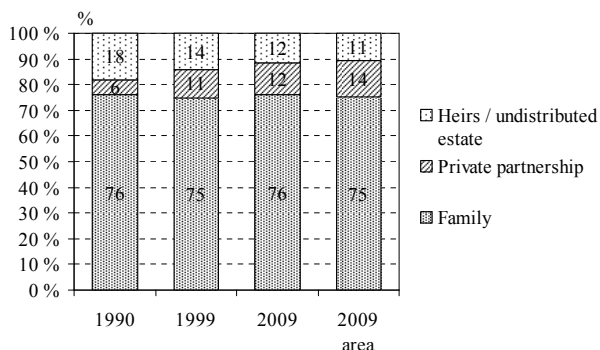


Figure 3. Proportions of possession forms of forest holdings (area refers to proportions of forest area).

One reason for the decreased proportion of heirs is taxation. Heirs are taxed as separate individuals upon inheritance. During progressive site productivity taxation, a separate taxation unit was more profitable than adding site productivity income to every owner's other incomes. Site productivity taxation ended in Finland in 1993, but there was an owner-level optional transition period 1993-2005 to roundwood sales income taxation. Therefore, about 1/3 of holdings – with 40 per cent of forest area – applied for site productivity taxation until 2005.

### 3.2 Forest owners' features

Many features of forest ownership are interdependent. For instance, most older owners are normally pensioners, who do not always have vocational education and often live close to their holdings. Agricultural entrepreneurs are mostly working age forest owners, who live almost exclusively on the holding in rural areas.

Finnish family forest owners are not greatly urbanised yet, as 55 per cent of forest owners live in rural areas (Figure 4). Nineteen per cent of forest owners live in villages or small towns and 26 per cent in towns with over 20,000 inhabitants. However, many of those who live in more densely populated locations are not living far from their forest: 64 per cent live in the same municipality with their forest holding. For those 36 per cent who live outside the municipality of their forest holding, the average distance to holding is 190 kilometres.

The place of residence development has been clear as forest owners live increasingly in cities and fewer in rural areas. However, forest owners who live in rural areas have 64 per cent of forest area, meaning that they have larger holdings than those who live in villages or towns.

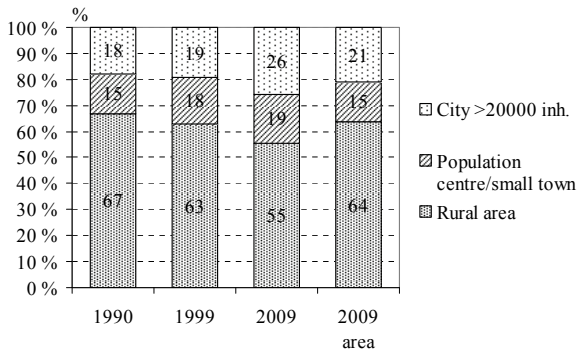


Figure 4. Proportions of forest owners' place of residence (area refers to proportions of forest area).

According to major occupation, 45 per cent of forest owners are pensioners, 30 per cent wage earners, 16 per cent agricultural and forestry entrepreneurs and 7 per cent other entrepreneurs (Figure 5). Two per cent do not belong to any of the previous groups. During the last 20 years the proportion of agricultural and forestry entrepreneurs has been decreasing from 31 to 16 per cent. Much of this has probably taken place as a result of the retirement process. The proportion of pensioners has been increasing from 34 to 45 per cent.

However, if agriculture as a side-occupation is also considered, this increases the proportion of agricultural and forestry entrepreneurs from 16 to 20 per cent. Agricultural and forestry entrepreneurs have larger than



average holdings, as their proportion of forest area is 26 per cent, or 30 per cent if agriculture, as a side-occupation, is also considered.

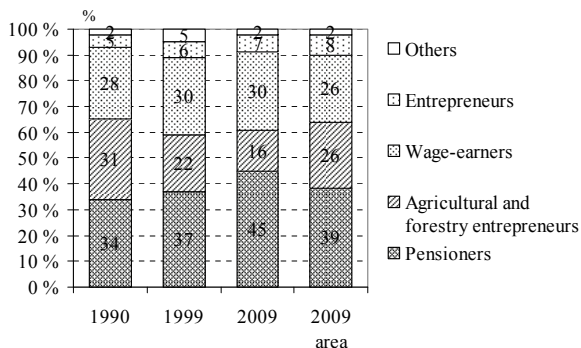


Figure 5. Proportions of forest owners' major occupations (area refers to proportions of forest area).

During the last 20 years, the proportion of wage-earners has stabilised, because retirement is taking place in the older-aged end of the group. Entrepreneurs in sectors other than agriculture or forestry have increased their share steadily with a percentage unit per decade. The group 'others' covers unemployed, employed at home etc. and their proportion has been rather stable at two per cent, except for the year 1999 when it was five per cent. The most probable explanation for that observation is the relatively high unemployment that prevailed in Finland during the 1990s.

The average age of Finnish forest owners is 60 years. There is also a major structural difference among forest owners, as those who carry out agriculture on their holding are on average 53 years old. Whereas the others are already 62 years. This situation has changed remarkably since 1990, when the average age of all forest owners was 54 years: agricultural and forestry entrepreneurs were 55 and other forest owners 53 years.

Moreover, today the age distribution has a positive skew as 56 per cent of the owners have reached 60 years (Figure 6). The situation is not very different if proportions – according to possessed forest area – are investigated. During the last 20 years, the proportion of those who are over 60 years has increased significantly. The proportion of forest owners under 40 years has fallen from 15 to 6 per cent. Furthermore, those who are between 40-59 years have also lost their share significantly.

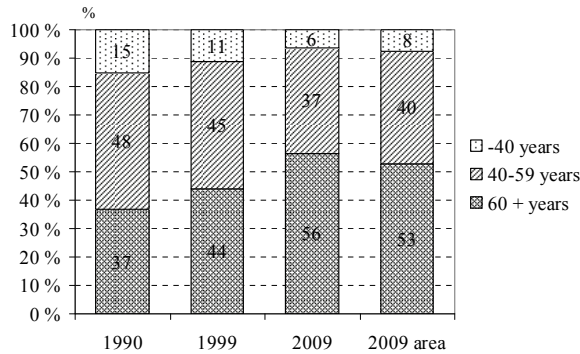


Figure 6. Proportions of forest owners' age groups (area refers to proportions of forest area).

One explanation regarding the age factor, is that people are becoming forest owners later on in life. An average age of such forest owners who have possessed their holding a maximum five years is 52 years. Ten years ago the corresponding age was 49 years. The age factor is largely linked to the inheritance process itself. Those who have obtained their holding through inheritance are 55 years old, whereas those who have purchased holding from their parents or relatives are 48 years, and those who have bought their holding on open markets are 51 years.

Another, even more important reason for the perceptible increase in forest owner age can be attributed to the economic environment: In Finland, forestry is regarded as a business only with regard to active agriculture in the holding, otherwise it is regarded as a financial investment. This produces a difference of economy between agricultural and non-agricultural forest owners. Unlike agricultural forest owners, non-agricultural forest owners do not have obligatory pension insurances and reliefs in inheritance and donation taxes in the transfer of any given holding to a descendant. Agriculture on the other hand has gone through a structural change due to EU-membership since 1995, which has decreased both the average age of farmers and the number of farms.

Although forest owners' general education level has been improving over time, there are still 32 per cent of forest owners without any general vocational education (Figure 7). An almost similar proportion – at 35 per cent of forest owners – has a vocational degree and 33 per cent a college or academic degree. Twenty-one per cent of forest owners have A-level, whereas in 1990 the proportion was 15 per cent.

The improved educational level is due to the appearance of new forest owners, who tend to have a better general education than the older owners. However, general education does not reflect forest owners' practical forestry skills, because earlier forest owners were more self-reliant in forestry work and learned by practice.

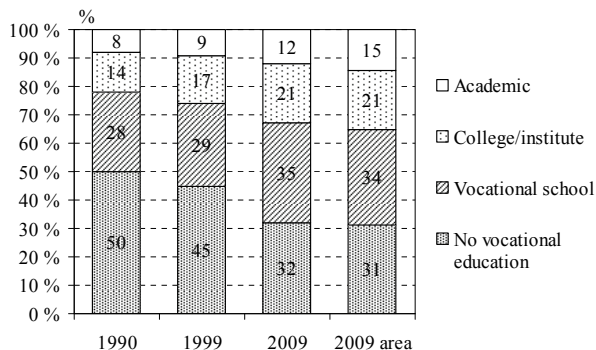


Figure 7. Proportions of forest owners' general vocational education (area refers to proportions of forest area).

### 3.3 Forest owners' objectives

Forest owners can be classified according to their objectives by employing a list of statements on forest ownership with principal component and cluster analyses (Karppinen 2000). The groups that have been found in 2009 and 1999 forest owner surveys are classified as *multiobjective owners*, *recreationists*, *self-employed owners*, *investors* and *indifferent owners*.

The largest group are *multiobjective owners*, who represent 34 per cent of the owners and 48 per cent of the forest area (Figure 8). They prioritise both the material and the immaterial opportunities of their forests, and are also the most active group of forest owners with regard to roundwood sales and silvicultural works. *Recreationists* prioritise both the immaterial and the recreational opportunities of their forests. Their share is 24 per cent of forest owners, but they have smaller than average holdings, as their share of forest area is 17 per cent.

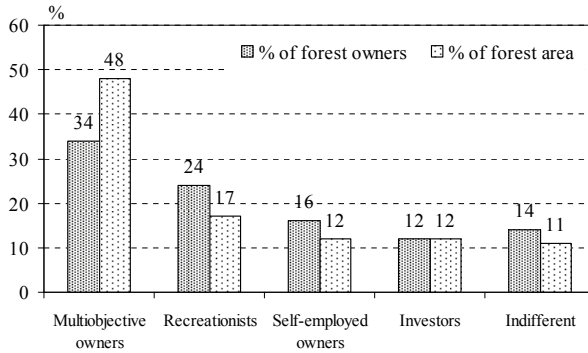


Figure 8. Proportions of forest owners' objective groups in the 2009 survey.

The term *self-employed owners* refers to self-active forest owners prioritising also income from forests. The label should not be interpreted as a synonym for entrepreneur. Their proportion is 16 per cent of owners, but only 12 per cent of forest area. *Investors* prioritise regular sales income, but the label includes owners with a focus on risk-aversion and financial security offering optional incomes for 'a rainy day'.

*Indifferent owners* have been introduced, if not necessarily found, as a separate group later than other groups. 'Indifference' means that a forest owner does not have clear objectives for his/her forest. Their proportion is 14 per cent of owners and 11 per cent of forest area. There are no studies so far indicating whether indifference is a permanent or temporary state of objective during a forest owner's life and how it is connected to the state of forests or holdings as a whole.

The proportional development of *multiobjective owners* and *recreationists* during the last decade has been rather small, but other groups seem to have gone through greater changes (Figure 9). The proportions of self-employed and investors have been decreasing by 3–4 per centage units. On the other hand, the proportion of indifferent owners has been increasing by 4 per centage units.

In any case, the objectives have an impact upon the activity of the forest owner: Roundwood sales behaviour can be quite different among objective groups (Favada et al. 2009): For example, roundwood sales volumes by *indifferent owners* are very elastic to roundwood price changes.

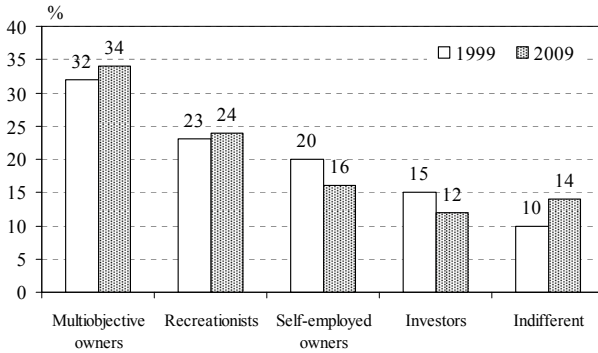


Figure 9. Proportions of forest owners' objective groups, 2009 compared to the 1999 survey.

#### 4. Discussion

This article focused on introducing the results from the Finnish family forest owner 2010 survey by Metla. This survey can be regarded as the most comprehensive study on family forest owners in Finland, and serves as a benchmark for other surveys.

The most important findings can be summarised as follows: rapid ageing of non-agricultural forest owners, the decrease of agricultural and forestry entrepreneurs as forest owners, the decrease in heirs as forest owners and the increase of *indifferent forest owners* as an objective group. It is also possible to show that this progress is partly due to economic environment, which could be affected by economic policies.

The survey data will be employed in coming years in several studies on family forest owners. New results are needed, for instance due to the fact that at the moment Finnish forest industries are undergoing structural changes, which have substantially decreased production in almost all sub-sectors of the forest industry. The evident reason for this is the recession in markets and the decrease of annual roundwood imports by over ten million m<sup>3</sup> since the beginning of 2009. This has emerged as a consequence of Russian roundwood export customs policy. The only visibly growing business is the consumption of energy wood, and this growth is projected to continue into the next decade.

To elaborate further upon the previous example of information needs, technical cutting potential calculations indicate, depending on applied assumptions, a great potential for an increase in domestic cuttings especially in family forests (Nuutinen et al. 2007). However, it is not realistic to

assume the realisation of such harvesting volumes in the near future, this is because no opportunity costs – due to user values of forests – nor family ownership limits have been taken into account in these calculations.

### **Acknowledgements**

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