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Abstract
The Finnish farming sector is in a process of changing and being divided into clearly identifiable types with different consequences for marginalisation. Roughly, Finnish farms can be divided into three categories. One third of the farms develop intensively their farm business by investing and enlarging their farms. Another third has other business activities in addition to farming which are important to the household economy. For the last third, farming is not an important source of income, but fields are cultivated and give some income. The rationale for continuing farming is, however, related more to multifunctional properties of farming than to economic gain. Geographically, intensive cultivation and traditionally most remunerative milk production are concentrating to the western and southern Finland. Naturally, eastern and northern Finland are mostly not suited for large farms, because it is not possible to establish large field units due to rugged terrain.

All those three types of farms are very important for agricultural land use and the production of multifunctional services. Large units are often problematic because of highly intensive monocultural farming systems which lack biological and landscape diversity. Pluriactive farms are very important since they maintain fields in diversified cultivation, create other economic activities and, thus, counteract both ecological and socio-economic marginalisation. The third group of "hobby" farmers is very important to the multifunctional services of agriculture and also to the maintenance of economic dynamism.

A study by Perttu Pyykkönen (2001) confirms these conclusions of regional marginalisation processes. He analysed the amount of marginal agricultural land in Finland. The research was done by studying all the farms where the farmer retired during 1996–1999. It shows the percentage of agricultural land that came up for lease or for sale and no one was interested in having. Based on his analysis, Pyykkönen concluded that 10% of all Finnish agricultural land is marginal land, and it is mainly located in eastern and northern Finland but also elsewhere in the country there are remote fields that no one is ready to cultivate.

The main conclusions of the Finnish study are:

1. About 10% of agricultural land is marginalised or under the threat of marginalisation mostly in eastern and northern Finland.
2. About 10% of the farms are threatened by marginalisation.
3. Elderly farmers with smaller than average farms are most likely to be marginalised.
4. Heavy regional concentration of dairy farming in some areas and arable farming in other areas is the greatest threat to soil quality, biodiversity and landscape.
5. Multifunctional land use is seen as one potential key tool to avoid the marginalisation of agricultural land and the marginalisation of rural areas in the sparsely populated, northern parts of the European Union (EU).

Based on a case study of Mäntyharju, a municipality in the region of Etelä-Savo in eastern Finland, a potentially serious marginalisation phenomenon was identified. Under the current agricultural policy regime, only very few farms can be viable in Mäntyharju, and these

would mainly be dairy farms. However, when there are fewer and fewer dairy farms in remote regions in Finland, the cost of collecting the milk will grow, and under severe competition in the EU market, this may lead to the situation where the farmer has to pay for the transportation costs, while it is at the moment carried by the dairy and added to the price of milk. Without specific measures in this case, dairy farmers in most parts of Finland will be under threat. Another question is what will happen to this area if and when the dairy quotas will be removed. Most probably the production will shift to more favourable areas in Finland, and later to more southern member states of the EU.

Another severe development trend is the simplification of agricultural production with all its impacts on soil quality, landscape and biodiversity and on the attractiveness of the countryside. The present policy measures do not take enough into account the problems of the northern location and the difficulties and costs of scale enlargement in a big, but sparsely populated country like Finland. The policy-enhanced concentration process of production, both to fewer farms and in fewer, in all respects more prosperous regions, counteracts all efforts at balanced territorial development and cohesion. In the case of Finland, and Mäntyharju in particular, we have to underline the fact that most of the subsidies farmers get are either LFA, environmental measures or national support based on specific geographic difficulties. The rationale behind these measures is connected to regional balance and multifunctionality. However, they seem not to be able to combat the marginalisation process.

The case of Finland is somewhat hopeless in the sense that however maximal the use of agri-environmental measures, for example, is undertaken – as these measures are actually used more as substitutes of income aid – they are designed in a way which hinders their potential to attack marginalisation. For example, funds directed at the management of traditional agricultural landscapes should be available to every farm regardless of size, type of production, or the age of the farmer, and even to those landowners who are not farmers. It would also be important to find ways to stop the decline in livestock farming and even to facilitate restarting it in particular in southern Finland, but under the current development trend this is not probable.

The division of farming sector into farms with different types of survival strategies should form the basis of strategy and policy measures. The first thing is to confirm the legitimacy and value of different strategic choices. The policy measures should be tailored to strengthen the economic ecological sustainability of various strategic choices. This means modifications in good agricultural practice and having ecologically sustainable supporting environmental measures. This would make the environmental support remunerative for the ecological services of public good nature provided by the farms. Also this means an emphasis on diversification measures. Pluriactivity as a development strategy for farms must be supported by suitable development measures, paying special attention to the development of human and social capital.

At the same time, it is important to continue bottom-up development efforts of local rural areas to create local development dynamics. The good experiences of LEADER-type activities should guide policy formation in the future. The Finnish experience of mainstreamed local action groups (LAGs) covering the whole country is very convincing. As a counterforce towards marginalisation the evidence is strong. The high level of social capital which has been developed in the local action groups and village associations must be secured by continuing the support for these activities. The new programme period starting in 2007 should safeguard opportunities for this and try to offer more sophisticated tools in order to integrate the development efforts on the local economy to those of the civil society. Even though Finland is among the leading member states in mainstreaming LEADER-type activities, the connection to general local and regional development could be one of the new focuses.

As a further policy recommendation, we suggest that the EU faces seriously the fact that its current agricultural policy marginalises naturally handicapped areas located far from the centre of the main consumer market in Europe. It is a matter of choice whether there should be any agriculture in these areas in the future. From the narrow efficiency point of view, this is, perhaps, not the case. But there should be a clear democratic political decision taken as to the future of agriculture in these areas. This is important both from the point of view of the national economy (public money could be spent elsewhere) and of the private economy, because at the moment the local people take a huge risk when they invest in their farms completely dependent on political support, and have to live under great uncertainty.

On the policy measure level, this refers to the need of understanding that scale enlargement and concentration is not, in all circumstances, the key to success. If there is clear political will that agriculture should be possible also in the future in all areas in the union, areas like Mäntyharju should be allowed to tailor their farming in such a way that the old pluriactive tradition, where people used to combine scarce resources from a large physical area, could continue and become better connected to the demand of open landscape and biodiversity. In these areas, more should be invested in creating a kind of agriculture that is tied rather to the local rural economy than to the vertical chains of global food production. Multifunctionality should be operationalised closer to those who experience it, like in the case when in Mäntyharju it was suggested that one would get paid for keeping those fields in cultivation that someone looks at, like those along the road or offering a view down to the lake.

At the moment, regulations concerning public purchases, for example, make it very difficult to create any local food systems. The destiny of agriculture in the periphery of the EU is not solely in the hands of the CAP, it would require better integration of other policy sectors, including regional policy and Structural Funds. In the ESPON Project (European Spatial Planning Observation Network) 2.1.3 (2004, 22), it has been aptly stated that “it is now generally understood that a purely sectoral approach is less successful in enhancing and stabilizing the performance of a region, whether rural or urban.”

There is a need to safeguard valuable areas, which may represent scenic, biodiversity or ecotope values. This should be incorporated in the normal productive activities related to farming but also to other income generating activities, especially to rural tourism. Also other productive activities such as food processing from agricultural, forest and fish products could gain of the image of ecologically sustainable, clean and diverse surroundings from where the products are collected. The region of Etelä-Savo is way ahead of other areas here by systematically introducing organic production as the strategic choice for agricultural production and processing in the area.

Index words: marginalisation, rural area, agriculture, multifunctionality, land use

Maaseudun marginalisoituminen ja monivaikutteinen maankäyttö Suomessa

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Tiivistelmä
Suomen maatilat jakautuvat valitun kehitystien perusteella selkeisiin luokkiin. Kolmasosa tiloista kehittää intensiivisesti maatilatalouttaan investoimalla ja laajentamalla tuotantoaan. Toisella kolmanneksella, monialaisilla tiloilla, on maatilatalouden ohella muuta, kotitalouden toimeentulon kannalta tärkeää liiketoimintaa. Viimeiselle kolmannekselle maatilatalous ei ole tärkeä tulonlähde, mutta tilojen peltoja viljellään ja siitä saadaan jossain määrin tuloa. Maantieteellisesti intensiivinen, keskimääräistä suurempien tilojen viljely keskittyy läntiseen ja eteläiseen Suomeen, jossa maatilatalouden harjoittaminen on muuta maata suotuisampaa.

Kaikki kolme edellä mainittua maatilatyyppiä ovat erittäin tärkeitä maatalouden maankäytön sekä monivaikutteisuuden näkökulmasta. Suurten tilayksikköjen intensiivinen, yksipuolinen viljely johtaa biologisen ja maisemallisen monimuotoisuuden vähenemiseen. Monialaiset maatilat ovat hyvin tärkeitä, koska ne säilyttävät pellot viljeltyinä, luovat muuta taloudellista toimeliaisuutta ja siten estävät sekä ekologista että sosio-ekonomista köyhtymistä. Kolmantena ryhmänä ”harrastelijaviljelijät” ovat keskeisiä maatalouden monivaikutteisuuden sekä maaseudun taloudellisen dynamiikan näkökulmasta.

Tutkimuksen keskeiset johtopäätökset ovat seuraavat:

1. Noin 10 % Suomen maatalousmaasta on marginalisoitunut tai marginalisoitumisuhan alla, suurimmaksi osaksi Itä- ja Pohjois-Suomessa.
2. Noin 10 %:a maatiloista uhkaa marginalisoituminen.
3. Keskimääräistä pienemmillä maatiloilla, joiden viljelijät ovat keskimääräistä vanhempia, marginalisoitumisvaara on suurin.
4. Voimakas maitotilojen alueellinen keskittyminen tietyille alueille ja viljan viljelyn keskittyminen tietyille alueille on suurin uhka maaperän laadulle, luonnon monimuotoisuudella ja maisemalle.
5. Monivaikutteinen maankäyttö nähdään keskeisenä mahdollisuutena välttää maatalousmaan ja maaseutualueiden marginalisoitumista harvaan asutuilla, EU:n pohjoisilla alueilla.

Nykyinen EU:n maatalouspolitiikka syrjii maatalouden harjoittamisen kannalta epäsuotuisimpia alueita, joihin koko Suomi sekä erityisesti sen itäiset ja pohjoiset alueet kuuluvat. Maatilojen yhä yksipuolisempi ja intensiivisempi tuotantotapa heikentää maaperän laatua, vähentää biodiversiteettiä ja yksipuolistaa maaseutumaisemia. Nykyiset politiikkatoimenpiteet eivät pysty pysäyttämään tätä kielteistä kehitystä. Tarvitaan uudenlaisia ja vahvempia, maatalouden ja maankäytön kestävyyttä ja monivaikutteisuutta tukevia politiikkatoimenpiteitä sekä ylipäätään keskustelua siitä, onko tällainen marginalisoitumiskehitys hyväksyttävää vai ei. Yhden ratkaisun alueiden syrjäytymisen estämiseksi tarjoavat paikalliset, ruohonjuuritasolta ylöspäin lähtevät maaseudun kehittämistoimenpiteet, jotka ovat Suomessa jo osoittautuneet vahvoiksi sosio-ekonomisen syrjäytymisen estäjiksi luoden alueelle erityisesti sosiaalista pääomaa sekä paikallistaloudellista dynamiikkaa.

Asiasanat: marginalisoituminen, maaseutu, maatalous, monivaikutteisuus, maankäyttö

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1 Prologue: Marginalisation

1.1 Background

Many rural areas in Europe are under the threat of becoming marginalised and abandoned. Simultaneously, areas differ as to their vulnerability to marginalisation. The main driving forces of this process are not only changes in agricultural and forestry technologies and the global market for agricultural products, but also deliberate policies pursued by nation states and/or the European Union (EU).

Agricultural marginalisation is caused by a combination of social, economic, political, and environmental factors. It is a process by which farming ceases to be viable in certain areas under an existing land use and socio-economic structure.

Marginalisation of traditional land uses necessitates re-organisation of rural activities to keep rural areas viable under new socio-economic conditions.

1.2 Objectives of the report with precise focus

In this report, we aim at analysing the processes of marginalisation of rural areas and at identifying areas and land-use types most vulnerable to the marginalisation of agriculture in Finland. The idea is to identify the current status of marginalisation and the role of the Common Agricultural Policy (CAP) in this process.

Two facts have to be borne in mind when reading the case of Finland. As the country is a recent member in the EU, it is difficult to show the particular effect of EU policies on land use. Many policy effects take place only in the long-run. Moreover, due to natural conditions, certain severe cases of marginalisation – such as erosion – do not occur to any significant extent in Finland. In the case of Finland, it is rare that agricultural land would suddenly get abandoned. Rather we have to talk about a gradual process during which land turns to to bushes or is reforested, which in the long-run develops into forests. Yet another transformation takes place when the cultivation system turns into a monotonous and less intensive type. Thus, there is continuous loss of biodiversity which is related very much to changes in land-use systems and agricultural production technology.

In addition, in the case of Finland, located in the northern edge of the EU, social and economic marginalisation of areas is of specific importance. Consequently, we will discuss marginalisation and multifunctional land use in a broader social and economic context to catch the characteristics of the national case.

This national study is a part of a larger European research on the land use change (EUROLAN).

1.3 Organisation of this report

The report consists of four parts. In the first part, we shall discuss the tools to evaluate marginalisation and multifunctional land use. In this part, the general framework to approach marginalisation in this study will be presented. In addition, marginalisation, its driving forces and criteria for quantifying marginalisation will be introduced. The following step will be presenting the national indicators of marginalisation. They include biophysical conditions, socio-economic factors both at farm level and at regional level, cultural aspects, and the status of land and rural landscapes. This part of the report ends with a chapter on multifunctional land use in Finland.

In part two, we shall discuss marginalisation in Finland. First, land-use maps demonstrating the main characteristics of land use in Finland will be presented. After describing the main indicators at different levels, the situation of marginalisation will be analysed. Moreover, we will discuss the link between multifunctional land use and marginalisation in Finland.

The third part of the report places marginalisation in the policy setting first only briefly on the EU level, since this dimension will be discussed more thoroughly in the European level report of the research project. The last chapter in the report summarises the overall situation in Finland, examining the prospects of marginalisation and the potential of multifunctional land use in preventing marginalisation in the country.

In part four, we shall present the case study of Mäntyharju, one of the rural municipalities in Finland.

Part I: Tools to evaluate marginalisation and multifunctional land use

2 Framework to approach marginalisation

2.1 Introduction

The purpose of the research project is to improve understanding of the process of marginalisation of Finnish agriculture and rural areas and to develop strategies for appropriate land use based on multifunctionality.

2.2 Presentation of framework used in the study

The framework used in the study consists of identifying the current status of marginalisation in the country by using certain indicators. Thus, the study will also identify the usefulness of indicators of different disciplines for measuring the process of marginalisation. The indicator work will also be used in order to measure the vulnerability to marginalisation.

In the case of Finland, changes in land use that make areas vulnerable to marginalisation are to a great extent caused by deliberative acts, by the policies implemented regarding agriculture and regions. Finland is the most northernmost country in the world where agriculture is undertaken. The role of policies is decisive in a country where agriculture would not exist to the current extent without policy support. In free market conditions, Finnish agriculture would cease, because it could not compete with imports from other countries. Land-use pattern before the EU membership was a result of heavy support policy. Support for agriculture continues with the EU membership, but the content of the policy has changed. The share of support in the income formation of agriculture is also much higher than in other EU countries. In 2002, the support was 44% of the total return on agriculture and horticulture. The EU policies do not meet the needs of northern agriculture. Finland must pay 58% of the agricultural support from national funds, and only 42% comes from the EU budget (Niemi & Ahlstedt 2003, p. 46–47). There are no lines of production that are not supported by some means. The whole country is designated as a less favoured area (LFA). The resulting land abandonment or less dramatic vulnerability to marginalisation is mostly unintended consequences of the policies that aim at other goals.

Common policies should be economically acceptable, ecologically sound and socially fair. Many CAP first pillar measures, such as headage payments in the livestock sector, cause negative environmental impacts, as they provide reward for keeping livestock as such without regard to environmentally sustainable levels of production and forms of management. The unintended consequences or externalities of the common policies have impoverished the ecological, social, historical and cultural diversity of many regions and deteriorated their future potential as viable rural areas.

In the European Model of Agriculture, the idea is that agriculture should aim to maintain and, as far as possible, increase positive nature conservation and landscape functions and thus provide the EU citizens food, fibre and feelings: several kinds of material and immaterial products for human use. In this study, multifunctional land use is seen as one key tool to avoid the marginalisation of agricultural land and the marginalisation of rural areas.

2.3 Conclusion and discussion

Our common policies produce externalities and imply unintended consequences. In the case of marginalisation, it is vital to identify these and define appropriate policy measures to counteract these. Multifunctional land use offers a potential tool to cope with marginalisation.

3 Disentangling the concept of marginalisation

3.1 Introduction

The research group defined the key concepts of this study – marginalisation of land use, marginalisation of agriculture, multifunctionality of land use and multifunctionality of agriculture – for its own use as follows:

Marginalisation of land use is a process, driven by a combination of social, economic, political and environmental factors by which the use of land for the main land-dependent activities (agriculture, forestry, housing, tourism, local mining, etc.) ceases to be viable under an existing socio-economic structure.

Multifunctionality of land use refers to the functions sustained by land resources beyond their primary production functions (non-commodity products) such as environment preservation, cultural heritage, nature conservation, employment etc.

Marginalisation of agriculture is a process driven by a combination of social, economical, political, and environmental factors by which in certain areas farming ceases to be viable under an existing land use and socio-economic structure and no other agricultural options are available. The process ends at land abandonment which in the case of Finland means reforestation in the long-run.

Multifunctionality of agriculture is a socially constructed concept which recognizes that agriculture beyond its primary role of producing food and fibre also provide other functions such as the viability of rural areas, food security, cultural heritage, and environmental benefits such as the agricultural landscape, agro-biological diversity and land conservation.

3.2 Defining marginalisation

In the Finnish agricultural debate, marginalisation of agriculture is discussed mainly in social and economic as well as in regional terms. Social and economic marginalisation is understood as the farms' risk of exclusion (Peltola 2003), or for example, as under-employment (the Green League of Finland 1997). Because of increasingly hard economic conditions demanding larger and more mechanised units, the number of active farms has decreased since the early 1960s. Joining the EU and the CAP accelerated this trend significantly. Regional specialisation of production is also discussed in the connection of marginalisation. There is no single definition of the marginalisation of agriculture used in Finland.

The new Regional Development Strategy of the Ministry of Agriculture and Forestry (Ministry of Agriculture and Forestry 2004a) deals specifically with the regional effects of policies related to natural resource uses and discusses the social and economic marginalisation of large areas in Finland. Also the Third Rural Policy Programme for 2001–2004 and the Fourth Rural Policy Programme for 2005–2008 (Rural Policy Committee 2000 and 2004), as well as the Objective 1 programme documents (Ministry of the Interior 2000a and 2000b) and the Rural Development Programme for areas outside Objective 1 (Ministry of Agriculture and Forestry 2001a) discuss the regional socio-economic marginalisation and also to some extent the marginalisation of agriculture. The ecological issues are also raised in the Horizontal Rural Development Programme (Ministry of Agriculture and Forestry 2004b). Other policy documents and (rural) policy programmes (the Finnish Social Democrats 2002, the Centre Party 2002, the National Coalition Party 2003, the Green League of Finland 1997 and the Left Alliance 1995; Ministry of Agriculture and Forestry 2001b) do not specifically deal with the problem of marginalisation of agriculture. Some of these policy documents touch upon the regional concentration of agriculture, but very often take it as a sign of increased effectiveness.

There is very little research done on the marginalisation of agriculture. The main work has been done by Asko Peltola (2003), whose study called "Syrjäytymisvaara ja hanketoiminnan mahdollisuudet maatiloilla" (Risk of exclusion and possibilities of project work in the farms) is based on a survey of three regions. In his study, Peltola talked about exclusion[1], instead of marginalisation, and defined it as involving multiple problems, including exclusion from consumption and production, weak health, and lack of social contacts and participation. Essential in defining the stage of exclusion is that the farms' possibilities to improve their situation are very meagre.

The marginalisation of land use in the Finnish debate most often refers to the process in which the use of land becomes more monotonous meaning simplified crop rotation and caus-

[1] In Finnish, 'marginalisation' and 'exclusion' both are translated as 'syrjäytyminen', and no clear difference between the two terms can be made in Finnish.

ing soil compression. The discussion on the loss of biodiversity is the main theme in ecological marginalisation. Policy documents do not normally deal with this problem. Discussion takes place mainly in academic circles.

The abandonment of cultivated land in the Finnish context means in the long-run reforestation. This can be an uncontrolled process starting with bush development and in the long-run leading to a succession of forest types and finally mature forests typical of the soil and climatic conditions of the particular areas. This happens, of course, if trees are not cut at an earlier stage. The other option is the planted forest which typically consists of one dominant species of a tree. The other forest species will in the long-run establish themselves into the planted area but for an extended period of time the area will be monoculture type of "unnatural" forest or a "tree field". In both cases, the diversity of the natural landscape is diminished – the open areas disappear and are replaced by unnatural, inferior forest. Many of the fields in Finland, especially in the central, eastern and northern parts and also in Pohjanmaa in the north-west, are established by draining natural wetlands/peat lands. If the natural water balance is not restored, the end result of field abandonment is not a return to the natural state but an establishment of an inferior type of forest.

Perttu Pyykkönen (2001) has made a study in which he examined recent changes in the structure of Finnish agriculture, including an analysis on arable land threatened to be left permanently uncultivated. Pyykkönen (2001, p. 37) operationalised marginal arable land as fields which no one wanted when offered for either sale or hire in the context of early retirement.

For the purpose of this study, marginalisation could be analysed from a framework consisting of three aspects: ecological, economic and social. There are different kinds of marginalisation processes which could be understood by analysing the effects on these three aspects of development. It is possible to identify various land-use and production systems which show different properties in relation to the above mentioned variables.

We could make a rough sketch of existing land-use systems in terms of their risk of marginalisation and vulnerability related to ecological, economic and social sustainability (Table 1):

Table 1. Existing land-use systems in terms of their risk of marginalisation and vulnerability related to ecological, economic and social sustainability.

Production system	Ecological sustainability	Economic sustainability	Social sustainability
Mainstream family farming	weak	weak	strong
Organic farming	strong	weak	strong
Diversified dynamic rural production	strong	strong	strong
Industrial agriculture	weak	strong	weak
Industrial forestry	weak	strong	weak

3.3 Driving forces of marginalisation

Marginalisation has mainly been discussed in urban contexts, also in Finland. However, studies have shown that in Finland and Sweden, low income or poverty is more common in rural areas, whereas social marginalisation or exclusion is more an urban problem. Social and economic marginalisation is intertwined phenomena, and will be discussed in this manner on the farm level and on the regional level.

Economic rationalisation of agriculture transforms production structures in a way which induces marginalisation of farms in terms of ecological, economic and social sustainability. New technology requires bigger farms. Capital displaces human labour, and since employment opportunities in agriculture diminish, with few alternative employment opportunities, young people move away from the countryside. Only 'residual population' and older people remain. The rationalisation of production reduces the share of basic production in the price of the end product, which also brings about relative poverty in rural areas: its proportion in the creation of wealth diminishes continuously. Efficientisation, which in practice means bigger units and specialisation, creates long transport distances and the industrial processing of food large-scale processing plants being almost always located near big population concentrations in urban or periurban areas.

If we think about public policies as causes of marginalisation, the CAP price policy is directed towards increasing the size of farms. The effect of price policy is especially strong in northern production areas like Finland and the north of Sweden, where the producer prices of e.g. cereals do not cover even the variable costs, let alone the fixed costs of the production. The CAP causes economic marginalisation in Finland in the sense of growing dependence on political decisions. Yet, the emphasis in the CAP given to multifunctionality may counteract the price policy effect.

In the case of Finland, both social and economic marginalisation of farms can be seen to be results of a drastic structural change due to technological change and partial deregulation of global food market, which excludes certain farms and certain areas from agriculture. Structural change includes both the concentration of production to fewer regions and to fewer farms. The change in production structure affects the economic viability of rural areas even more than the diminishing numbers of farms affect it. Production concentrates on areas where it is already strong, which indicates that the loosing areas cannot compete under the present price level. The Finnish state has accelerated this structural change by directing investment aid and setting up young farmers in farms bigger than the average in the country. This is a deliberate choice meant to facilitate the adjusting of Finnish agriculture to the EU context (Ministry of Agriculture and Forestry 2001b, p. 53–54). But it is a choice based on a uniform strategic vision assuming that there is only one economically viable farm type, characterised of large area, high capital intensity and specialised production. It is possible to imagine also other development paths for Finnish farms and economically viable rural production systems based on multiple income sources both inside a farm and inside an area.

The concentration of human and social capital by specialised production chains and clusters which would increase the synergy of various actors, who could themselves specialise in various steps of the production chain or assume different roles in the cluster. These could be based on added-value from local natural resources combined with sophisticated knowledge of technology and markets.

In addition, when fewer farms are left in a sparsely populated, densely forested area with lots of lakes and rocks like Finland, then they are likely to be located even further from each other. This strengthens social marginalisation of the farmers left behind, and impoverishes biodiversity, since biotypes based on agricultural (especially cattle-based) production are located too far from each other so that e.g. populations of insect pollinators or dung beetles could survive.

Viability in the most remote countryside, in particular, is weakening. The process resembles a vicious circle, where the diminishing employment in agriculture is not compensated by increasing employment in other sectors. On the contrary, in regions where jobs in agriculture disappear fastest, other jobs also disappear faster than in other regions on average (Pyykkönen 2001, p. 29). The weak competitiveness in agriculture weakens the overall competitiveness of the area.

In addition to agricultural policy, choices made in general economic and social policies cause marginalisation in agriculture and rural areas. When Finland became a member in the EU in 1995, it gave up its former strong regional policy which had aimed at regional equality. Under the strict economic rules of the European Monetary System (EMS) and EU competition law, it is not possible for the national state to continue subsidising its remote areas. As a result of this and the severe recession in the country in early 1990s, wealth, economy and know-how have concentrated regionally on few centres.

Forestry has always been the other foot of the farm economy in Finland, and especially, in the more remote and sparsely populated areas where other economic opportunities have always been scarce. Technological change and large-scale mechanisation have derived farmers of a vital winter-time employment opportunity. At the same time, the urbanisation of forest ownership due to inheritance has directed the capital flows from forestry to the urban areas. This has been an important marginalising process for rural areas.

Simultaneously, migration inside the country has led to a growing few centres and to a vast countryside becoming empty of people especially in the north and east of the country. As elsewhere in Europe, rural population is over-proportionally male and aged, which means that the demand for social and other services (mainly offered by municipalities) occurs at the same time as the public sector has fewer and fewer means to satisfy the needs. This change in policy had also to do with a major change in government coalitions in Finland. The Centre Party (the former Agrarian League), traditionally strong outside the capital area and bigger

cities, was left in opposition for 8 years, after having negotiated Finland's membership of the EU.

3.4 Criteria for quantifying marginalisation

Main forms of marginalisation taking place in Finland and relevant for this study are, first, social and economic marginalisation which takes place regionally. Second, there is marginalisation of agriculture which to a great extent overlaps with the general regional marginalisation. Third, we can talk about the marginalisation of agricultural land. In this study, we shall use the statistical data available for quantifying the different types of marginalisation.

As for land use, our definition of marginalisation underlines its character as a gradual process. Thus, we shall use statistics on land-use change during a longer period in order to show how land-use types have changed. In this connection, we will pay attention to the disappearance of pasture and meadows, the regional concentration of cattle husbandry, to afforestation as well as to the amount of rented fields and to the price of land. We shall also use a recent analysis on marginal fields. In describing biodiversity and cultural landscapes, we do not have much quantitative data available except for some case studies which cover rather limited areas that any definite conclusions of the whole country at regional levels are not possible (Hietala-Koivu 2000, p. 63).

According to Peltola, it is impossible to give any exact number of farms threatened by marginalisation, both because of the lack of clear criteria indicating the risk and because of the subjective nature of the emotional aspects of exclusion (Peltola 2003). The development of number of farms and the share of farm income in the total income of the farm family give some idea in this respect. On the social and economic marginalisation taking place regionally, we have to rely on the existing date on welfare indicators and economic performance regionally.

However, on all the levels mentioned, the problem is that we can quantify only the symptoms of marginalisation. Marginalisation itself disappears somewhere under the surface. Even in the case of the marginalisation of land use, sheer land abandonment, which could be measured, hardly takes place in Finland. What does take place has to do with the more monotonous use of land. These are the restrictions of quantifying marginalisation, but even with these methodological shortcomings, it should be possible to name the regions most vulnerable to agricultural marginalisation.

In particular, as we talk about the social dimension of marginalisation, it is important to bear in mind that the phenomenon is relational. It arises in relation to other people, society and its institutions. Marginalisation implies that something or someone is dropping out of the normality of the society or from the centre. Marginalised people have to be localised socially, spatially and symbolically if we want to talk about this phenomenon. However, drawing

boundaries becomes increasingly problematic in today's society, as more and more positions and locations are becoming uncertain. This is to say that when describing marginalisation in quantitative terms, the writers are at least half-aware of the normative aspect inherently present when talking about marginalisation. It is not a social fact or state but something that is constantly produced by social discourses and mechanisms.

3.5 Discussion and conclusion

In this national report, we shall concentrate on marginalisation at regional level, on social and economic marginalisation, on the marginalisation of farms, and on the marginalisation process of agricultural land use.

Marginalisation is here understood as a situation characterised by passivity, giving in and seeing no choice, but also in the terms of exclusion, being left outside the normality and being forgotten on the periphery. The issue is what causes this process as to agriculture and whether it could be attacked by multifunctional land use.

4 Indicators of marginalisation

4.1 Introduction

In this chapter, we shall define the indicators to be used in order to measure the different aspects of marginalisation in rural areas by paying specific attention to the measurement of land-use changes in Finland. The indicators are divided into four kinds of categories: biophysical conditions (ecological sustainability), socio-economic factors at farm level, socio-economic factors at regional level, and cultural aspects. The latter groups are related to economic and social sustainability.

4.2 Biophysical conditions

The main characteristics for sustainable ecosystems are both local and regional diversity. Biodiversity refers to the number of habitats and species and their variety as well as genetic diversity within species. Biodiversity describes the ecological richness of the ecosystems. It is an important indicator to the sustainability of ecosystems. The greater the diversity there is, the more resilient and stress-resistant the ecosystems are. The more complicated the ecosystem is, the more long-term adaptability it has. Conversely, simple ecosystems the type of large-scale monoculture are vulnerable, prone to shocks and do not easily assimilate any disturbances – in agriculture, for example, new diseases or pest species. A diverse environment is also interesting, and typically, considered beautiful.

On a larger scale, we can measure the diversity of landscapes and larger land-use patterns both locally and regionally. The maintenance of diversified landscapes is of particular con-

cern to Finland, since only a small proportion of land area is used for agriculture, and thus, open. The main ecosystem in Finland is boreal forest which is typically dominated by only a small number of major tree species, and even in their natural state, they tend to be somewhat monotonous. When the natural forests are replaced by cultivated ones, the loss of diversity in terms of ecological richness and natural beauty is considerable.

Biodiversity and landscape diversity are measured in this study by:

- Endangered species
  - loss of heritage landscapes
  - total amount of heritage landscapes in ha
- Abandoned farms
  - number and area by regions
- Land-use patterns
  - by landscape, arable land in ha and forests in sq. km
- Organic farming
  - regional pattern in ha
- Geographic production patterns
  - trends in the regional development of various production types
- Protected areas and wilderness reserves
  - regional pattern of protected areas in ha

4.3 Socio-economic factors at farm level

Socio-economic marginalisation at farm level is measured by studying the economic environment of a farm. What are the options for continuing farming and in what form? What kinds of livelihood strategies are open for farmers?

There is very little research done on marginalisation at farm level in Finland. The only study available is by Asko Peltola (2003). In his study, Peltola estimated the risk of economic marginalisation (or exclusion as he called it) on the basis of the taxation data on farms for 2000. The economic criteria chosen as a basis for the estimation were the total income, depreciations and investments of farms.

Socio-economic factors at farm level are measured in this study by:

The share of farms in danger of marginalisation in 2000 based on economic criteria

- The number and size distribution of farms
- The production structure of farms
- The productivity development of farms
- Diversified farms
- Net income from agriculture and other gainful activities
- Share of farmers by age category

4.4 Socio-economic factors at regional level

At regional level, we base our estimation of the marginalisation risk on economic and social indicators. These indicators refer both to the exclusion from consumption, production and lack of participation. They describe the large regional variation inside the country and help to identify the most vulnerable areas in terms of both economic and social marginalisation.

The Finnish municipalities have been divided into four categories. This division is a basis for analysing various phenomena in the country. The division is used in Objective 1 and Rural Development Programmes to diversify the official support levels in the investment support for pluriactive farms. To gain a better understanding of the problems and marginalisation processes in rural areas, municipalities are divided into four categories: urban areas, urban-adjacent rural areas, core rural areas and sparsely populated rural areas. This division indicates at municipal level the socio-economic marginalisation of the area. The division of rural areas into three categories was defined in terms of the development options as follows:

Urban-adjacent rural areas have the most versatile possibilities for development. The closeness to urban centres makes commuting possible for wage earners and large local markets for rural enterprises. These areas are mainly located in southern and western Finland where also the natural circumstances for farming are best.

Core rural areas are either strong primary production areas or in terms of enterprises diversified rural areas. The large centres are relatively distant, the distance to medium size centres is reasonable and there exists strong communal and local centres.

Sparsely populated rural areas are areas with accumulating problems. The distances to the centres are long, thus it is not possible to be employed in the centres. The local markets are far away and limited. The enterprises structure is one-sided. In northern and eastern Finland, nature limits the production possibilities in primary production. The economic problems are aggravated by the weak economic resources of municipalities which cannot have a strong role in the local development.

The typology has been formulated for the first time in 1993 (Keränen et al. 1993) and has been updated in 2000 (Figure 1, Keränen et al. 2000). The municipalities were divided into different categories by using several steps. First, the urban centres were defined by using criteria for urbanity developed elsewhere. At a second stage, the urban-adjacent rural communes were defined based on the commuting statistics. At a third stage, the rest of the rural communities were divided into core rural areas and sparsely populated areas using nine statistical variables describing the regional structure, enterprises structure, farming intensity, and prevalent development problems. These variables were the population density per inhabited square kilometre, the distance of inhabited square kilometres to the nearest village of more than 500 inhabitants, the length of common roads per rural inhabitants, employment in forestry and mining, the variability of industries in rural areas, the share of active farms of all

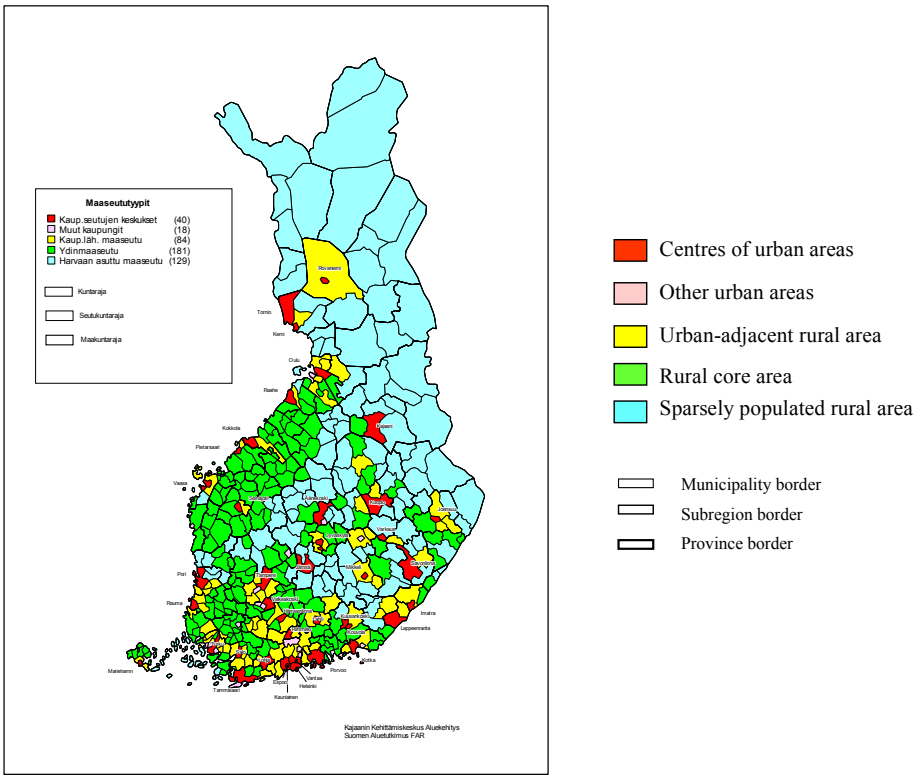


Figure 1. Rural typology based on municipalities (Keränen et al. 2000).

farms, taxable income per farm (state tax), net emigration and the ratio of men and women (aged 20–39 years) in rural areas.

Socio-economic factors at regional level are measured in this study by:

- Gross domestic product per capita by region
- Income level by type of rural area
- Population
  - numbers and change by region
  - share by type of countryside
  - relative share of 15–64 year olds
  - excess of births
  - net migration by type of countryside
  - women/men ratio by type of countryside
- The price of agricultural land
  - average price / hectares by regions
- Diversified economic activities
  - small rural enterprises by type of rural areas
  - small rural enterprises by line of business

- Employment
  - unemployment rate by region
  - unemployment rate by type of rural area
  - changes in the amount of jobs by type of rural areas
  - employed by agriculture, share of those employed in Finland
  - share of rural residents working in urban areas
- Voting activity
  - voting activity in National Parliamentary elections
- Accessibility of services
  - accessibility of services in the different type of municipalities

4.5 Cultural aspects

Cultural aspects relevant in this context are the organisation of economic activities, the impetus of farming and other rural enterprises, and the role of individuals in their local community. Farming as a way of life and as a livelihood for the family is rapidly changing. The official agricultural policy emphasises the business-like nature of the farms. The development of the sector is aimed at maximising the profitability and effectiveness of the farm enterprises by increasing the unit size and specialisation of the production. This means a radical change in the culture based on continuity, living from nature and sufficient family livelihood, and fulfilment of the basic needs of the household members. This generalisation, of course, incorporates the inherent individual variety among farmers. The old production system has cherished working together and exchange of services and mutual dependence. The new system is based on money transactions, selling of services to neighbours and those further away. The farm units have grown to be sometimes big enough to be run as corporations with salaried employees. But nevertheless, the majority of the farms are run with family labour complemented with bought-in services.

The farmers who do not put this new production system into operation are the ones which are often in danger of economic marginalisation.

On the other hand, there exist also policies to encourage farmer co-operation and networking in the various rural development programmes. These are economically sound attempts to decrease the fixed costs of farm enterprises. They are organised strictly on formal economic basis. But at the moment this is a small sideline in the massive attempt to teach Finnish farmers to be businessmen and women.

An interesting counter current to this business-like production system is the renaissance of communal activities in the form of the village movement and local action groups. The village movement started in the 1970s with a surge of activities as hundreds of villages organised themselves into village associations aiming at the development of the home villages based on working together on a voluntary basis. In the middle of the 1990s, the formation of the local action groups started. These were formalised in the Leader II programme, and in the new

programme period, the local action group concept as a driving force of bottom-up rural development has been mainstreamed by financing the LAGs covering the whole country from various sources. Out of a total of 58 LAGs, 25 are financed from LEADER+programme, 7 from Objective 1 programmes, 21 from Rural Development Programme for areas outside Objective 1, and 5 nationally. These community-based activities form an interesting counter-cultural movement which has been accepted also as a part of the official rural development policy, but the coherence of the agricultural policy and rural development policy is more or less non-existent at present.

The indicators for cultural aspects could be:

- Number of working local action groups
- The geographic coverage of LAGs
- Number of village associations

4.6 Conclusions and discussion

The indicators defined above allow a fairly solid base for the discussion on marginalisation processes in Finland. There is a need to further develop indicators or combinations of indicators which more accurately allow the identification of areas with positive dynamics and define the characteristic of ecologically, economically and socially sustainable production systems.

5 Multifunctional land use

5.1 Introduction

Multifunctional land-use analysis widens the concept of the role of farm production from primary products to various immaterial products and services in the maintenance of ecosystems. It opens a totally novel view to the value of various land-use methods, choices of technology and policy options. Multifunctionality analysis makes important hidden relationships visible and improves the quality of policy choices. Also it helps to mitigate environmental problems related to land-use practices.

5.2 Main functions

Food, fibre and wood production

The primary role of farms in Finland is to produce plant and animal products ranging from grains to wood, and from cows to reindeer. Although the number of farms is declining in Finland, total agricultural production has not diminished, and the amount of arable land has remained almost stable at 2 million ha for a decade now. There have been, however, regional changes, locally in some places fields have been abandoned to natural or cultivated forest

regeneration and in other places more forests have been transformed into fields. This is due to the fact that the share of support in farm income is so great, and that the support is linked to the acreage of cultivated land. The main function of Finnish agriculture is irrespective of the large share of different subsidies in farm income, still to produce food and fibre. But the role of forests in the farm economy is substantial and farm forestry is an integral part of forestry sector in Finland.

In the west and south of Finland, agricultural land is used for growing cereals or root crops, whereas further north, including eastern Finland and Pohjanmaa in the west, livestock farming has held on, and animal husbandry is still engaged in on about one third of farms. Crop rotation has become simplified all over the country. The role of the forests grows steadily more important as we move towards east and north, and in the sparsely populated areas of the northern and eastern parts, there are a number of forest farms which do not produce any field products at all.

Conservation of rural environment and landscape

The other role of the farms is the production of rural landscape and the maintenance of biodiversity and different types of ecosystems.

The reduction in livestock farming and its associated practices like mowing and grazing has caused a dramatic decline in many types of agricultural heritage landscapes. When joining the EU, Finland started to implement CAP agri-environmental programmes. The first programme of 1995–1999 concentrated primarily on waterway protection, and aimed at reducing nutrient leaching and erosion, but theses measures also increased habitat types that otherwise had been continuously decreasing. The second agri-environment programme for 2000–2006 still emphasises water protection, but biodiversity protection measures are now also prominent. There are some means for conserving rural landscapes as well, but they are scarce compared to the needs.

There are slight differences in the intensity of land use for agriculture, and across the country the trend is that cultivation in the most favourable areas (like Pohjanmaa in north-western Finland) is expanding, while in the east of the country fields are left unused.

The maintenance of diverse agricultural landscapes is of special concern in Finland, since only 8% of the land area is used for agriculture. Land left uncultivated becomes first bush and later forest which means the closing of the open landscape that most people value highly.

Contribution to the viability of rural areas and a balanced territorial development

Farming contributes also to the viability of rural areas by maintaining the core habitation which forms the basis of rural communities.

As production is concentrating to fewer regions, the contribution of agriculture to a balanced territorial development is declining fast, and actually the concentration of farms to the most favourable areas accelerates the decline in huge areas in northern and eastern Finland.

In principle, the contribution of agriculture to the viability of rural areas and balanced territorial development could potentially be high in Finland, as the country is so sparsely populated. In its present form, the contribution of agriculture to these aspects is poor and even getting worse. The structural change in agriculture is the main single reason in the decline of remote rural areas in the east and north of the country, although changes in regional policy and state aid to municipalities have reinforced the same trend.

5.3 Production relationship of multifunctionality

Definition and concepts

Multifunctional agriculture may be defined as an economic activity which, besides its primary function of producing agricultural commodities, affects social welfare by producing multiple positive or negative non-commodity outputs jointly with the commodity production. Thus, in economic terms, multifunctional agriculture produces jointly private goods, public goods and positive or negative externalities (Lankoski 2003, p. 14).

The support for less-favoured areas (LFA) is an example in Finland of how joint production contributes to the countryside. LFA is decisive for making it possible to continue farming in great areas in Finland. Because of being able to produce agricultural products, this economic activity with all its multiplier effects strengthens remote areas, helps in keeping the landscape open and increases biodiversity to a certain extent.

5.4 Environmental relationship of multifunctionality

The environmental significance of agriculture is great in many respects. Moreover, since Finnish farmers are also an important group of forest owners in Finland, they have a twin role as custodians of multifunctional agriculture and multiple-use forestry. Therefore, the agricultural and silvicultural decisions and production practices of Finnish farmers are important in shaping the occurrence of several externalities and the provision of many public goods in Finland (Lankoski 2003, p. 23).

The environmental dimension of multifunctionality or environmental multifunctionality refers to the joint production of commodities with environmental non-commodity outputs. The latter include positive non-commodity outputs, such as landscape diversity and agrobiodiversity, but also negative ones, such as impairment of ground water and surface water quality due to nutrient and pesticide leaching and run-offs, as well as loss of wildlife due to the use of chemicals and the fragmentation and loss of habitats (Lankoski 2003, p. 16).

Environmental non-commodity outputs, however, may also have indirect effects on the other dimensions of multifunctionality. For example, the attractiveness of rural areas for both the rural and urban populations is affected by environmental quality and by landscape amenities (OECD 2001). Through the natural resource base and the productive capacity of agriculture, environmental outputs, such as erosion and agrobiodiversity, may also affect food security as long as domestic production is regarded as an important part of this (Lankoski 2003, p. 6).

Based on public surveys, the status of Finnish agricultural heritage environments is extremely alarming. There are less than 20,000 ha of valuable heritage environments left. Norway is estimated to have many times more heritage environments compared to Finland (Pitkänen & Tiainen 2001, p. 22).

5.5 Externality and public goods aspects of multifunctionality

According to Baumol and Oates (1988, p. 17–18), there are two conditions for an *externality*. First, "an externality is present whenever some individual's utility or production relationships include real variables, whose values are chosen by others without particular attention to the effects on this individual's welfare." Secondly, "the decision maker whose activity affects others' utility levels or enters their production function, does not receive (pay) in compensation for this activity an amount equal in value to the resulting benefits (or costs) to others". Thus, in brief, an externality can be defined as an uncompensated effect on a utility function or production set. The eutrophication of surface waters due to nutrient run-offs is an example of a negative externality produced by agriculture (Lankoski 2003, p. 15).

A pure public good possesses the following characteristics: it is non-rival in consumption and yields benefits that are non-excludable. Non-rivalry means that one agent's consumption of the good does not preclude that of others. In other words, there is a zero marginal cost for an additional consumer of the good. Non-excludability means that it is possible or prohibitively costly to exclude agents from consuming the good. Thus, because of non-rivalry it is not desirable and because non-excludability it is not feasible to ration the use of the public good. The non-use values of landscape and agrobiodiversity can be regarded as examples of pure public goods (Lankoski 2003, p. 15–16).

The main externality of Finnish agriculture is that it keeps the landscape open in a much forested land. The main negative externality is water pollution.

Open landscape and agrobiodiversity are the most important public goods produced by the Finnish agriculture.

5.6 Maintenance of rural landscapes via multifunctional land use

Management of rural landscapes, especially traditional agricultural ones should receive more attention than currently is the case. Policies encouraging multifunctional land use are

not strong enough to maintain open rural landscape, let alone to take care of special landscapes.

5.7 Conclusions

The agri-environmental programme has been the only policy measure so far used directly for the maintenance of rural environment and landscapes. LFA support has indirectly safeguarded agricultural land use and in that way the maintenance of rural landscapes. Those receiving LFA support have confirmed that most of them would have had to give up farming without this policy measure.

In the case of Finland, agri-environmental support represents a significant share of farmers' income, although its role varies according to the production sector. According to the profitability bookkeeping of MTT Economic Research, in 2000 environmental support stood at 10.7% of the total return on cereal farms, on dairy farms the share was 5.5% and on pig farms it was 3.6%. Environmental support represents about 17% of all agricultural support.

At least part of this agri-environmental support can be considered as direct income payments to Finnish farmers. At the end of 2002, environmental support covered 94% of Finnish farmers and 98% of the arable area, which is a record high within the EU (Niemi & Ahlstedt 2003, p. 59). This is to say that in the case of Finland – which forms one extreme inside the EU – the price support part of the CAP diminishes the multifunctionality of agriculture, as it works in the direction of production concentration, whereas the agri-environmental support and support for less-favoured areas produce some positive externalities.

Part II: Marginalisation of land in Finland

6 General description of land use in Finland

6.1 Introduction

Finland is one of the northernmost countries in the world. With a total area of 338,145 sq. km (33.8 million ha), it is Europe's seventh largest country. In 2002, from the total area around 2.2 million ha or 6.5% was in agricultural use and 8% was agricultural land. The cultivated area is very unevenly distributed. As for the rest, 68% of the area was forest and other area covered by trees, 3% was constructed area, 11% was open land, and 10% was under inland waters in the beginning of the 21st century. Finnish landscape is characterised by large uniform forest areas, lakes, islands and various kinds of peat lands (Figure 2, Ministry of Agriculture and Forestry 2002, p. 4, Niemi & Ahlstedt 2003, p. 27).

Characteristic for Finland is the low density of population (17 persons/sq. km in 2002). In 2002, of the total population 58% was living in urban and 15% in urban adjacent communes, 17% in core rural and 10% in sparsely populated rural areas (Statistics Finland). The concentration of population to southern and coastal areas has left large areas of the eastern and northern parts of Finland extremely sparsely populated.

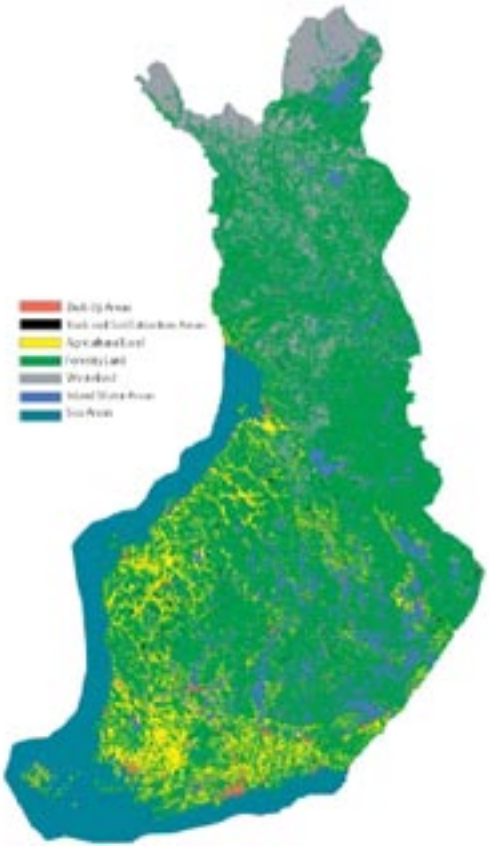


Figure 2. Land use in Finland according to main categories (Ministry of Agriculture and Forestry 2002).

6.2 Main characteristics of land use

Typical for Finnish land use is the small share of agricultural land which in 2002 covered only 8% of the surface of the country. In addition, agricultural land is unevenly distributed over the country.

A quarter of the total area lies north of the Arctic Circle. The country is fairly flat, higher hills and a few low mountains are to be found in the east and north of the country.

The share of arable land varies considerably in the different parts of the country: in southern and western Finland, the average share of arable land is almost 30%, in the lake district in central Finland, it is over 10% and in the north it is less than 5%. The climate and location of animal husbandry are reflected in the distribution of arable land in different parts of the country (Figure 3, Ministry of Agriculture and Forestry 2002, p. 16).

The location of livestock production is reflected in the regional distribution of land use. In 2002, the share of grasses in the cultivated area was about a fifth and that of bread cereals was 16% in southern Finland, while in the other parts of the country almost 60% of the cultivated area was under grasses and the share of bread cereals was about 2%. In the region of Lappi more than 90% of the cultivated area was under grasses (Niemi & Ahlstedt 2003, p. 20).

During 1969–2000 arable and horticultural areas have decreased by 17% (Information Centre of the Ministry of Agriculture and Forestry, National Board of Agriculture). During the period 1997–2002, the area under cereals grew by 7%, and the grass area decreased by 7%,

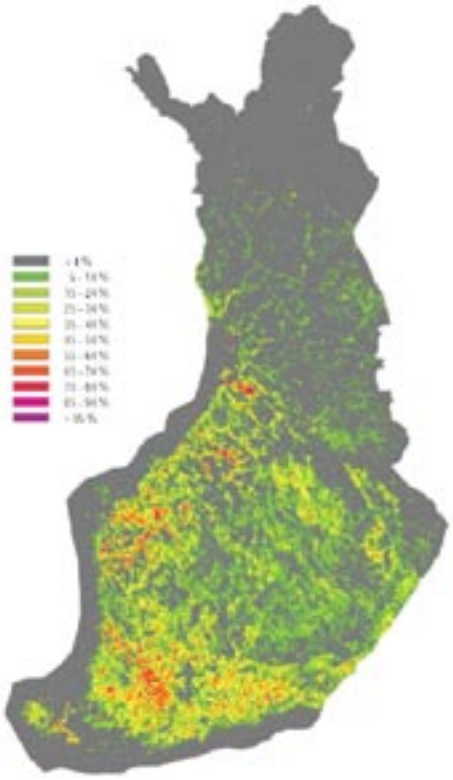


Figure 3. Share of agricultural land in the land area of Finland (Ministry of Agriculture and Forestry 2002).

which is a clear sign of a change in land use (Niemi & Ahlstedt 2003, p. 27). This change is connected with specialisation which has simplified the farming cycle. Another significant change is the growth of leased arable land during the last two decades: at the moment, 40% of the total cultivated area of active farmers is leased (Niemi & Ahlstedt 2003, p. 18).

After EU membership, agriculture has concentrated both regionally and at farm level. Production is falling rapidly in the more remote areas, both nationally and regionally, and production is concentrating towards large farms. Large units account for a growing share of the total output (Niemi & Ahlstedt 2003, p. 20).

Over the past 50 years, agricultural landscapes in Finland have become increasingly homogenous due to structural change, and the mechanisation, rationalisation, and intensification of production. Rationalisation through subsurface drainage and the removal of small-scale elements (trees, ponds, hedges) and forest islands has resulted in more geometric field parcels with inevitably less value for landscape diversity and agrobiodiversity. The decline in the number of linear landscape elements (ditch banks and arable field borders adjacent to non-arable land) is largely explained by the replacement of open field ditches by subsurface drainage. At national level, subsurface drainage has replaced, on the average, 500 m/ha ditches (Lankoski 2003, p. 21).

The maintenance of diverse agricultural landscapes is of particular concern in Finland, since only small minority of land area is used for agriculture. Although forestry also provides several non-commodity outputs in rural areas, not all of them are substitutes for those of agriculture. This is especially the case with respect to biodiversity and landscape diversity. Most of the threatened species in Finland live either in forest habitats or in agricultural habitats, and no one of them are substitutes for each other. Also in terms of landscape diversity, forestry may be a poor substitute for the landscape provision of agriculture (Lankoski 2003, p. 21).

6.3 Conclusions

Agricultural land is concentrated in the south of the country where in some regions as much as 40% of rural areas may be cultivated land. In the north, there are only small areas of agricultural land, mostly located in the sandy deposits of rivers. About one third of the land surface of Finland is covered by some kind of peat lands. Nearly all areas which could be cultivated have been cleared for agriculture.

Agricultural land use is changing both in quantitative and qualitative terms. The cultivated area is diminishing and becoming more monotonous. Some areas are afforested by planting while others grow bush and low quality forests. The loss of biodiversity is significant. The variability and openness of the landscape is diminishing. The role of agriculture in keeping the rural landscape open and contributing to biodiversity are the most important factors of multifunctionality in Finland, but over the last decades, the ability of agriculture to contribute to multifunctionality has on average decreased.

7 Current and possible future status of marginalisation

7.1 Introduction

In this chapter, we shall discuss the current status of marginalisation and the trends in future as to this process. In this chapter, it is used many different territorial divisions. The maps of these divisions have been collected in appendix 1.

7.2 The selected indicators

7.2.1 Biophysical

At biophysical level, the indicators for marginalisation that seem to capture the situation in Finland are related to changes in land-use patterns, biodiversity, loss of traditional landscapes and the amount and location of abandoned fields.

Number of endangered species
- in cultivated areas, % of all endangered species
- in forests, % of all endangered species

Finland has about 43,000 species of animals and plants, and there is adequate data for the monitoring of the endangerment status on about 15,000 species. Based on the most recent survey of endangered species published in 2000, 1,505 of these, or about 10%, are endangered. 28% of the endangered species (421) live mainly in cultural habitats that are dependent on human action, and 37.5% of the endangered species live in forests (Ministry of Agriculture and Forestry 2002, p. 42).

Loss of traditional landscapes
- total amount of traditional landscapes in ha

Finland has only less than 20 000 ha of traditional landscapes left, and the most threatened are the various types of dry and forest meadows. The total area of traditional landscapes is less than 1% of the cultivated area. The decline in livestock farming and its concentration geographically on few regions only have caused a dramatic drop in the area of traditional agricultural landscapes. The area of natural meadows and pastures has decreased drastically during a period of 30 years, 1969–2000. In particular, between 1990 and 2000 the decrease has been notably sharp (-83%) (Figure 4). Regionally, the development has been quite similar all over the country except for Åland where the area fell only by 24% between 1969–2000 (Table 2).

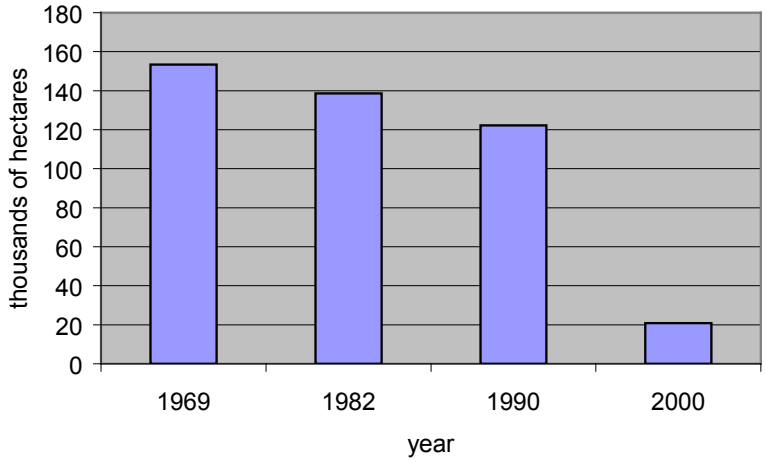


Figure 4. Agricultural land use in Finland, natural meadows and pastures (Information Centre of the Ministry of Agriculture and Forestry, National Board of Agriculture).

Table 2. Agricultural land use regionally in Finland, natural meadows and pastures (Information Centre of the Ministry of Agriculture and Forestry, National Board of Agriculture).

Area (earlier province)	1969	1982	1990	2000
Uusimaa	9,622	7,873	6,657	1,774
Turku and Pori	21,802	16,738	15,385	3,266
Åland	6,151	4,501	4,109	4,683
Häme	16,252	14,933	12,152	1,971
Kymi	7,169	5,844	4,221	393
Mikkeli	13,564	11,388	10,026	1,086
Pohjois-Karjala	13,554	11,316	9,222	643
Kuopio	15,237	12,420	10,330	1,169
Keski-Suomi	12,525	10,963	7,725	782
Vaasa	12,145	11,630	10,037	1,205
Oulu	14,458	18,037	24,707	2,633
Lappi	10,963	12,966	7,687	1,261
Whole country	153,442	138,609	122,258	20,866

The number and location of abandoned farms

- no and area by regions

In his study, Perttu Pyykkönen (2001) analysed the amount of marginal agricultural land in Finland, and came up with the map below (Figure 5). The research was done by studying all the farms where the farmer retired during 1996–1999. It shows the percentage of agricultural land that came up for leasing or for sale and no one was interested in having. Based on his analysis, Pyykkönen concluded that, 10% of all Finnish agricultural land is marginal land, and it is mainly located in east and north Finland, but also elsewhere in the country there are remote fields that no one is ready to cultivate.

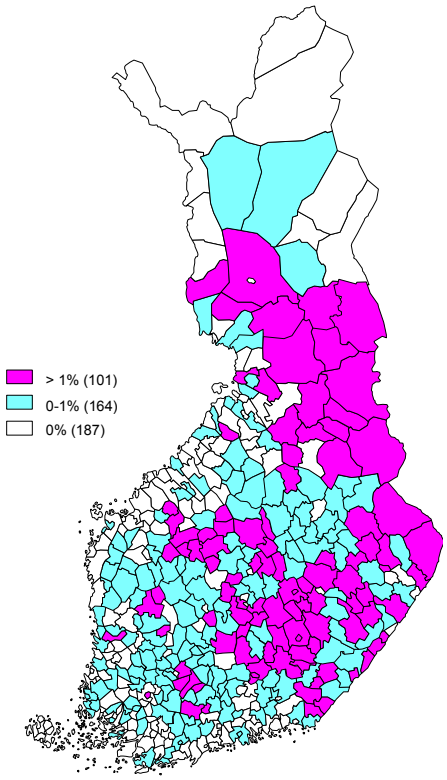


Figure 5. The share of marginal land of all agricultural land per municipality (Pyykkönen 2001, p. 41).

Land-use patterns – arable and horticultural lands and forests

- by landscape, arable land in ha and forests in sq. km

The development of the cultivated area has not been straightforward. Arable and horticultural area decreased during 1969–2000 by 17% in Finland. During the period 1969–1982, the area decreased by 9%, but from 1982 to 1990, it even increased (5%). During the period 1990–2000, the development was again negative (-13%). But from 2000 to 2003, the cultivated area increased by 1.5% to total some 2,224,600 ha. During 1997–2002, the area under cereals grew by 7% and the grass area decreased by 7% (Figure 6, Niemi & Ahlstedt 2003, p. 27).

There has been variable development regionally. Between 1969 to 2000, the cultivated area diminished in all areas except Åland (+5%) and Häme (+21%). The decline was especially sharp during 1969–2000 in eastern and in northern Finland (Table 3).

The area of forest land owned by farmers fell strongly during 1969–2000 (60%), mainly because of a rapid decrease (50%) during the period 1990–2000 (Figure 7). The main explanation is the inheritance to towns due to rapid urbanisation over the last 30 years. Regionally, development has been generally fairly even, although in Lappi, the decrease has been 79% and in Häme only 29% (Table 4).

Table 3. Agricultural land use regionally in Finland, agricultural and horticultural area (Information Centre of the Ministry of Agriculture and Forestry, National Board of Agriculture).

Area (earlier province)	1969	1982	1990	2000
Uusimaa	237,285	212,928	221,839	186,795
Turku and Pori	533,301	470,103	518,665	447,723
Åland	13,503	11,215	13,384	14,201
Häme	278,825	284,266	268,353	337,875
Kymi	171,159	157,458	163,058	139,918
Mikkeli	142,253	120,533	121,821	74,557
Pohjois-Karjala	134,601	115,775	118,753	84,135
Kuopio	174,322	158,534	169,080	138,775
Keski-Suomi	129,958	116,714	121,081	91,377
Vaasa	471,704	427,118	451,794	425,856
Oulu	,305,254	280,064	301,382	228,738
Lappi	,85,002	74,491	74,982	41,810
Whole country	2,677,167	2,429,199	2,544,192	2,211,760

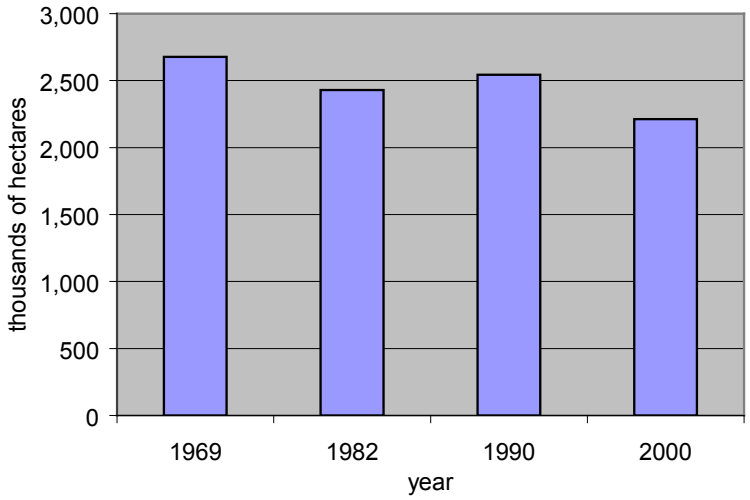


Figure 6. Agricultural land use in Finland, agricultural and horticultural area (Information Centre of the Ministry of Agriculture and Forestry, National Board of Agriculture).

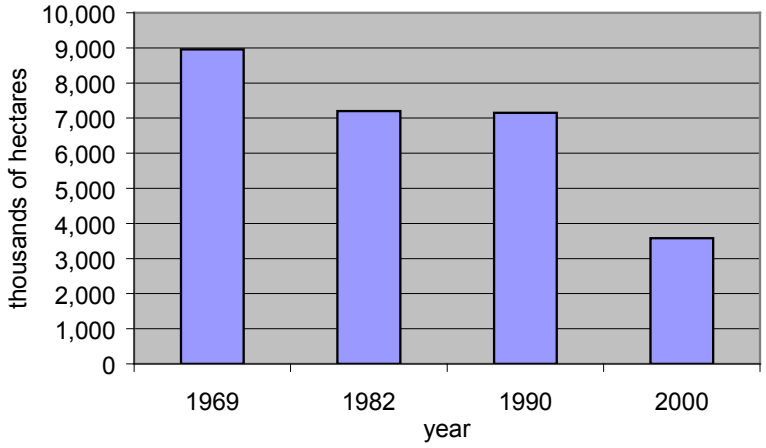


Figure 7. Agricultural land use in Finland, forest land owned by farmers area (Information Centre of the Ministry of Agriculture and Forestry, National Board of Agriculture).

Table 4. Agricultural land use regionally in Finland, forest land owned by farmers (Information Centre of the Ministry of Agriculture and Forestry, National Board of Agriculture).

Area (earlier province)	1969	1982	1990	2000
Uusimaa	377,029	294,010	312,238	192,098
Turku and Pori	902,636	723,232	740,301	400,246
Åland	34,480	26,649	31,985	20,999
Häme	698,383	567,185	552,121	492,891
Kymi	481,022	384,754	380,040	206,862
Mikkeli	763,856	585,300	573,287	255,407
Pohjois-Karjala	582,493	431,489	421,201	188,671
Kuopio	731,287	568,762	559,198	308,959
Keski-Suomi	650,692	531,493	509,856	252,511
Vaasa	1,067,937	883,819	873,714	561,620
Oulu	1,563,429	1,300,882	1,298,209	469,674
Lappi	1,102,553	906,455	899,533	231,239
Whole country	8,955,797	7,204,030	7,151,683	3,581,177

Also so called “other land” (other agricultural land area than the areas already discussed) has decreased notably during the period 1969–2000 (-66%). Again, change has been the sharpest in the period 1990–2000 (-55%) (Figure 8). Regionally, the development has been negative all over the country. In Pohjois-Karjala (-9%) and Häme (-20%), the area has not decreased as sharply compared to other regions (Table 5).

Rented arable land area has increased remarkably during the past two decades (184% between 1982 and 2000). In 2002, 40% of the total cultivated area of active farmers was leased (Niemi & Ahlstedt 2003, p. 18). One reason for the rapid increase, especially after Finland joining the EU, has been that agricultural subsidies are attached to the cultivated area. The farms remaining in production try to process as much land as possible in order to maximise the subsidy income. At the same time, the quality of the soil has deteriorated, since as the

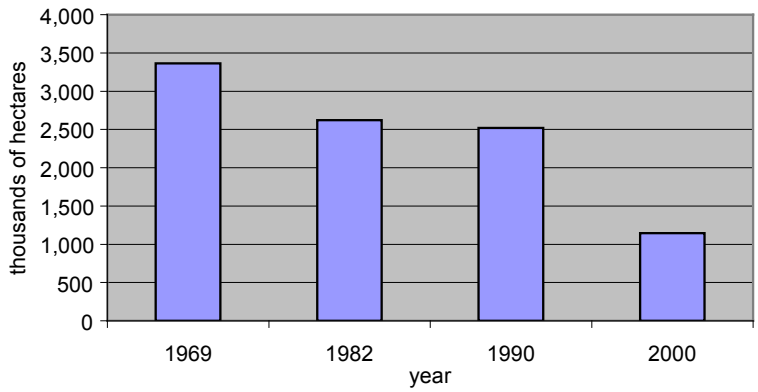


Figure 8. Agricultural land use in Finland, other land (Information Centre of the Ministry of Agriculture and Forestry, National Board of Agriculture).

Table 5. Agricultural land use regionally in Finland, other land (Information Centre of the Ministry of Agriculture and Forestry, National Board of Agriculture).

Area (earlier province)	1969	1982	1990	2000
Uusimaa	80,216	57,010	65,763	40,666
Turku and Pori	298,188	230,404	244,371	125,497
Åland	41,863	29,296	26,088	17,500
Häme	93,501	77,904	82,227	75,154
Kymi	87,597	65,063	66,795	31,517
Mikkeli	111,067	83,494	80,602	31,220
Pohjois-Karjala	119,339	85,703	84,400	109,015
Kuopio	113,429	87,092	89,107	40,844
Keski-Suomi	113,019	88,293	81,081	34,929
Vaasa	490,194	385,425	395,337	211,242
Oulu	979,543	768,245	720,801	253,578
Lappi	835,861	664,838	583,734	172,820
Whole country	3,363,817	2,622,767	2,520,306	1,143,982

Table 6. Agricultural land use regionally in Finland, rented arable land (Information Centre of the Ministry of Agriculture and Forestry, National Board of Agriculture).

Area (earlier province)	1982	1990	2000
Uusimaa	31,375	36,921	60,318
Turku and Pori	54,337	72,591	132,887
Åland	1,858	2,829	5,368
Häme	32,916	36,830	101,250
Kymi	16,141	20,609	41,608
Mikkeli	9,426	14,382	23,783
Pohjois-Karjala	9,322	15,540	26,561
Kuopio	12,855	19,579	40,659
Keski-Suomi	9,336	15,128	29,816
Vaasa	38,429	61,163	134,645
Oulu	21,473	39,046	73,829
Lappi	4,846	8,890	16,463
Whole country	242,314	343,508	687,187

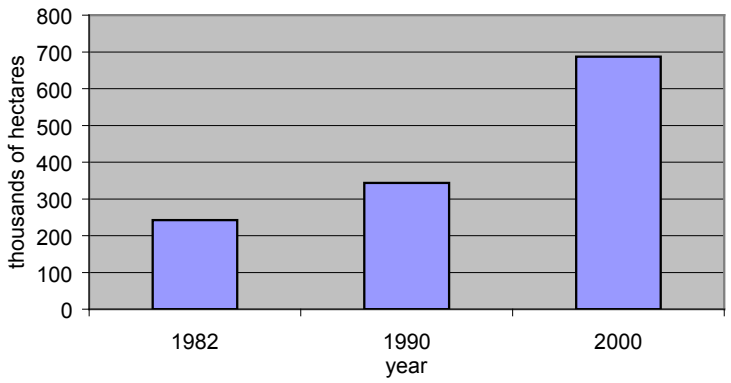


Figure 9. Agricultural land use in Finland, rented arable land (Information Centre of the Ministry of Agriculture and Forestry, National Board of Agriculture).

product price is low compared to the subsidy, it does not make sense for the farmer who rents the field to take care of its production capacity.

The change has been fastest during 1990–2000 (100%), although the area increased rapidly also during 1982–1990 (Figure 9). Regionally, the increase during 1982–2000 has been clearly smallest in Uusimaa (92%) (Table 6).

Forestry

Forestry land is divided into categories based on wood production capacity. Both the forest area and volume of the growing stock increased during the 20th century. In the beginning of the 21st century, Finland possessed about 0.5% of the world's forest resources, and about 1.5% of the world's harvesting was done in Finland. Our share of the production of the forest industry was 5% and we accounted for 10% of world exports (Ministry of Agriculture and Forestry 2002, p. 23).

Based on the forest inventory data 1992–2001, of the total Finnish land area of 30.5 million ha, 26.3 million ha (86%) is classified as forestry land (Figure 2). This also includes the high-elevation areas in Lappi and similar open lands. Forestry land is classified according to its productivity into forestland, scrub land and wasteland. The area covered with trees was 23.1 million ha, and almost 60% of this was privately owned. An increasing share of the forest owners lives in urban areas. Most of the state-owned forests are located in eastern and northern Finland. The nature conservation areas totalled in 2003 2.8 million ha, of which a little over a half is treeless land (Figure 11) (Finnish Forest Research Institute).

The changes in the forest land area (here forest includes forest land and scrub land) have not been dramatic during some last 30 years, although the area has slightly decreased. Naturally, because of its characteristics, the changes in the forest land area are slow. Regionally, forest land area has even slightly increased in some areas during some last 30 years (Tables 7 and 8).

Table 7. Forestry land in Finland from the 1950s to the 2000s (Forest includes forest land and scrub land) (Finnish Forest Research Institute).

Land use	Southern Finland			Northern Finland			Whole coutnry		
	1951–53	1964–68	1996–2000	1951–53	1969–70	1992–2001	1951–53	1964–70	1992–2001
Total area	**18,300**	**18,300**	**17,763**	**15,401**	**15,404**	**16,052**	**33,701**	**33,704**	**33,815**
Total land area	**16,090**	**16,089**	**15,467**	**14,450**	**14,459**	**14,992**	**30,540**	**30,548**	**30,459**
Forestry land	12,475	12,767	12,037	13,840	13,900	14,239	26,315	26,667	26,276
Forest land	9,958	10,944	11,171	7,394	7,753	9,076	17,352	18,697	20,247
Scrub land	1,722	944	428	2,800	2,730	2,377	4,522	3,674	2,805
Waste land	795	836	353	3,646	3,390	2,719	4,441	4,226	3,071
Roads, depots, etc.	..	43	86	..	27	67	..	70	153
Agricultural land	3,402	2,920	2,396	563	411	439	3,965	3,331	2,834
Other	213	402	1,034	47	148	315	260	550	1,349
Built-up areas	..	225	742	..	41	214	..	266	957
Transport routes, etc.	..	177	292	..	107	101	..	284	392
Inland watercourses	**2,210**	**2,211**	**2,296**	**951**	**945**	**1,060**	**3,161**	**3,156**	**3,356**

On forest land this is 1.0 m^3/ha/year or more, on scrub land 0.1 m^3/ha/year or more and on waste land less than this.
Forestry land also includes nature conservation areas.
The international definition of forest (FAO) sets a 10% canopy cover and 5 m minimum height in mature stands as the threshold between forest land and other lands.
This means that in Finland more than half of the scrub lands meets the international definition of forest land (see Tables 12.1 and 12.2)
The borderline between southern and northern Finland changed in 1998; 487000 ha of forestry land were re-classified as belonging to northern Finland instead of southern Finland.

Table 8. Forestry land by forestry centre (based on the forest inventory of 1992–2001) (Forest includes forest land and scrub land) (Finnish Forest Research Institute).

Forestry centre	Forestry land						
	Forest land	Scrub land	Waste land	Roads, depots, etc.	Total	Other land	Total land area
Whole country	**20,247**	**2,805**	**3,071**	**153**	**26,276**	**4,183**	**30,459**
0–10 Southern Finland	**11,171**	**428**	**353**	**86**	**12,037**	**3,430**	**15,467**
0 Ahvenanmaa	62	27	27	0	117	36	153
1 Rannikko	823	73	56	4	956	410	1,366
Etelärannikko	352	49	27	1	430	240	669
Pohjanmaa	471	24	29	3	527	170	696
2 Lounais-Suomi	1,002	62	39	8	1,111	625	1,736
3 Häme-Uusimaa	942	12	11	9	974	456	1,430
4 Kaakkois-Suomi	784	12	13	6	816	262	1,078
5 Pirkanmaa	896	15	17	9	937	290	1,227
6 Etelä-Savo	1,226	20	9	8	1,263	181	1,444
7 Etelä-Pohjanmaa	1,274	101	91	10	1,476	469	1,945
8 Keski-Suomi	1,361	36	15	13	1,424	234	1,658
9 Pohjois-Savo	1,309	24	24	10	1,367	284	1,651
10 Pohjois-Karjala	1,491	46	49	10	1,596	182	1,778
11–13 Northern Finland	**9,076**	**2,377**	**2,719**	**67**	**14,239**	**754**	**14,992**
11 Kainuu	1,754	158	127	15	2,053	103	2,157
12 Pohjois-Pohjanmaa	2,350	373	371	22	3,117	413	3,530
13 Lappi	4,972	1,846	2,220	30	9,069	237	9,306
Southern part	4,188	1,109	943	28	6,268	199	6,467
Enontekiö, Utsjoki, Inari	784	737	1,277	2	2,801	38	2,839

Organic farming

Organic farming in Finland increased by 5.4 per cent points between 1993 and 2002. In 2002, regionally speaking the share of organic farming was clearly the biggest in Åland (14.4%). The share was also bigger than average in southern, eastern and north-eastern Finland (below Lappi). The share was smaller than average in many places of south-western Finland and in northern Finland (Lappi) (Table 9).

Changes in geographic production patterns

During the last 40 years, nearly nine farms out of ten have given up cattle husbandry, while at the same time the overall cattle population has declined by over a third. The Nordic countries earlier had far more pastures than currently, and those that remain are located further apart than before. The map below illuminates the structural change during the period 1995–2000 in agriculture and its regional aspect as to the concentration of milk production to Keski-Pohjanmaa and certain areas in the centre and east of Finland (Figure 10).

Table 9. Organic farms as a percentage of all farms 1993–2002 (The Plant Production Inspection Centre).

Employment and Economic Development Centre	1993	1994	1995	1996	1997[1]	1998[1,2]	1999[1]	2000[1]	2001[1]	2002[1]
01. Uusimaa	1.3	1.8	3.8	6.8	7.2	7.9	-	8.6	8.5	8.7
02. Varsinais-Suomi	0.5	0.8	2.4	4.3	4.4	4.7	-	5.2	5.0	5.2
03. Satakunta	0.4	0.7	1.6	4.0	3.9	4.7	-	4.9	4.4	4.6
04. Häme	1.8	1.4	2.1	3.3	3.8	3.9	-	4.2	4.1	4.2
05. Pirkanmaa	1.4	2.0	3.1	6.4	6.5	7.8	-	8.9	9.0	9.5
06. Kaakkois-Suomi	1.2	1.2	1.9	4.3	4.3	5.1	-	6.0	5.8	6.1
07. Etelä-Savo	2.4	2.6	4.0	5.3	5.3	6.0	-	7.6	8.0	8.6
08. Pohjois-Savo	1.4	1.4	2.4	4.3	4.5	5.6	-	6.9	7.0	7.5
09. Pohjois-Karjala	1.2	1.6	3.0	4.5	4.6	6.7	-	9.0	9.4	10.3
10. Keski-Suomi	1.5	2.0	3.2	4.8	4.9	5.7	-	6.5	6.2	6.4
11. Etelä-Pohjanmaa	0.9	1.0	1.9	2.9	3.2	3.7	-	4.1	4.1	4.3
12. Pohjanmaa	3.4	3.5	5.1	7.2	5.6	6.3	-	7.6	7.8	8.0
(Keski-Pohjanmaa)	1.7	1.8	3.6	6.4						
13. Pohjois-Pohjanmaa	1.8	1.8	2.9	4.7	6.1	7.2	-	8.3	8.0	8.4
14. Kainuu	2.6	3.1	3.6	5.4	5.3	6.7	-	8.2	8.1	9.0
15. Lappi	0.8	1.0	2.0	2.5	2.6	3.5	-	4.4	4.2	4.3
20. Åland	0.5	3.3	5.7	7.7	9.7	10.1	-	11.6	13.2	14.4
Total	1.4	1.6	2.8	4.7	4.9	5.6	-	6.5	6.5	6.8

[1] Statistics of 1997–2002 are not fully comparable to statistics of 1993–1996 because of new borders of Employment Centres.
[2] There is no available number of active farms in 1999.

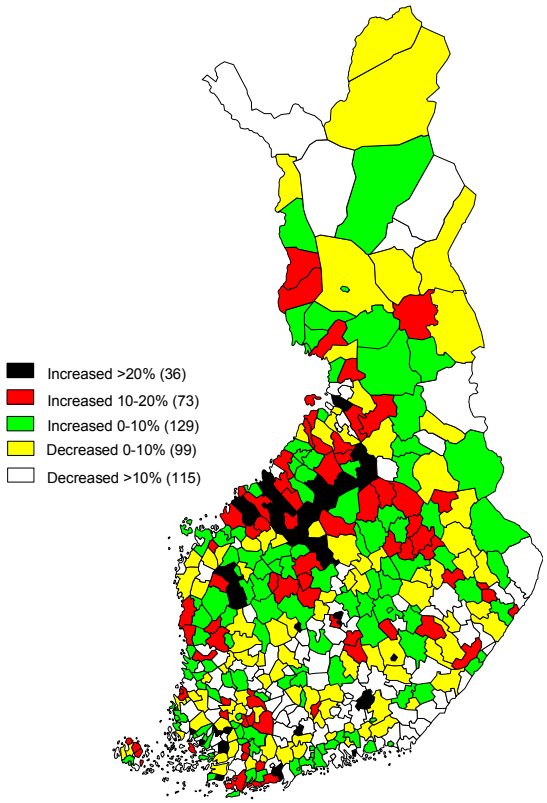


Figure 10. Change in milk production per municipality 1995–2000 (number of municipalities) (Pyykkönen 2001, p. 15).

Protected areas and wilderness reserves

- regional pattern of protected areas in ha

In 2003, the nature conservation areas totalled 2.8 million ha, of which a little over a half is treeless land. This could be compared to the total cultivated area of 2.3 million ha. The conservation areas are concentrated into the northern parts of the country where the productivity of the forests is very low and large areas of land belong to the state. The share of protected forests is notably low in southern Finland. This has been a cause of concern since the more fertile southern forest types are very weakly protected, while most of the forest area is cultivated commercial forests (Figure 11).

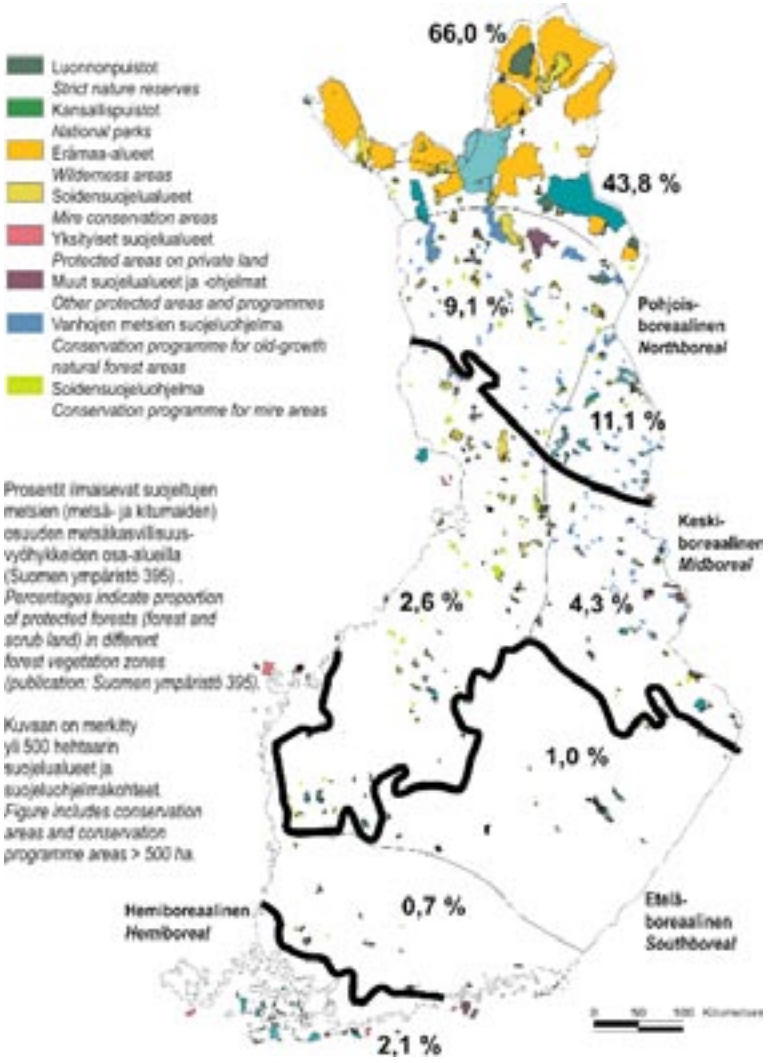


Figure 11. Protected areas and wilderness reserves (Finnish Forest Research Institute).

7.2.2 Farm level

These indicators describe the farming economics from the individual farmer's point of view and give material for a general analysis on the challenges faced by Finnish farms.

The share of farms in danger of marginalisation in 2000 based on economic criteria

The study of Asko Peltola (2000) is the only effort to quantify economic marginalisation in modern Finnish agriculture. As material, he uses statistics on income and taxes in farm economy. As a criterion to identify the farms in danger of marginalisation, he uses the following:

1) The starting point has been the person's taxable total income. For single persons, only the farmer's income is taken into account while for couples the total income of both spouses is divided by 1.7 to get *"modified total income"*.

2) From the modified total income, the median income has been calculated. Those farms, where the modified total income is maximum 60% of the median income, are taken out of the total; these are *"income-poor farms"*.

3) A median is defined for investment and basic improvements. From these, farms making maximum 60% of the median for investments and basic improvements are picked. These are *"farms with low level of investments"*.

4) The median is calculated from all the depreciations (buildings, machines and other equipment, covered ditches etc.). Farms were then picked, with the level of total depreciation reaching to maximum 60% of median. These are *"low-production capital level farms"*.

5) Next, all farms which fulfil the conditions 2), 3) and 4) are named *"income poor, low investment level, low productive capital level farms"* which is to be interpreted as *"farms in danger of marginalisation"*.

6) Finally, to separate farmers of an active working age from the farms identified according to the developed criteria being in danger of marginalisation, those with farmers of 65 years old or older (i.e. born 1935 or earlier) were discharged. In this manner, the group *"farms in danger of marginalisation with a farmer in active age"* were defined (Peltola 2000, p. 43).

The results were as follows (Table 10):

Table 10. The share of farms in danger of marginalisation (%) in Finland (Peltola 2000, p. 46).

Criteria	%
Income poor	22.3
Low investment level	46.0
Low level of production capital	38.0
Combination of criteria	9.5
Farmers in active age and in danger of marginalisation	8.3

The number and size distribution of farms

The significance of agriculture in the Finnish economy has been decreasing and production growth has been much lower than in the other sectors of the economy. The number of people living in rural areas and gaining their livelihood from agriculture has been shrinking fast. The number of active farms has also fallen very clearly. At the same time, the average farm size has been on the increase.

In 2002, the total number of farms of more than 1 ha which applied for agricultural support was 73,386. During the post-EU membership in 1995–2002, the number of Finnish farms has fallen by 23% (3.7% annually) from 95,562 by a total of 22,176 farms. Proportionally,

the decrease has been the greatest in eastern Finland (27%) and the smallest in northern Finland (19%), while in both central and southern Finland the number of farms has fallen by about 23%. (Figure 12, Niemi & Ahlstedt 2003, p. 18.) The number of farms has dropped the fastest in regions where the amount of livestock farms – especially dairy farms – is the biggest.

The slow decline in the number of farms in northern Finland is actually not completely reliable. In reality, the decline has been much faster, and comparable to the development in the east of the country. Namely, in 1998 numerous reindeer farms not previously counted as farms since they had so little field appeared in statistics because of a change in the rules concerning the compensation paid in the case of damage caused by wild beasts.

Most of the farms, over 50%, are situated in core rural areas (Figure 13).

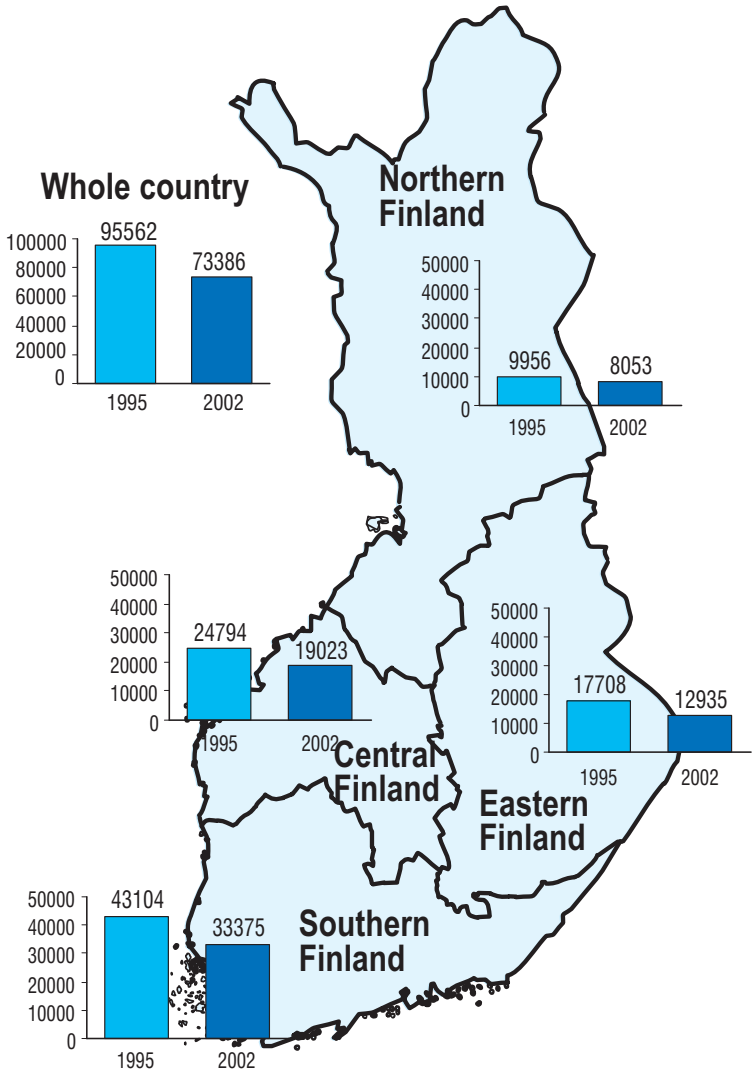


Figure 12. Number of farms receiving agricultural support in 1995 and 2002 (Main regions of Uusimaa and Åland according to NUTS2 have been included in southern Finland.) (Niemi & Ahlstedt 2003, p. 21).

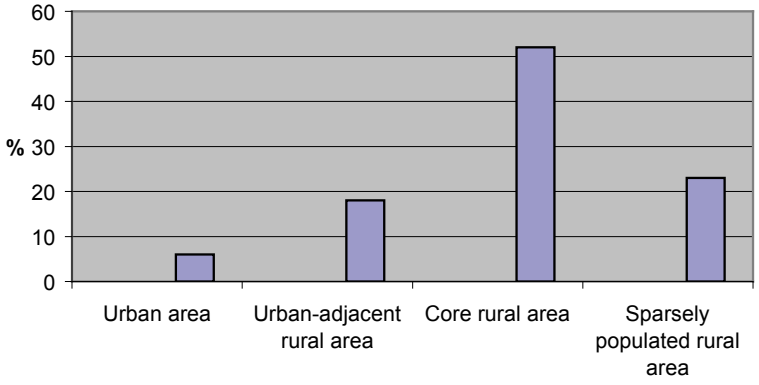


Figure 13. Distribution of farms by the type of rural area in the period 1997–2002, % of all farms (Statistics Finland).

While the number of farms is decreasing rapidly, the average farm size is on the increase. In the period 1995–2002, the average size of farms receiving agricultural support grew by more than 33% from 22.8 ha of arable land to 30.3 ha. The annual growth in the average farm size has varied from 0.5 ha to 1.5 ha. The growth is due to both the decrease in the number of small farms and increase in the number of large farms (Table 11, Niemi & Ahlstedt 2003, p. 18). At the moment there is no sign in Finland of the farm structure polarising on the one hand on big farms, and on the other hand on small farms. Small farms clearly are the most inclined to quit.

The magnitude of the structural change is reflected in the proportional share of the different size categories: in the past seven years, the share of farms with less than 20 ha has fallen from 56% to 44% and the share of farms with more than 50 ha has more than doubled from 7% to 16%. However, the share of small farms is still high in Finland, and the very large farms with more than 100 ha arable land represent less than 3% of the Finnish farms (Table 11, Niemi &

Table 11. Size-class distribution and average arable area of farms receiving agricultural support in 2002[1] (Niemi & Ahlstedt 2003, p. 19).

Arable area	Southern Finland[2]		Eastern Finland		Central Finland		Northern Finland		Whole country 1995		Whole country 2002	
	Number of farms	%	Number of farms	%	Number of farms	%	Number of farms	%	Number of farms	%	Number of farms	%
<10 ha	6,024	18	2,907	23	3,762	20	1,678	21	22,85	24	14,371	20
10–20 ha	7,679	23	3,61	28	5,053	27	1,732	22	30,698	32	18,074	25
20–30 ha	5,84	18	2,476	19	3,748	20	1,427	18	19,669	21	13,491	18
30–50 ha	6,918	21	2,517	20	3,904	21	1,778	22	15,414	16	15,117	21
50–100 ha	5,364	16	1,219	9	2,133	11	1,2	15	5,706	6	9,916	14
>100 ha	1,409	4	135	1	313	2	198	2	784	1	2,055	3
Number of farms	33,234		12,864		18,913		8,013		95,121		73,024	
Average arable area, ha/farm	33.73		25.38		27.51		30.58		22.77		30.30	

[1] The figures do not include horticultural enterprises if they have no fields under cultivation.
[2] Main regions of Uusimaa and Åland according to NUTS II have been included in Southern Finland.

Ahlstedt 2003, p. 18). The cultivated area per farm has mainly grown by leasing rather than the purchase of additional land.

The production structure of farms

Measured by the number of farms, the production structure of Finnish agriculture has changed considerably during EU membership in the period 1995–2002. The share of livestock farms has fallen while the share of crop farms has clearly increased. In 2002, 40% of the farms which applied for support were livestock farms and 55% were crop farms, while in 1995, the share of livestock farms was 52% and that of crop farms was 39%. However, no major change has occurred in the share of livestock production in the return on agricultural production at market prices, which was about 80% in 2002 (Figure 14, Niemi & Ahlstedt 2003, p. 20).

In 2002, about 19,800 farms were engaged in dairy husbandry as their main production line. This is almost 27% of farms which received agricultural support. In the period 1995–2002, the number of dairy farms fell by about 12,200, almost 7% a year. Based on the total value of production, dairy husbandry is still the most significant production line in Finland, which in recent years has accounted for almost half of the return on agricultural production at market prices (Figure 14, Niemi & Ahlstedt 2003, p. 20).

In 2002, the number of farms specialising in pig husbandry was about 3,800 and these represent about 5% of the farms that applied for support. On 1,500 farms (38%), the main production line was piglet production. 1,100 farms (30%) specialised in pig meat, and 1,200 farms (32%) were engaged in combined pig production. Most of the piglet and pig meat farms are located in southern and western Finland. In 2002, pig meat represented about 14% of the return on agricultural production at market prices, and in terms of the value of the production, it was the third most important agricultural product after milk and grain. About 5,000 farms (7% of all farms) specialised in beef production, and the share of beef in the value of agricultural production was about 10% (Figure 15, Niemi & Ahlstedt 2003, p. 20).

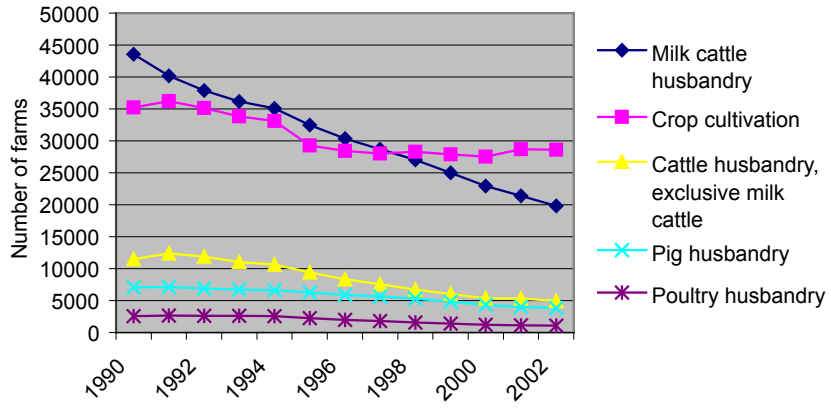


Figure 14. Production structure of farms (Information Centre of the Ministry of Agriculture and Forestry).

A little over a half of the farms which receive agricultural support are engaged in crop production as their main production line. Because of the natural conditions, most of the crop production is located in southern and south-western Finland and Pohjanmaa. More than half of crop farms are located in the main region of southern Finland and about a quarter are in central Finland. In 2002, the share of crop production in the return on agricultural production at market prices was about 19%. About 2% of farms which applied for support were engaged

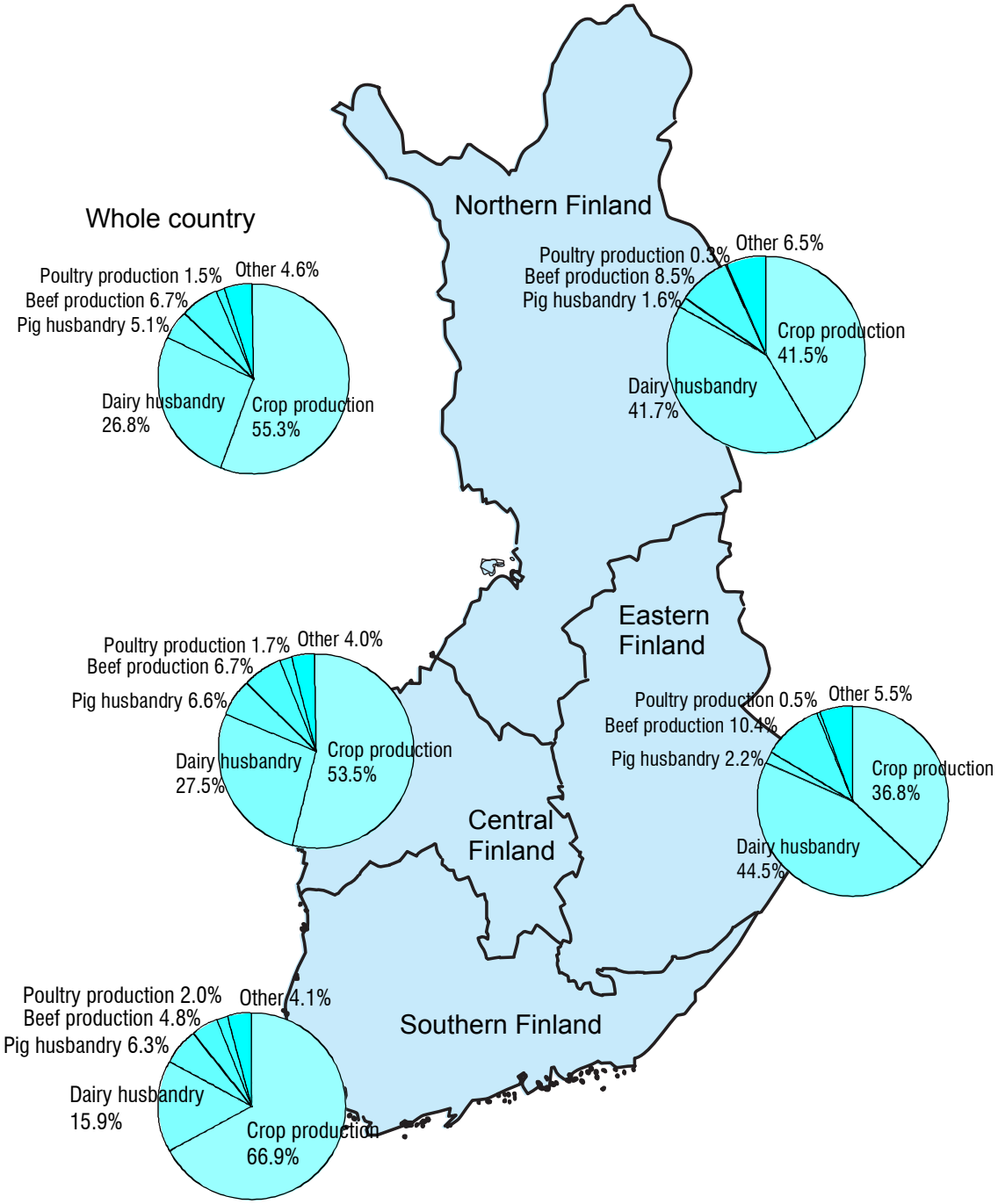


Figure 15. Distribution of farms receiving agricultural support according to production line in 2002 (Main regions of Uusimaa and Åland according to NUTS2 have been included in southern Finland.) (Niemi & Ahlstedt 2003, p. 21).

in poultry production. 63% of these specialised in egg production, 24% in poultry meat production and 12 % were breeding units (Niemi & Ahlstedt 2003, p. 20).

The following figure (Figure 15) showing the trends in the number of animals have been calculated on the basis of the main production sectors reported by the farmers in 1995 and 2001. Structural change has been the most rapid in egg production, where average size has grown by about 105%. The herd size of beef cattle farms has almost doubled (growth of about 89%). In pig meat and poultry production the average number of animals grew by a little under 70%. The growth of dairy farms has been slower, and the average unit size has increased by 36% (Niemi & Ahlstedt 2003, p. 20–21).

On average, structural change in Finnish agriculture is exceptionally rapid. This might be the case anyway, but the way in which policies have been implemented in Finland – e.g. in the case of the national aid for southern Finland – with a strong emphasis on investment aid have undoubtedly accelerated this change.

The productivity development of farms

Despite rapid structural development, productivity of Finnish agriculture has developed quite slowly. In the early 1990s, productivity of agriculture developed only moderately, and until 1997, production volumes fell following the decrease in the use of inputs. Productivity increased at the end of the decade. The use of labour in agriculture fell rapidly, but the volume of output started to grow from 1998 onwards. In the period 2000–2002, the same amount of inputs produced 13.9% more than in 1992. The production volume was 97.4% and use of inputs 85.5% of those in 1992 (Niemi & ahlstedt 2003, p. 68).

The adjustment to new price relations and investment aid encouraged new investments in agriculture towards the end of the 1990s. However, the new investments and rapid structural development have not resulted in any dramatic improvement in productivity for Finnish agriculture, which is still far behind the productivity of farming in Central Europe. Still, productivity has been increasing modestly in Finland as well (Niemi & Ahlstedt 2003, p. 69).

The calculation of productivity development in Finnish agriculture in 1992–2002 shows that, during the period, the average annual increase in the productivity was 1.31%. However, development did accelerate towards the end of the period (Figure 16, Niemi & Ahlstedt 2003, p. 69).

The best results in productivity development were reached on livestock farms. On farms producing beef, the same amount of inputs produced 17% more in 1998–2000 than in 1992. The productivity on dairy farms rose by 13% and that of pig farms by 6 % (Figure 17, Niemi & Ahlstedt 2003, p. 69).

Measured by the production volume, the size of pig farms has increased principally during the period of EU membership: from 1995 to 2000 it grew more than 1.7 times. The produc-

tion volume of dairy farms grew 1.3 times and that of farms specialising in beef production 1.2 times (Figure 17, Niemi & Ahlstedt 2003, p. 69).

Rapid growth in farm size alone does not guarantee increased productivity, but basically the objectives set for the policy have been met quite well. Investment aid for livestock production, together with other factors relating to the operating environment, has not only increased the production volumes of farms, but efficiency in the use of production inputs has also improved. However, the situation may change rapidly if, for example, the structure of support for dairy farms changes from additional price to dairy cow premiums based on quota (Niemi & Ahlstedt 2003, p. 69).

There is a problem related to the incentives in cereal production. Because the price is so low that only changing costs are covered by the cereal price and fixed costs are not, the relative share of the farmers' income coming from subsidies, which are area-based and not production-based, has led to a situation where it is suspected that some fields are cultivated without any serious effort to maximise production. This has coined the term 'ostensible agriculture'. But this is, however, not reflected in the use of inputs. At farm level, about the same amount

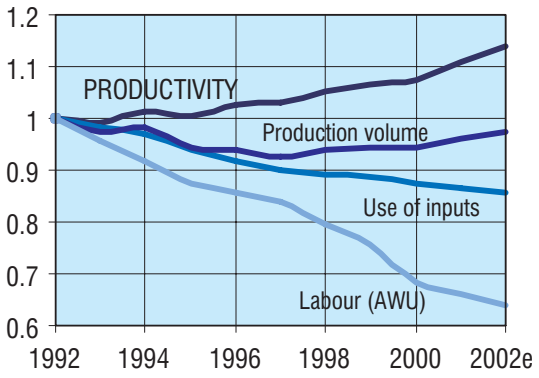


Figure 16. Development of production, use of inputs and productivity as moving three-year averages and the use of labour input in agriculture (annual work units, AWUs) (Niemi & Ahlstedt 2003, p. 68).

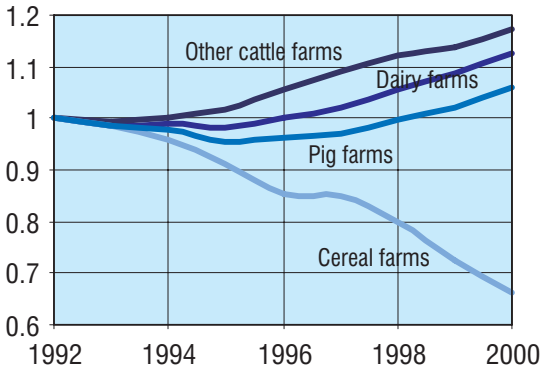


Figure 17. Productivity development on active farms, based on the profitability bookkeeping (moving three-year average), in the period 1992–2000. Productivity in 1992 is indicated by 1 (Niemi & Ahlstedt 2003, p. 69).

of inputs has been tied to production during the whole time of EU membership (labour, capital, other inputs). If the total use of inputs on cereal farms in 1995 is marked by 1, in 2000 this figure was 0.97 (Niemi & Ahlstedt 2003, p. 69).

The years 1998 and 1997 were quite poor in cereal production, which is also reflected in the moving three-year average calculated for 2000. However, it seems that, contrary to the objectives, development of productivity on cereal farms has been negative. Recent investments, e.g. in drying plants, have not increased the production volume of farms (Niemi & Ahlstedt 2003, p. 69).

Diversified farms

Small rural enterprises can be divided into three groups: farms engaged in basic agricultural production, diversified farms and other rural enterprises. In the case of basic agricultural production, farms are engaged in agriculture, forestry and, possibly, small-scale special agriculture. Diversified farms are engaged in both agriculture and small-scale entrepreneurial activity (Niemi & Ahlstedt 2003, p. 14).

Agriculture and farm forestry constitute by far the most significant rural industry. In 2000, the number of farms was 79,800 (including holdings not receiving support), and 57,900 of these were engaged in basic agriculture. Production volumes of agriculture are expected to remain at about the current level, but the productivity is going to grow, while the number of farms decreases (Niemi & Ahlstedt 2003, p. 14).

In 2000, the number of farms practising another industry besides agriculture was 21,800, which was 27% of the Finnish farms. Most of these were located in Varsinais-Suomi and Etelä-Pohjanmaa, but in proportion to the number of farms in different regions, the share of pluriactive farms was the highest in the south-west archipelago, Åland and Uusimaa (Figure 18, Niemi & Ahlstedt 2003, p. 14).

Farms engage in various kinds of activities. The most common ones are machine contracting (41% of diversified farms), tourism, other services, and wood and food processing. Business activities undertaken on farms are often connected to agriculture: on 69% of farms, the farm buildings and other facilities and equipment or products are used and the owner of the farm, the spouse, other family members or a partner in a farm company is involved in the other business. Most of these activities (65% of farms) were also taxed together with agriculture under the Agricultural Tax Act (Niemi & Ahlstedt 2003, p. 14).

Entrepreneurial activities on farms are usually quite small in scale, and on 42% of the farms their turnover was less than €8,409. However, on about 6% of these farms the turnover of other business activity was more than €168,188. In 2000, total employment of the other business activities on farms corresponded to 16,000 annual work units (AWU), i.e., the average of 0.73 persons per farm. The farms also employed 11,300 seasonal workers whose labour input corresponded to 3,000 AWUs (Niemi & Ahlstedt 2003, p. 14).

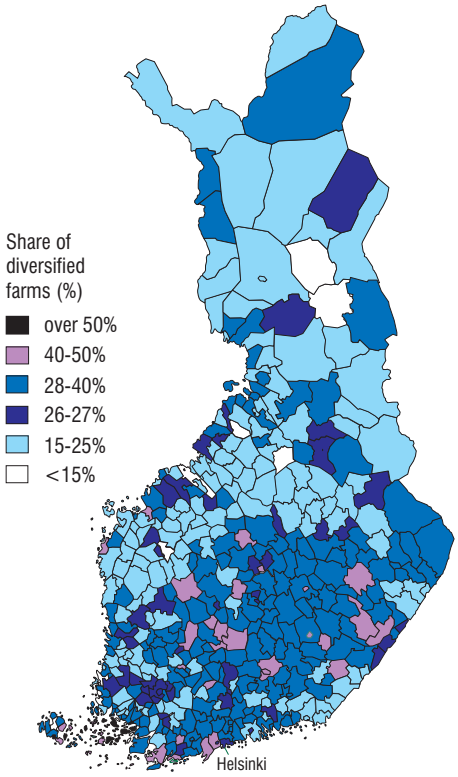


Figure 18. Share of diversified farms (%) in 2000 (Niemi & Ahlstedt 2003, p. 14).

Table 12. Diversified farms included in the register of small rural enterprises in 1997 and 2000 (Niemi & Ahlstedt 2003, p. 15).

Line of business	Number of enterprises		Labour input AWU		Turnover MEUR*	
	1997	2000	1997	2000	1997	2000
Linked to primary production**	3,764	4,115	3,585	4,789	297	405
Other processing	1,114	1,312	971	1,452	85	137
Other trade	663	710	379	548	64	97
Other services	1,867	1,902	1,593	2,148	113	148

* at 2000 prices (adjusted by the wholesale price index 1949=100)

According to the number of farms, on-farm diversification is the most common on cereal and dairy farms, but relative to the size of the production line, the number of diversified farms is the highest in special crop and horticultural production and the lowest on dairy farms. On-farm diversification is particularly common in organic production where about 40% of the farms are engaged in other business activities besides farming (Niemi & Ahlstedt 2003, p. 15).

About a third of the other business activities engaged in on diversified farms is included in the business register of the Statistics Finland. Many of these farms are not shown in the business register because their turnover is less than €8,409 or they are taxed according to the Agricultural Tax Act. The number of diversified farms included in these statistics and their

size grew slightly towards the end of the past decade. In 1997 the use of labour corresponded to 6,500 AWUs, but in 2000 this was 8,900 AWUs, which is about half of the total use of labour on diversified farms. The number of diversified farms included in the register grew by 600 and their turnover by €277 million (Table 12, Niemi & Ahlstedt 2003, p. 15).

Net income from agriculture and other gainful activities

The importance of gainful activities other than agriculture as the income source of farmers and spouses of farmers has grown remarkably. This means that there are now more part-time farmers and the proportion of full-time farmers has clearly decreased. In a study based on Finnish farms with at least two ha of agricultural land owned by private farmers under 65 years old, some 56% of farmers could be classified as part-time farmers, and the rest (44%) as full-time farmers in 1999 (Peltola 2000).

In 1973 in 65% of all farms, the share of agricultural net income of a farming couple's total income was 75–100%. In 2000, there were only 40% that kind of farms. The same kind of change has taken place in the case of the farming households in which only one person is engaged to farming. The decrease was the sharpest between 1973 and 1980. However, it must be noticed that in the period 1990–2000 the share in question has slightly grown (Figure 19).

In 1973 in 15% of all farms, the share of agricultural net income of a farming couple's total income was 0–24%. In 2000, about 30% of all farms were that kind. Again, same kind of development has taken place in the case of the farming households in which only one person is engaged to farming. It is again notable that between 1990 to 2000 the share has slightly decreased (Figure 19).

Regionally in 2000, the importance of gainful activities other than agriculture was the biggest in the regions of Åland, Pohjanmaa and Uusimaa, while it was the smallest in the regions of Kainuu, Keski-Pohjanmaa and Pohjois-Pohjanmaa and in eastern Finland. Generally,

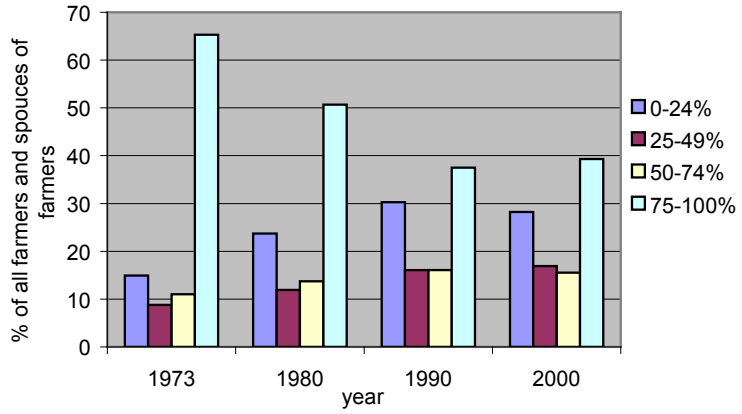


Figure 19. Agricultural net income, % of farmers and spouses of farmers' total income (Statistics Finland).

Tables 13–16. Agricultural net income in 1973, 1980, 1990 and 2000 (Statistics Finland).

1973	Agricultural net income, % of farmer's and spouse of farmers' total income				
Area (earlier province)	–25%	25–49%	50–74%	75–100%	Total
Uusimaa	16.7	7.8	10.5	64.9	100
Turku and Pori	12.7	6.7	9.1	71.5	100
Häme	11.4	9.1	9.4	70.1	100
Kymi	12.2	7.8	9.4	70.6	100
Mikkeli	11.7	9.9	12.9	65.5	100
Pohjois-Karjala	14.4	7.6	10.9	67.1	100
Kuopio	12.1	5.9	11.6	70.5	100
Keski-Suomi	15.6	10.3	14.5	59.6	100
Vaasa	17.7	9.6	9.7	62.9	100
Oulu	18.2	8.0	11.6	62.2	100
Lappi	24.3	14.5	15.0	46.1	100
Åland	14.0	12.9	10.4	62.7	100
Whole country	14.9	8.8	11.0	65.3	100

1980	Agricultural net income, % of farmer's and spouse of farmers' total income				
Area (earlier province)	0–24%	25–49%	50–74%	75–100%	Total
Uusimaa	23.0	11.0	13.3	52.7	100
Turku and Pori	24.8	12.3	13.7	49.2	100
Häme	21.0	10.3	13.1	55.6	100
Kymi	19.0	9.7	12.3	59.0	100
Mikkeli	15.3	10.4	14.9	59.4	100
Pohjois-Karjala	18.6	11.1	14.1	56.2	100
Kuopio	17.2	10.7	13.7	58.4	100
Keski-Suomi	21.4	11.8	15.7	51.1	100
Vaasa	27.6	12.9	13.2	46.3	100
Oulu	27.4	13.1	13.8	45.8	100
Lappi	39.7	16.3	14.6	29.4	100
Åland	27.3	14.7	15.2	42.8	100
Whole country	23.7	11.9	13.7	50.7	100

1990	Agricultural net income, % of farmer's and spouse of farmers' total income				
Area (earlier province)	0–24%	25–49%	50–74%	75–100%	Total
Uusimaa	31.5	16.4	16.9	35.3	100
Turku and Pori	32.4	17.8	15.8	34.1	100
Häme	27.5	17.1	15.5	39.8	100
Kymi	24.6	16.5	15.7	43.1	100
Mikkeli	20.9	16.4	18.4	44.3	100
Pohjois-Karjala	24.8	14.2	16.3	44.8	100
Kuopio	23.0	13.6	17.0	46.4	100
Keski-Suomi	29.8	17.5	17.3	35.4	100
Vaasa	34.7	16.6	15.7	33.0	100
Oulu	33.6	13.1	15.9	37.4	100
Lappi	39.1	13.6	14.1	33.2	100
Åland	38.2	14.9	15.6	31.4	100
Whole country	30.3	16.1	16.1	37.5	100

2000	Agricultural net income, % of farmer's and spouse of farmers' total income				
NUTS3	0–24%	25–49%	50–74%	75–100%	Total
Uusimaa	32.1	19.5	16.6	31.8	100
Itä-Uusimaa	28.2	18.1	17.6	36.1	100
Varsinais-Suomi	30.9	19.7	16.7	32.7	100
Satakunta	34.5	17.7	13.9	33.9	100
Kanta-Häme	26.4	17.4	18.3	37.9	100
Pirkanmaa	32.1	18.1	14.9	34.9	100
Päijät-Häme	19.9	17.7	16.7	45.6	100
Kymenlaakso	24.8	18.0	16.3	40.9	100
Etelä-Karjala	22.7	16.9	16.4	44.0	100
Etelä-Savo	19.3	16.6	15.6	48.5	100
Pohjois-Savo	19.4	15.0	15.6	50.0	100
Pohjois-Karjala	20.0	14.4	15.8	49.9	100
Keski-Suomi	25.4	18.0	16.0	40.5	100
Etelä-Pohjanmaa	34.3	17.5	14.7	33.6	100
Pohjanmaa	38.2	18.8	14.6	28.4	100
Keski-Pohjanmaa	18.7	13.0	16.2	52.1	100
Pohjois-Pohjanmaa	26.4	12.8	14.7	46.1	100
Kainuu	23.1	12.7	16.4	47.8	100
Lappi	29.3	13.3	12.7	44.8	100
Åland	39.1	17.6	15.7	27.5	100
Whole country	28.2	16.9	15.5	39.3	100

the importance of other gainful activities has been during past two decades the smallest in eastern Finland, while it has been during the period 1990–2000 the biggest in Åland (Tables 13–16).

There is a natural explanation to this: other gainful activities (a paid job outside the farm or market for non-agricultural products or services) are more likely available in the south and

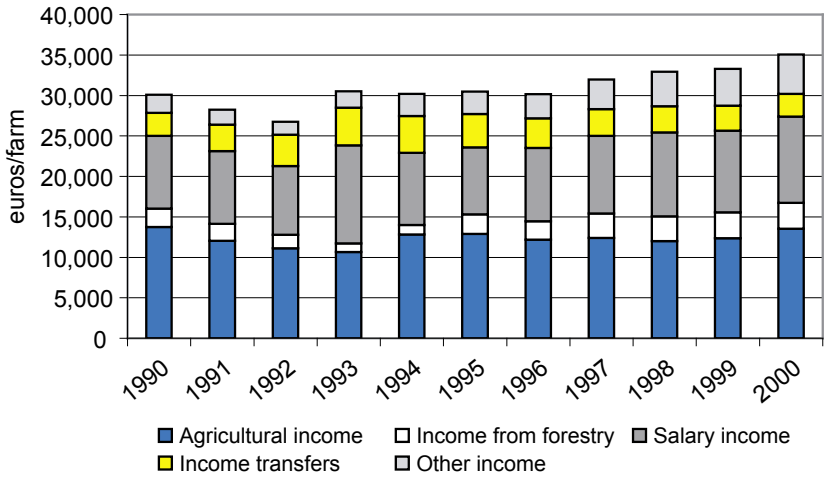


Figure 20. Distribution of farm income (Ministry of Agriculture and Forestry).

west of the country, which are more densely populated, than in the north and east. Nevertheless, the importance of other gainful activities might have varied greatly even inside one region, during the period 1970–2000.

The role of support in the income formation of agriculture is much more significant in Finland than in other parts of the EU owing to unfavourable natural conditions (Figure 20). In 2002, support payments totalled €1.7 billion which represents 44% of the total return on agriculture and horticulture (Niemi & Ahlstedt 2003, p. 46–47).

According to credit statistics, in autumn 2002 the debts of agricultural entrepreneurs totalled about €3.2 billion. The distribution of debt between farms is quite uneven: about 36% of farms have no debt, and three-fifths of the debts are concentrated on the 20% of farms with the highest debt. Farms with no debt are usually quite small and owned by elderly farmers (Niemi & Ahlstedt 2003, p. 19).

Share of farmers by age category

Finnish agriculture is based on family farms. 89% of farms receiving support are privately owned and 11% are owned by heirs and family companies and corporations. The average age of farmers was 48.7 years in 2002. Since 1995, the average age of farmers has risen by almost three years, partly as a result of the small number of farms being transferred to the next generation (Figure 21, Niemi & Ahlstedt 2003, p. 19).

The share of under 35 year old farmers increased between 1980 and 1990 by 9% , but in the period 1990–2000 the share decreased by about 4.5%. In a case of over 64 year old farmers, the share has fallen dramatically from 20% in 1980 to 5% in 2000. One explanation is that environmental support is not given to farmers over 65 years. This being an important part of agricultural income, in practice, it means that professional full-time farmers are retired at the latest at the age of 65. Mainly because of that, the share of 35–64 year old farmers grew by over 10% and was 83% in 2000 (Figure 22).

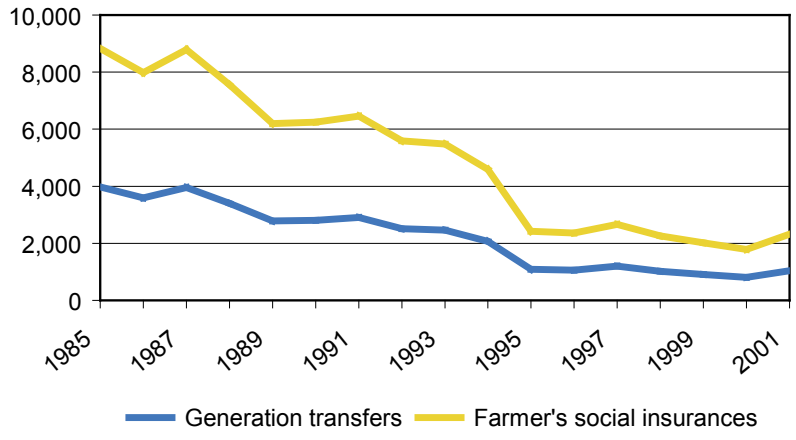


Figure 21. Number of generation transfers and farmers' social insurances in the period 1985–2001 (Ministry of Agriculture and Forestry).

Regionally, the share of under 35 year old farmers has been bigger and the share of over 64 year old farmers has been smaller in eastern Finland than in the rest of Finland. In Åland, the share of under 34 year old farmers has been notably smaller and the share of over 64 year old farmers has been notably bigger compared to the average in Finland (Tables 17–18).

Tables 17–18. Farmers' age in 1973 and 2000 (Statistics Finland).

1973	Farmer's age in 1973, % of all farmers						
Area (earlier province)	–29.9	30–39.9	40–49.9	50–59.9	60–69.9	70–	Total
Uusimaa	8.8	13.9	23.5	26.2	22.2	5.4	100
Turku and Pori	6.4	15.7	28.3	25.6	18.2	5.8	100
Häme	7.0	14.6	24.9	26.2	19.9	7.4	100
Kymi	6.3	13.9	26.4	26.4	20.1	6.9	100
Mikkeli	7.4	16.9	28.8	22.7	19.6	4.6	100
Pohjois-Karjala	7.8	13.1	23.9	29.7	19.9	5.6	100
Kuopio	9.1	15.0	27.4	23.3	17.6	7.7	100
Keski-Suomi	7.6	14.5	26.7	26.1	21.2	3.9	100
Vaasa	8.1	15.7	28.1	25.7	17.0	5.5	100
Oulu	5.9	13.3	29.6	26.9	19.9	4.5	100
Lappi	7.8	11.1	28.4	25.2	21.5	6.1	100
Åland	6.0	14.5	25.8	27.9	20.5	5.2	100
Whole country	7.4	14.5	26.8	25.9	19.7	5.8	100

2000	Farmer's age in 2000, % of all farmers			
NUTS3	–34	35–64	65–	Total
Uusimaa	8.9	84.5	6.6	100
Itä-Uusimaa	10.6	84.0	5.4	100
Varsinais-Suomi	11.0	82.1	6.9	100
Satakunta	11.2	82.6	6.3	100
Kanta-Häme	10.2	84.0	5.8	100
Pirkanmaa	11.0	82.3	6.7	100
Päijät-Häme	12.2	81.8	6.0	100
Kymenlaakso	11.0	82.9	6.1	100
Etelä-Karjala	10.6	83.7	5.7	100
Etelä-Savo	11.4	84.1	4.5	100
Pohjois-Savo	13.1	83.6	3.3	100
Pohjois-Karjala	11.3	85.5	3.2	100
Keski-Suomi	11.4	83.5	5.2	100
Etelä-Pohjanmaa	13.2	82.7	4.1	100
Pohjanmaa	14.1	80.8	5.2	100
Keski-Pohjanmaa	14.3	82.4	3.4	100
Pohjois-Pohjanmaa	13.7	83.3	3.0	100
Kainuu	10.2	86.2	3.6	100
Lappi	12.6	84.4	3.0	100
Åland	10.9	80.1	9.0	100
Whole country	11.9	83.0	5.0	100

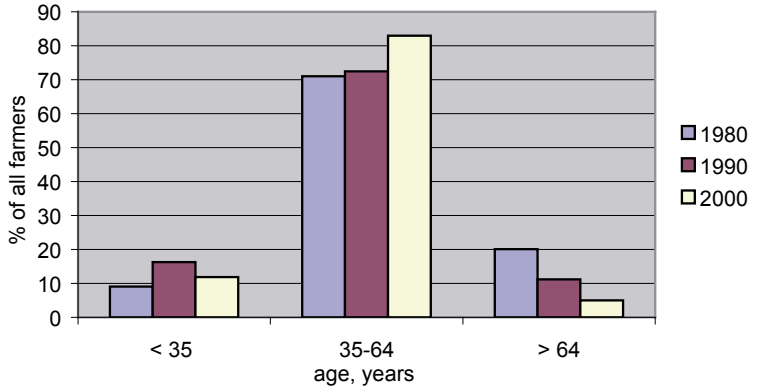


Figure 22. Farmers' age in 1980, 1990 and 2000 (Statistics Finland).

In 2002, the average age of pension recipients of the farms was 57.0 years and the average age of farm successors was 29.7 years. Compared to 1997, the average age of pension recipients was about the same but the average age of successors was about one year higher (Information Centre of the Ministry of Agriculture and Forestry).

7.2.3 Socio-economic factors at regional level

Gross domestic product per capita by region

The gross domestic product (GDP) per inhabitant has increased clearly between 1995 and 2001 simply because of the remarkably positive development of Uusimaa and Åland, although development was negative between 1995 and 1996 (Figure 23). On the other hand, GDP per inhabitant is above the EU15-level[2] only in the NUTS2 areas of Uusimaa and Åland. There is a huge gap between these two regions and rest of Finland. The NUTS2

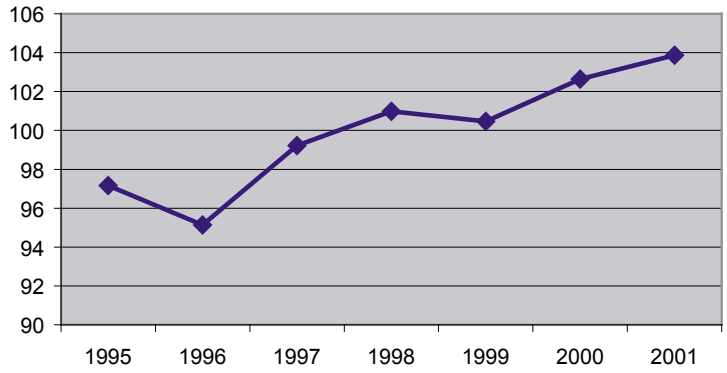


Figure 23. Gross domestic product per capita by PPS (purchasing power standards) indeces in the period 1995–2001 in Finland, EU15=100 (Statistics Finland).

[2] EU15 member states: Austria, Belgium, Danmark, Finland, France, Germany, Greece, Ireland, Italy, Luxemburg, Netherlands, Portugal, Sweden, Spain and UK.

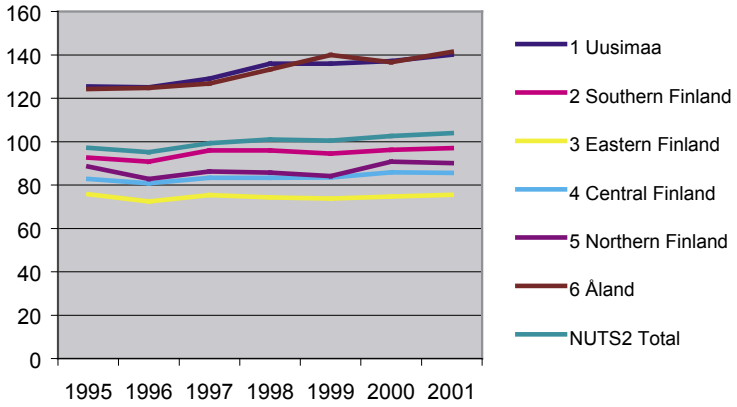


Figure 24. Gross domestic product per capita by PPS (purchasing power standards) indeces in NUTS2 areas of Finland, EU15=100 (Statistics Finland).

area of southern Finland is near to the EU15 average, while northern, central and especially eastern Finland are clearly below the EU15 average. The situation was in 2001 hardly better compared to 1995, except in the case of Uusimaa and Åland, of course (Figure 24).

At the NUTS2 level, eastern Finland has a gross domestic product per capita only 54% of the corresponding figure in Uusimaa. Uusimaa with its capital clearly produces significant amounts of wealth compared to other parts of the country. Åland likewise but, with its around 25,000 inhabitants, it is a special case.

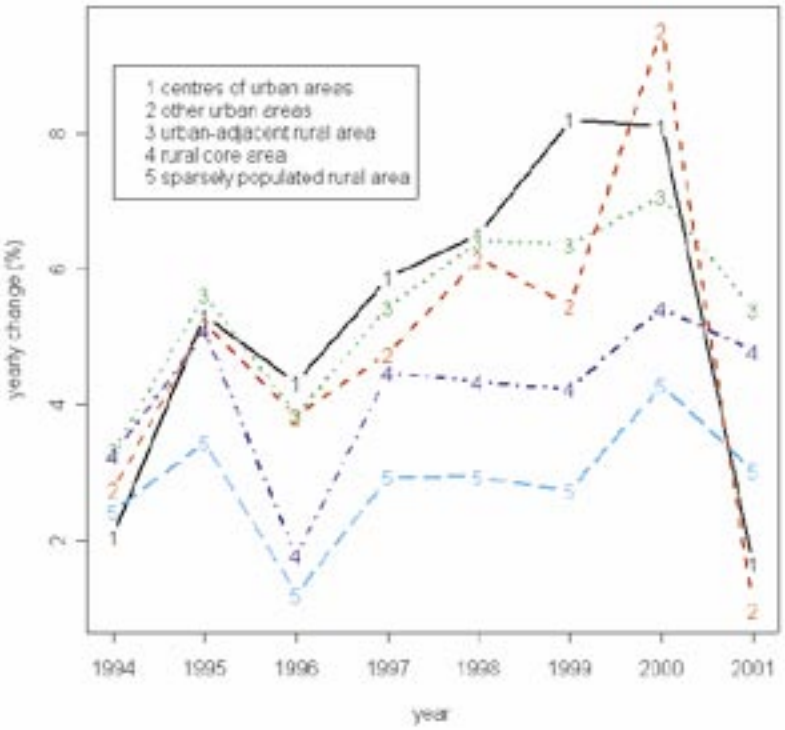


Figure 25. Yearly changes in income level, % (Statistics Finland).

Looking at the NUTS3 level, the picture is more varied. In some regions, there is a strong economic centre which lifts the whole region up, like in Oulu in Pohjois-Pohjanmaa and Jyväskylä in Keski-Suomi. 8 regions have a GDP per capita less that 80% of the average, while 4 regions have 75% of the average and two regions Kainuu and Etelä-Savo produce only 70% of the average GDP per capita. The regions which are predominantly rural and without an economically dynamic centre related to a university and a significant industrial base are the poorest.

Economic prospects and potential for growth differ in various types of areas. Figure 25 shows a clear difference in the annual growth rate and inter-annual variation in growth. The centres of urban areas and other urban areas and urban-adjacent rural areas show consistently higher growth rates while sparsely populated areas show significantly lower rates, rural core areas being in-between.

Population

The population statistics indicate a clear division of the regions into winners and losers (Table 19 and Figure 26). There is the capital city area which is growing very fast. Then, we have Pohjois-Pohjanmaa around the economically dynamic city of Oulu which has developed a remarkable industrial base around information technology (IT). Four other dynamic

Table 19. Population in the NUTS3 areas of Finland (Statistics Finland).

NUTS3	1970	1980	1990	2000	2002
Uusimaa	917,149	1,033,030	1,147,173	1,304,595	1,329,004
Itä-Uusimaa	72,796	80,277	85,063	89,604	90,934
Varsinais-Suomi	384,873	406,360	425,282	447,103	450,968
Satakunta	240,078	249,908	246,330	237,661	235,416
Kanta-Häme	151,570	155,348	162,248	165,307	165,886
Pirkanmaa	394,167	407,096	423,689	447,051	453,978
Päijät-Häme	179,705	192,582	197,012	197,378	198,088
Kymenlaakso	198,571	198,992	193,919	187,474	186,111
Etelä-Karjala	145,365	145,360	141,240	137,149	136,694
Etelä-Savo	184,885	174,619	174,237	165,725	163,276
Pohjois-Savo	257,751	253,913	258,633	253,759	251,976
Pohjois-Karjala	185,303	176,650	176,836	171,609	169,722
Keski-Suomi	245,739	246,278	255,948	263,886	265,078
Etelä-Pohjanmaa	197,151	195,769	201,670	195,615	194,105
Pohjanmaa	160,265	168,939	172,448	173,228	173,006
Keski-Pohjanmaa	63,987	68,091	71,567	71,292	70,674
Pohjois-Pohjanmaa	300,271	317,646	342,948	365,358	369,974
Kainuu	100,899	99,247	96,957	89,777	87,371
Lappi	197,146	194,890	200,674	191,768	187,777
Åland	20,666	22,783	24,604	25,776	26,257
Whole country	4,598,337	4,787,778	4,998,478	5,181,115	5,206,295

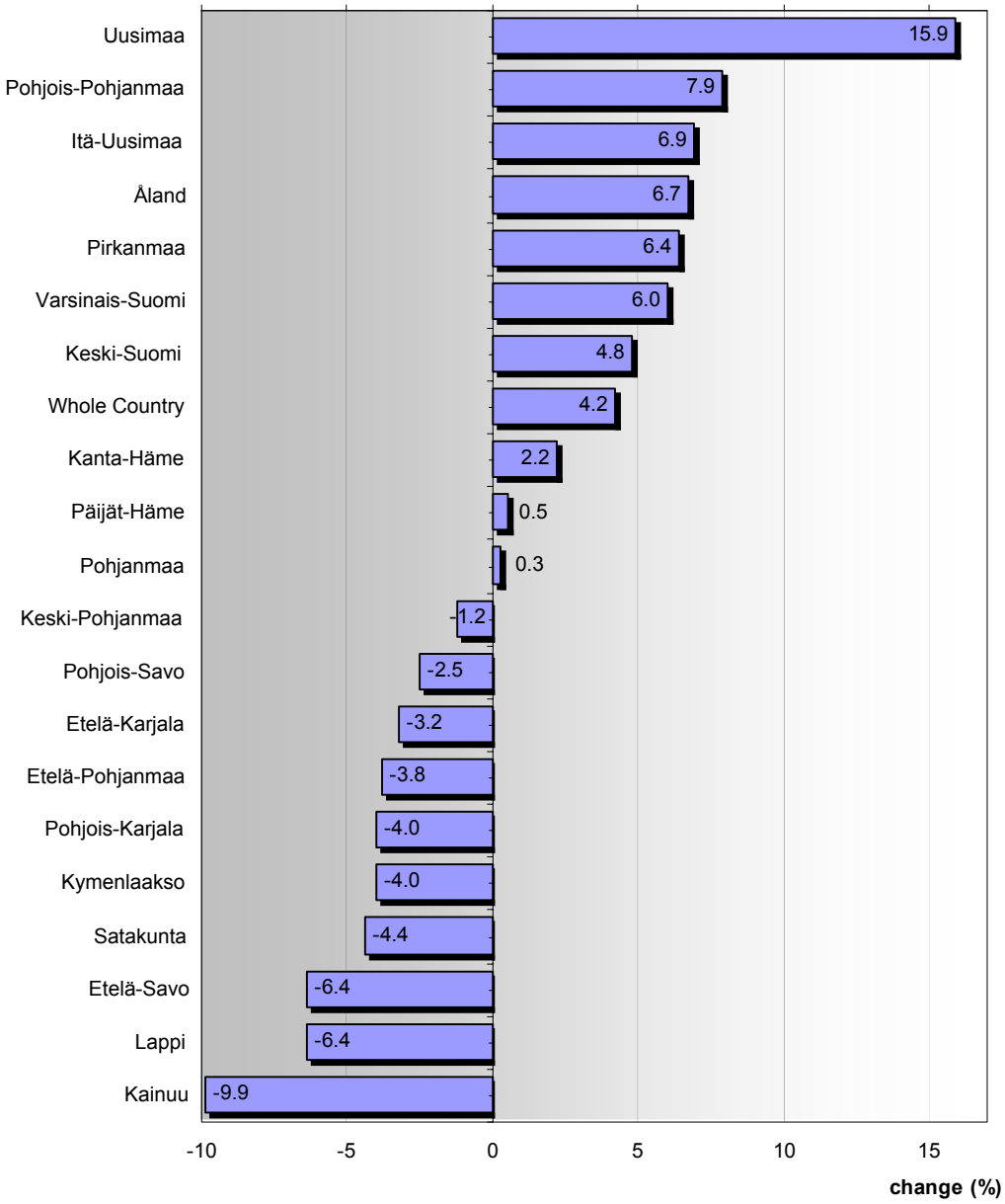


Figure 26. Population change (in %) by region (NUTS3) 1990–2002 (Statistics Finland).

areas are located around major cities, Itä-Uusimaa next to Helsinki, Pirkanmaa around Tampere, Varsinais-Suomi around Turku and Keski-Suomi around Jyväskylä. Then, we have some middle ground areas like Kanta-Häme, Päijät-Häme, Pohjanmaa, Keski-Pohjanmaa and Pohjois-Savo, which are more or less stable. The rest of the regions show clear negative population balances with corresponding consequences to the economic vitality.

Over half of the population lives in urban areas and some 70% in urban and urban-adjacent areas where the share of the population has also increased slightly over the years from 1995 to 2002. Slightly less that 20% live in rural heartland areas and some 10% in remote rural areas. The share is decreasing (Figure 27).

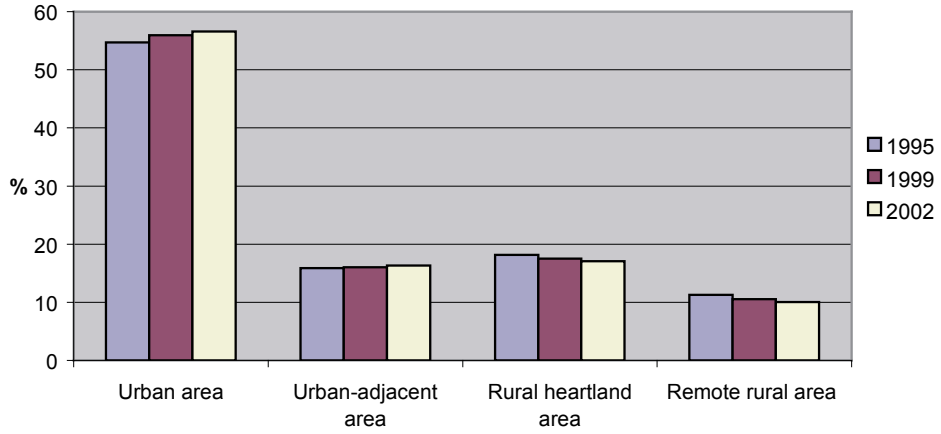


Figure 27. Relative share of population in Finland 1995, 1999 and 2002 in % (Statistics Finland).

Urban and urban-adjacent areas (urban aggregate) attract people of a working age while elderly people live more often in rural areas. The same urban areas also have an excess of births while the opposite is true for the rural areas. The share of persons of a working age is growing in urban areas and decreasing in all other areas (Figures 28 and 29).

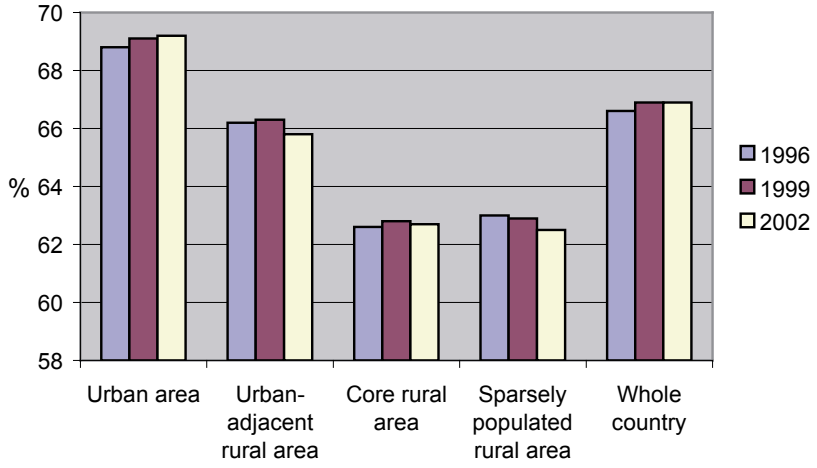


Figure 28. Relative share of 15–64 year old people, % (Statistics Finland).

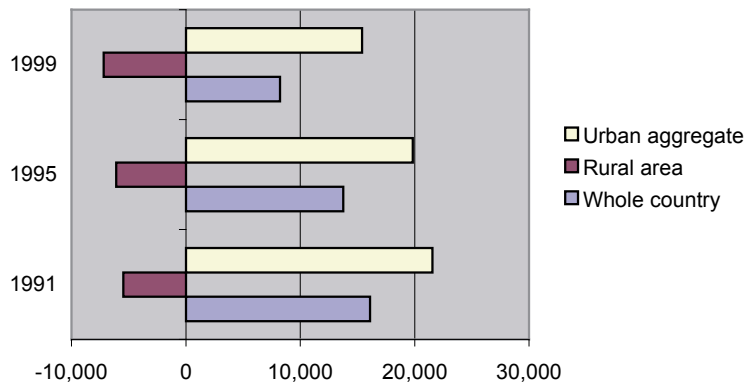


Figure 29. Excess of births in 2002 (Statistics Finland).

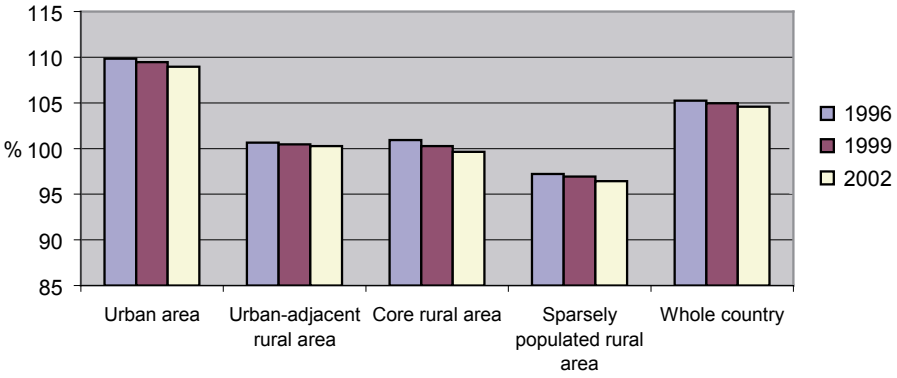


Figure 30. Women/men ratio, % (Statistics Finland).

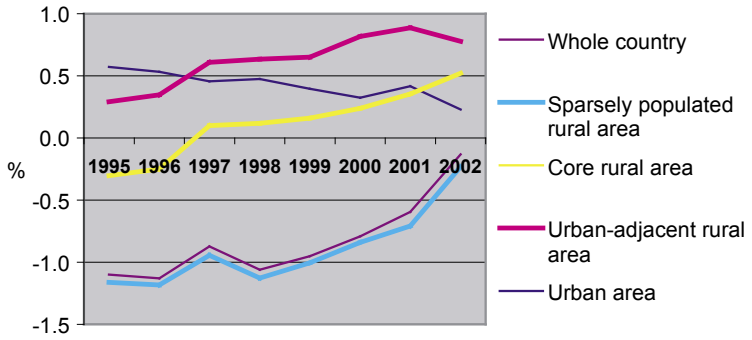


Figure 31. Net migration (Statistics Finland).

There is also a marked difference in the number of women and men in different types of areas. Urban area has a clear excess of women while the sparsely populated rural areas are male dominated (Figure 30).

In the remote rural areas in particular, depopulation continues as people are moving to population centres, towns and cities to find services and employment. In the past two decades, population density outside the population centres has fallen rapidly. Besides this, the number of population centres has decreased as people have moved away from small rural population centres, and the share of the people living in centres or in areas adjacent to these has grown from a little over 50% to about 80% (Figure 31, Ministry of Agriculture and Forestry 2002).

The price of agricultural land

Here, land prices are based on the purchasing price of additional land. There was no better way available to cope with this issue. Since the number of the transactions especially in a case of separate regions is partly modest, the interpretation of these figures in question must be analysed with caution.

Based on the purchasing price of agricultural land, the price has increased remarkably between 1981 and 2003 (86%), mainly because of the sharp growth between 1981 and 1991

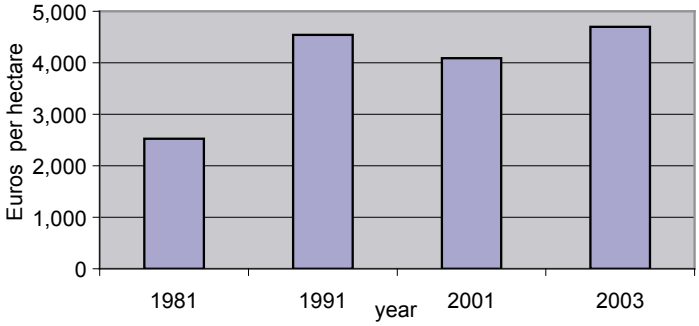


Figure 32. Agricultural land prices (euro per hectare) in Finland, median (National Land Survey of Finland).

(Figure 32). Regionally, the highest agricultural land prices are in the regions of Uusimaa, Varsinais-Suomi, Itä-Uusimaa, Satakunta and Kanta-Häme, while notably lowest prices are in the regions of Lappi and Kainuu (Table 20). MTT Agrifood Research Finland has framed the regional calculation prices of agricultural land. These prices give the same kind of results compared with purchasing prices described above. It can be generally said that land prices decrease from southern to northern Finland, which is logical.

Table 20. Agricultural land prices (euro per hectare) in Finland, median (National Land Survey of Finland).

NUTS3	n	1981	n	1991	n	2001	n	2003
Uusimaa	6	2,784	6	6,862	22	5,105	11	5,281
Varsinais-Suomi	30	3,557	60	6,728	94	5,903	40	6,492
Itä-Uusimaa	8	2,523	15	5,163	13	4,894	11	5,062
Satakunta	10	3,229	45	4,877	52	4,886	31	6,711
Kanta-Häme	7	3,313	25	5,668	29	5,466	14	5,853
Pirkanmaa	16	2,531	16	3,389	39	4,238	15	5,046
Päijät-Häme	5	2,741	14	5,887	22	4,373	3	4,205
Kymenlaakso	17	1,665	14	4,760	23	3,364	11	4,205
Etelä-Karjala	3	1,346	16	4,213	19	2,472	8	4,272
Etelä-Savo	7	1,177	8	3,431	14	2,599	8	2,271
Pohjois-Savo	7	1,009	32	2,775	30	2,018	9	2,119
Pohjois-Karjala	14	1,312	22	1,951	15	1,716	14	1,875
Keski-Suomi	4	1,413	10	2,826	12	1,480	9	2,304
Etelä-Pohjanmaa	26	2,868	89	4,894	146	4,121	75	5,264
Pohjanmaa	7	3,364	38	5,197	73	4,491	47	5,046
Keski-Pohjanmaa	4	2,338	14	3,666	25	3,212	11	2,556
Pohjois-Pohjanmaa	23	1,009	57	3,044	86	3,162	52	2,969
Kainuu	2	984	1	1,413	6	799	4	1,169
Lappi	3	420	7	1,043	6	1,404	3	925
Whole country	199	2,523	489	4,541	726	4,087	376	4,701

Diversified economic activities

In 2000, there were 136,000 small rural enterprises, of which 43% were engaged in basic agriculture, 16% were diversified farms and 41% were other small enterprises with no connection to farms. In 2000, the turnover of small enterprises totalled €11.7 billion and they employed 106,000 persons (entrepreneur + staff) (Niemi & Ahlstedt 2003, p. 14–15). Rural enterprises are crucial factors in the development of rural regions.

A small enterprise is one with a single place of business with a turnover of at least €8,409 but which employs less than 20 persons. Of the small enterprises included in the business register of Statistics Finland in 2000 altogether 29% or 64,600 were located in the countryside. About 56,600 of these were in no way connected to farms, while about 8,000 enterprises operated on a farm. In 2000, the turnover of small enterprises totalled €11.7 billion and they employed 106,000 persons (entrepreneur + staff) (Niemi & Ahlstedt 2003, p. 15).

In rural areas, diversification of economic activities from agriculture and forestry means engagement in a multitude of usually small-scale production of various products and services and employment in the official sector.

Up to the middle of the 1990s, the number of small rural enterprises and structural development in different types of rural areas followed quite closely the general trends in the economy, but towards the end of the decade, the trends took a different turn in different types of areas. The migration away from remote rural areas accelerated and enterprises began to move to population centres. Most of the new companies were set up in the population centres. In certain remote areas, the number of enterprises located in the centres began to fall as well, while in the urban-adjacent rural areas the number of enterprises grew strongly. The number of people employed in rural enterprises increased during the economic boom in all parts of the country, but growth was clearly strongest close to urban areas (Figure 33, Niemi & Ahlstedt 2003, p. 15).

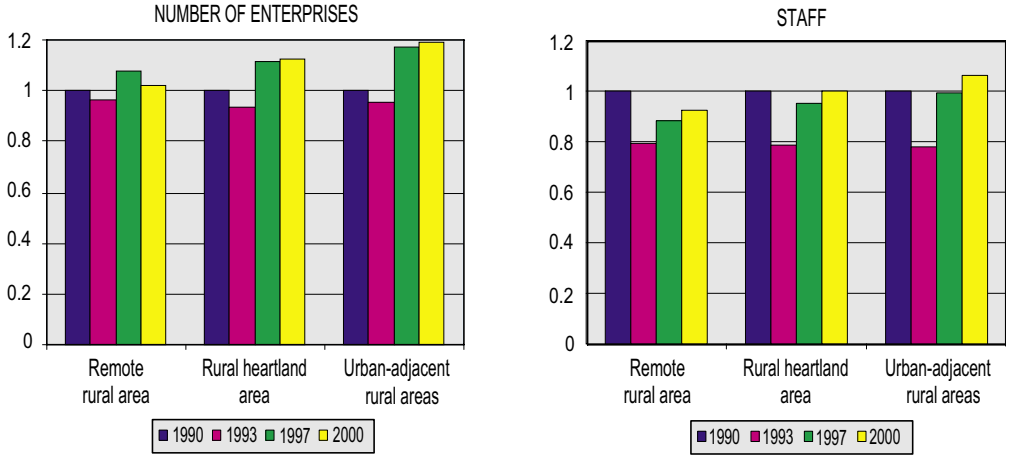


Figure 33. Development of small rural enterprises and number of staff in the period 1990–2000 (1990=1) (Niemi & Ahlstedt 2003, p. 16).

Table 21. Small rural enterprises by line of business (Niemi & Ahlstedt 2003, p. 16).

	Number of enterprises			Staff AWU			Turnover MEUR*		
	1993	1997	2000	1993	1997	2000	1993	1997	2000
Connected to primary production, total	13,497	17,205	16,951	21,310	25,703	27,143	2,035	2,737	2,937
Special agriculture	1,320	2,187	2,075	1,753	2,918	2,835	152	297	275
Food processing	769	941	912	1,983	2,073	2,160	199	259	248
Wood processing	1,742	1,987	1,886	3,243	3,438	3,637	271	405	455
Wholesale and retail trade in farm products	726	878	888	1,101	1,132	1,167	403	478	535
Machine contracting	3,865	5,135	5,372	4,316	6,411	7,722	398	651	764
Tourism and recreation services	2,814	3,258	3,248	4,697	5,191	5,736	365	396	410
Other sectors connected to primary production	2,261	2,819	2,570	4,217	4,542	3,888	246	251	250
Other sectors	41,233	46,858	47,670	61,303	72,700	78,589	6,410	8,001	8,769
Industry	11,872	13,657	14,202	22,523	26,506	28,583	1,809	2,499	2,919
Trade	10,717	11,298	10,570	16,637	15,995	16,133	3,041	3,378	3,318
Services	18,644	21,903	22,898	22,143	30,200	33,873	1,560	2,124	2,533

* at 2000 prices (adjusted by wholesale price index 1949=100).

Most small rural enterprises operate in traditional sectors. For example, about half of all food processing enterprises in Finland operate in rural areas, while only a marginal share of high technology companies are located there. About a quarter of rural enterprises engage in activities linked to primary production, and the most important lines of business are machine contracting, tourism, recreation services and special agriculture. The number of enterprises in the trade sector fell towards the end of the 1990s, while there was some growth in the service and industrial sectors (Table 21, Niemi & Ahlstedt 2003, p. 16–17).

In addition to small enterprises, there were about 1,800 companies with over 20 employees or several places of business in the countryside. These employed about 52,000 persons and their turnover totalled €7.7 billion. The number of such medium-sized or large rural enterprises grew by about 130 from 1997 (Niemi & Ahlstedt 2003, p. 17).

One of the most significant rural industries is tourism which is based on the natural conditions and resources to be found in rural areas and engaged in by families and other small-scale entrepreneurs. There are about 2,100 enterprises offering rural holiday services in Finland and the number of bed places totals 45,000. In 1998, the number of visitors was estimated at 670,000, and the employment effect is estimated at 2,000 AWUs. The objective set by the theme group for rural tourism is that, by 2007, employment in this sector would be around 6,000 AWUs. In recent years, this activity has become increasingly diverse, but it still suffers from the seasonal nature of tourism, resulting in a low utilisation rate and relatively low profitability (Niemi & Ahlstedt 2003, p. 17).

Employment

Unemployment is perhaps the greatest challenge Finnish society is facing. During the first half of the 1990s, Finland experienced an exceptional economic downturn coupled with dramatic increases in unemployment rates corresponding to many years of negative growth. Regional variations are significant. The northern and eastern areas but also some regions in the south (Kymenlaakso) and west (Satakunta) show very high unemployment rates. After the recession the three regions of Lappi, Kainuu and Pohjois-Karjala have remained with an exceptionally high unemployment rate (Figure 34). There are significant differences.

The deep recession in the latter part of the 1990s is clearly visible in Figure 35 on the yearly changes of the number of jobs in different types of areas. Urban areas suffered less and recovered better (Figures 35 and 36).

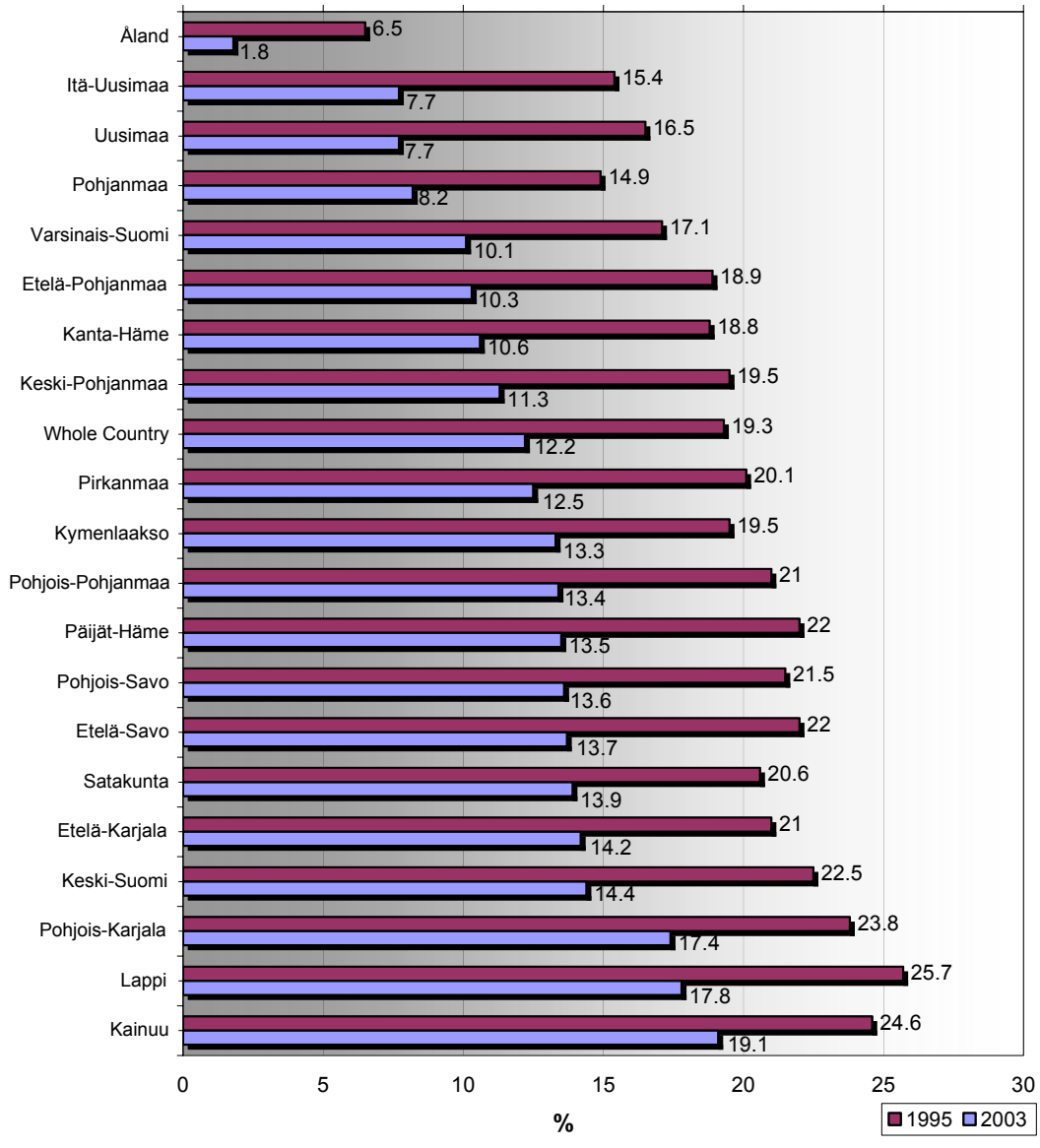


Figure 34. Unemployment rate by region (NUTS3) 1995 and 2003 (Ministry of Labour).

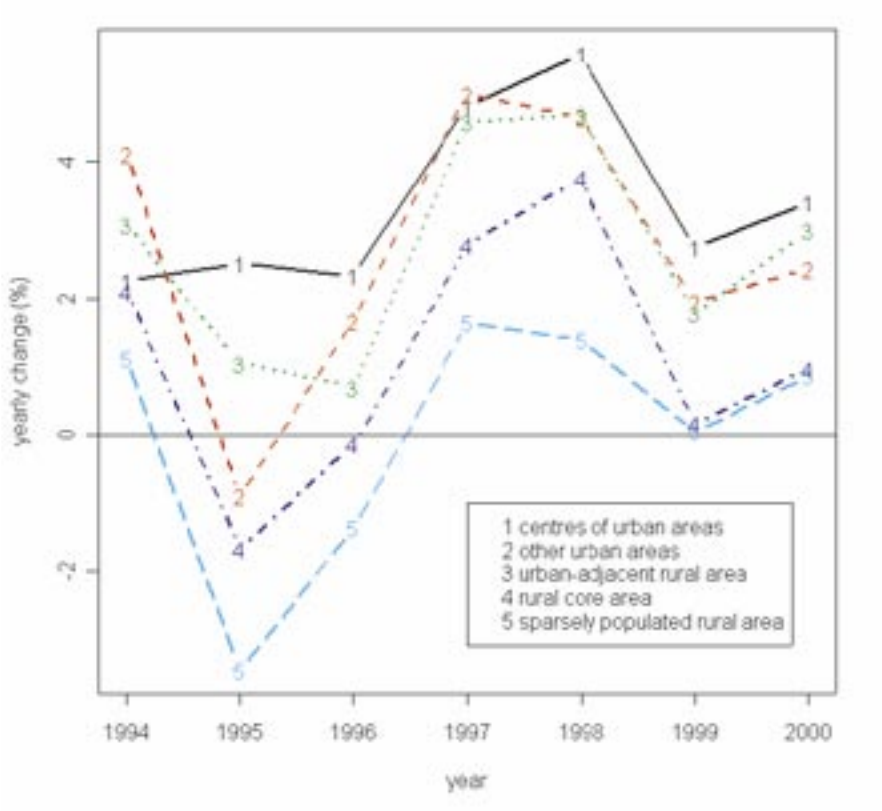


Figure 35. Yearly changes in the number of jobs, % (Statistics Finland).

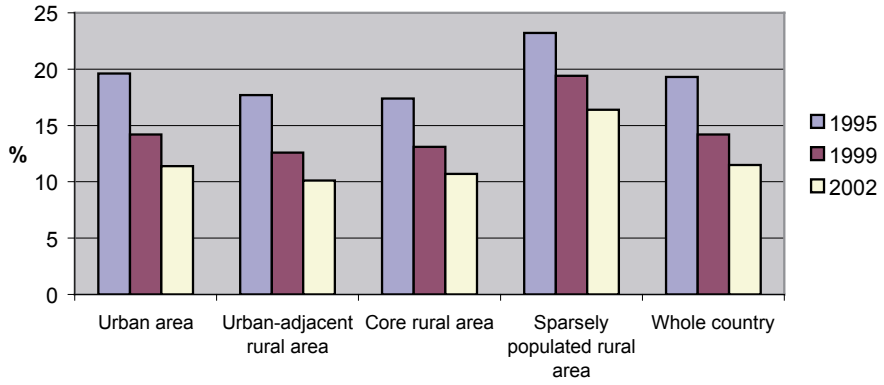


Figure 36. Unemployment rate, % (Statistics Finland).

Employment in agriculture has fallen strongly. Since the beginning of the 2000s, less than 5% of workforce is employed in agriculture. Employment statistics follow the trends in the number of farms (Figure 37).

Rural areas, especially urban-adjacent rural areas have become to an increasing extent places of residence (Figure 38). This brings people, tax income and demand for products and services to the rural areas near urban centres. But these opportunities are barely available for core rural areas and not possible for sparsely populated rural areas due to long distances.

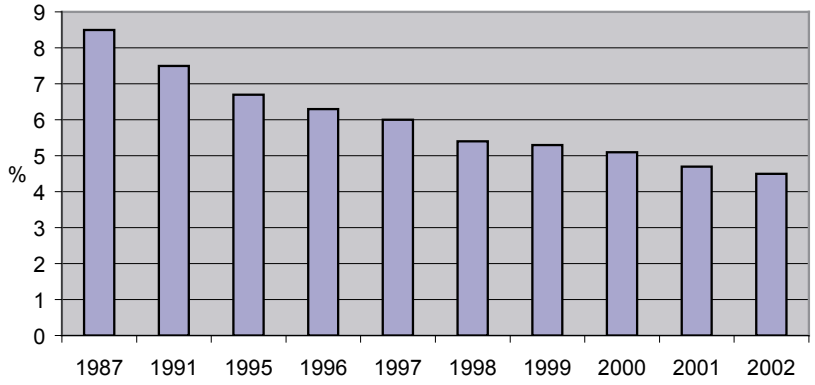


Figure 37. Employed in agriculture, % of employed in Finland (Niemi & Ahlstedt 2003, p. 86).

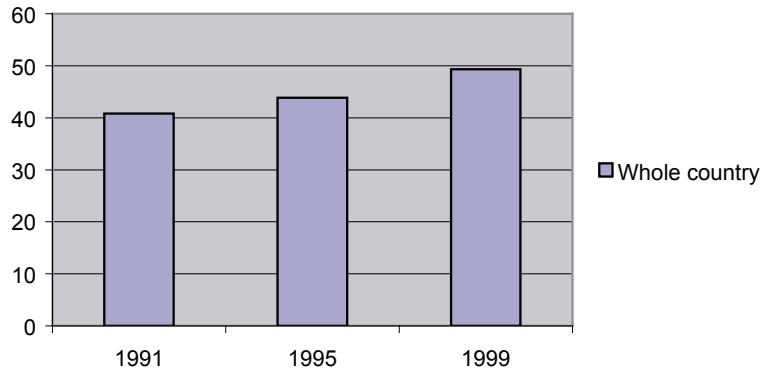


Figure 38. Percentage of rural residents working in urban areas (Statistics Finland).

Voting activity

Marginalisation as a social and political term does not refer only to getting poorer, it also includes the feeling of being deprived of the means to affect matters and to have a say. Some indication of this marginalisation is expressed in changing voting behaviour. In 1983, the voting percentage in the National Parliament election was 81%, and there were no regions at all where the percentage would have been under 66.7%. In 1995, when Finland had just joined the EU, the voting percentage in similar election in the whole country was 71.9%, and the cleavage in between the south-west and north-east started to appear. In 2003, in the National Parliament election the voting activity percentage was 69.7%, and the area where less than 66.7% of the enfranchised covered all eastern and northern Finland (Figure 39).

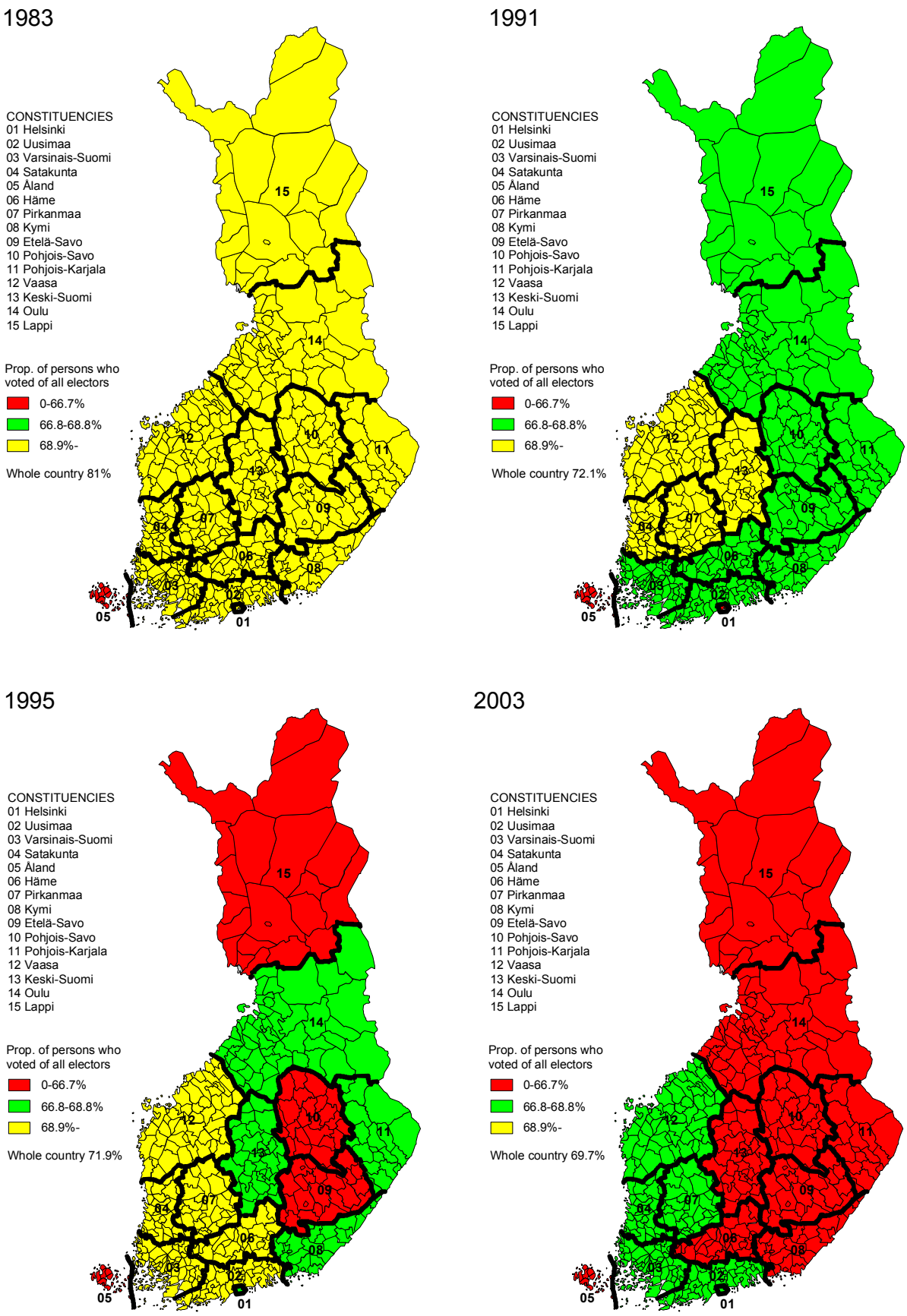


Figure 39. Voting activity in National Parliamentary elections 1983, 1991, 1995 and 2003 (Statistics Finland).

Accessibility of services

Public services currently available in the rural areas could well sustain a larger population. Infrastructure – road and energy networks, etc. – is adequate and in good condition, at least for the time being. The deterioration of infrastructure and services would seriously affect the possibilities to maintain and develop the viability of the rural areas and manage the natural resources in an appropriate way (Ministry of Agriculture and Forestry 2002).

In particular, rural areas located close to population centres offer very attractive residential environments and most favourable regions in terms of welfare. Highly advanced communication networks provide excellent opportunities for teleworking, and the possibilities for recreation and utilisation of the gifts of nature are abundant in rural areas. Leisure and recreational services, often connected to nature and the utilisation of renewable natural resources, are among the most significant issues to be taken into account in the efforts to maintain and develop the viability of these rural areas (Ministry of Agriculture and Forestry 2002).

However, there are notable differences in how people experience the accessibility of services in different types of municipalities. Accessibility of services is the best in urban areas, while it is somewhat worse in urban-adjacent rural areas, and very poor in many respects in remote rural areas (Table 22).

Table 22. Accessibility of services in the different type of municipalities (Heikkilä et al. 2002).

Service	Urban area	Urban-adjacent rural area	Remote rural area
Day care	(-)	(-)	(-)
Services for the elderly persons	(- -)	(- -)	(-)
Services of social worker	(- -)	(- -)	(-)
Health centre emergency	(-)	(-)	(- -)
Hospital services	(-)	(- -)	(- -)
School services	(+)	(+)	(-)
Cultural services	(+)	(- -)	(- -)
Trade services	(+)	(-)	(-)
Police services	(-)	(- -)	(- - -)
Youth and leisure time services	(-)	(- -)	(- - -)
Bank and post services	(-)	(-)	(-)
Public traffic	(+)	(- -)	(- - -)

(+): <10 %,
(-): 11–30 %,
(- -): 31–50 %,
(- - -): >51 % of the replyers has difficulties with accessibility of services.

7.2.4 Cultural dimension

Number of active local action groups (LAGs)

There are 58 local actions groups financed by various EU-financed development programmes and by national funds.

The geographic coverage of LAGs

The local action groups cover the whole area.

Number of village associations

In 2003, there were around 4,000 villages in Finland and around 3,900 of them had a village association. A growing number of these are becoming registered and able to attract money from different sources for development activities. There were 40,000 people actively involved in the activities, with an equal number of men and women (Uusitalo 1998, p. 130, Rural Policy Committee 2004, p. 106, The Village Association of Finland 2003).

7.3 Status of marginalisation and its implications

Status of marginalisation

Marginalisation is a reality in the Finnish countryside. The production systems of both agriculture and forestry have undergone great changes during the past century. Technological change has meant that work done both by humans and animals and inputs derived from the local environment have been replaced by capital and fossil fuels and imported inputs. The implications for society and the ecosystem have been enormous. This has had a profound impact on both the settlement pattern and population structure. Many kinds of work have become redundant in rural societies and have been replaced by industrial production. This has meant a concentration of population towards urban areas. Only a very few people are needed to produce the levels food of and wood needed. The amount of land in use for agricultural production has not decreased dramatically but the system of using the land has. Thus, the landscape and land-use patterns and biodiversity have undergone profound changes.

Changing land-use patterns have meant alternative uses for land which have decreased the variability. Both biodiversity and traditional landscapes are under severe threat. Changing the production system has meant less need for a human work force with little alternative means of employment in the countryside. This has led to massive migration to cities and even abroad, mainly to Sweden.

There is a clear process of differentiation between different parts of the country and different types of rural areas. In a sense the population pattern is moving back to the ancient settlement structure where most of the people resided in the southern and western parts of the country and along the coast. Areas in the east and north of Finland have lost population

and economic activity to a few centres in the west and south of the country. Also the demographic structure is worse in the same northern and eastern regions, where the population is on average older, male-dominated and there are very few children born, in particular in eastern Finland.

Agriculture is no longer the main source of living in the Finnish countryside. Most rural residents are now wage-earners who work in nearby towns or smaller centres. Yet, the importance of agriculture is significant in many areas, and the closing down of farms weakens the regional economy even more.

In particular, marginalisation of agriculture and the abandonment of agricultural land affect the rural landscape and biodiversity. According to a survey, people find land abandonment and the closing of the open landscape the worst threats to the scenic beauty of the countryside.

Implications so far

Socio-economic circumstances

The number of farms is decreasing rapidly especially in the eastern and northern parts of Finland. This is coupled with an increase in farm size. There is an emerging tendency of life-style-based family farms being transformed into business-minded entreprises and this is also the rationale behind the agricultural policy. The small, remote and poorer farmers are disappearing leaving remote rural areas into a self-enforcing negative development process.

Production structure is likewise undergoing significant changes. Milk production is being concentrated into fewer farms. These bigger units demand full-time farming with a large workload often near the limits of the farm family's resources. The productivity has not increased very much during the last decade. Dairy production is regionally moving to and concentrating in Pohjanmaa while some strong milk production areas remain in other parts of the country as well notably in eastern Finland.

While the number of dairy farms has decreased, the number of cereal farms has not. On the contrary, it is possible to see a slight increase in numbers during the last five years. But it is of an entirely different nature from dairy farms. Cereal farmers are mainly part-time farmers located in southern and western parts of the country. The cereal farms share of the returns to the agricultural sector is only 9% of the total while they comprise over 50% of the farms (Niemi & Ahlstedt 2003, p. 67).

At the same time, there have been very large increases in land price in southern Finland, especially in the south-west. There exist significant regional differences as in both the north and east, the price per hectare was in 2003 from €5,500 to €11,000 while in the south-west the price varied from €30,000 to 38,000 per ha (National Land Survey of Finland). Subsidies are to a large extent tied to the area cultivated. Increasing demand for land in the best

agricultural areas reflect engagement to continuous cultivation and also the trust in the value of land as an asset in the future of areas of greatest population concentration. On the other hand, marginalised farmers in sparsely populated eastern and northern areas express less interest in farm development and trust in the future. This is reflected in low demand for land and low prices.

Farms engaged in another industry besides agriculture represent 27% of all farms. Most of these farms are located in Varsinais-Suomi in the south-west and Etelä-Pohjanmaa in the west (Niemi & Ahlstedt 2003, p. 14). These areas are typically grain producing areas. The concentration in these areas can be partly explained by the low income produced from grain farming coupled with a low demand for labour during the winter half-year. Also traditionally entrepreneurship has been an integral part of the livelihood specifically in those parts of Finland.

In a farm household economy, income from other gainful activities is increasing in importance. These include wage labour, income from other enterprises and remittances. Over a half of all farmers are classified as part-time farmers. The part-time farming is more prevalent in the south and west where there are more cereal farms, and on the other hand, densely populated areas offer many more opportunities for wage employment and demand for various products and services. Dairy farmers tend to be full-time farmers due to higher farm income, more labour demand and also because they are located in areas with less alternative opportunities.

The average age of farmers is growing due to the small number of farms transferred to the next generation. This highlights the marginalisation of farming as a profession. Economic insecurity related to continuous drastic policy changes has made farming appear as a rather unattractive occupational alternative.

The share of pensioners is already larger in rural than in urban areas, which is reflected in the need for services. If this migration continues, the number of children is going to fall dramatically in the next ten years. This means that especially in remote rural areas the need for children's day care and education services will decrease, while work related to caring for the elderly is going to increase in the social and health sectors. The trend is the same but not as rapid in rural heartland areas.

The migrating and ageing of the population are reflected in the dependency ratio. At present, there are in rural areas three people past retirement age per ten people who are of a working age. The weakening of the dependency ratio will lower the tax revenue and reduce the demand for goods and services, which will in turn affect the decisions of companies concerning the location of their operations.

The value and attractiveness of rural areas as places of residence has increased. Recently, migration to population centres has clearly slowed down, while an interest in moving to the

countryside has grown, provided that this is considered feasible. However, this does not concern all Finnish rural areas, especially the most remote ones. What we are experiencing is an increased interest in moving to the urban-adjacent rural areas.

While rural areas are considered attractive places to live in, jobs are still concentrated in population centres, and in many of the populated squares on the Finnish map there was not a single job in 1997. In 1999, there were only 390,000 jobs in the more than 300 rural municipalities, but the number of employed labour force living areas in these was 450,000 (Vihinen 2003, p. 83).

There is a significant change occurring in the structure of occupations. In the long-term, the need for various kinds of services, including care services, and highly demanding expertise is going to increase at the cost of many traditional occupations.

Jobs in agriculture will continue to fall in the future, but not as rapidly as in the 1990s. The structure of employment is also going to change, i.e., the share of contracting and paid employment will increase. In 2000, hired labour accounted for about 12% of agricultural work, while in 1994 this amounted only to 8% (Vihinen 2003, p. 84).

For farmers, forestry has earlier been a much more notable income source than today. Nowadays, labour input in building for farming and other rural business activities in building sites and in the building materials industry corresponds only to about 20,000 man-years in spite of the rapid growth in the sector and increased felling. The introduction of new technologies may continue to reduce the need of human labour in forest work. Forestry and forest industry altogether employ directly about 95,000 persons (Ministry of Agriculture and Forestry 2002).

The ageing of the population is going to increase the need for care services in the rural areas. However, the labour force and tax revenue will be on the decrease, which may cause serious difficulties in organising the necessary services.

At present, the production of services in rural areas is already based on various kinds of combinations of the public and private sectors. The amount of work in this sector is likely to increase, and the key issue is how to turn this into proper jobs which can bring earnings to the people involved. In sparsely populated and remote areas, market forces alone do not create enterprises and jobs, but securing possibilities for production and growth calls for new organisational forms, both in the business sector and in public services.

The economic and production structure has changed dramatically since the depression of the 1990s. The new sectors – especially those of information and communications technology – call for completely new kinds of skills, and these are located in fewer and fewer centres. In the redistribution of economic activities especially, remote rural areas and sub-regional units dominated by a single, possibly declining production sector are the losers in terms of both

jobs and population. The strong concentration of new kinds of production and skills may lead to increasingly polarised regional development, and alternatives should be developed to secure a better balance between regions.

Apart from the concentration of growth and production activities, long-term employment prospects are characterised by the ageing of the population. Based on population forecasts, in all regions the number of people which will increase the most is in the age group 55–64 years in 2000–2010, the age group 65–75 years in 2010–2020, and after that, the number of those who are over 75 will grow the most rapidly (Vihinen 2003, p. 83).

Some of the demographic trends are basically the same in both urban and rural areas: the number of people exiting the working life is growing and the younger age classes are getting smaller. In the remote rural areas in particular, the age structure is rapidly becoming highly unbalanced because of the large number of old people and the small number of children.

Landscapes

There is a massive decline in Finland's traditional agricultural landscapes. There is less than 20,000 ha of traditional environments left. It is of crucial importance that funds directed to the management of traditional agricultural landscapes be considerably increased. These funds should also be available to all farms regardless of size, type of production or the age of the farmer.

According to Pyykkönen (2001), 10% of all Finnish agricultural land is marginal land, and it is mainly located in east and north Finland, but also elsewhere in the country there are remote fields that no one is ready to cultivate. This figure shows the percentage of agricultural land that came for lease or for sale and no one was interested in having during the period 1996–1999.

The same trend holds when we examine the last 10–30 years as to the shift of forest land to agricultural land and from agricultural land to forest land. According to the statistics of the Finnish Forest Research Institute (based on the forestry inventory for the years 1992–2001), in the eastern regions Lappi, Pohjois-Karjala and Etelä-Savo, significant areas (205–397 sq. km) of agricultural land have been afforested, while the clearing of forest to agricultural land has happened very rarely (3–7 sq. km). In Pohjois-Pohjanmaa (located in north-western Finland) both the amount of afforestation (137 sq. km) and the amount of forest cleared to fields (151 sq km) has been impressive over the last 10 years (Finnish Forest Research Institute). The trend is, however, clear Finland is loosing agricultural land in the east and north, while intensified production is concentrating in the west of the country.

The third changing process which has had a profound implication for rural landscapes has been the farming system as related to dairy production. Low producing natural meadows have been replaced with cultivated and more productive monoculture grass fields. During the ten years from 1990–2000, the meadow average has dropped by 83% (Table 2). Thus, the

most infertile, dry of remote areas have been transformed to forests or allowed to grow bush vegetation. This has fundamentally impoverished the rural landscape by making it more uniform and less interesting. Since dairy farming has at the same time changed geographically more from the east and north to the west, regional effects on landscape quality have been profound.

These developments together have meant a significant qualitative decrease in rural landscapes.

Conservation

The rapid and substantial increase in leased areas means diminished ecological quality of fields since it is not profitable for the productive capacity of the land with the current negative economic marginals and subsidy policy based on the area cultivated, and not to any qualitative aspects.

Protected areas vary regionally from 0.7% in the south to 66% in the northernmost tip of Finland (Figure 11). This leaves southern Finland with very little protection from the conservation system. Important land-use forms which create ecological diversity and biodiversity vanish impoverishing the ecosystem.

Since the natural vegetation in Finland is forest, Finnish natural conservation is much related to the quality of forestry and the amount of natural conservation areas which are mostly forest and wetlands. Traditionally, a major part of forests has been privately owned and this is the case still today. However, the structure of the ownership has changed. Traditionally, forests have been an integral part of Finnish farms and a vital part of the farm economics and important employer during the winter season. With rapid urbanisation, forests have been to a significant extent inherited by townspeople. This can have twofold implications for the ecological quality of the forests. The great number of urban women forest owners can mean more interest in the esthetical values of the forests which are often situated near and around the summer cottage. This could mean a "softer" approach to commercial forest use and could mean that conservation aspects are taken better into consideration. On the other hand, people living in the cities might loose their contact to the land and see it only as a means for earning money. In that case, the ecological quality of the forest could diminish as the traditional relationship to forestland, which is based on personal experience, memories and non-monetary values, is cut.

Biodiversity

As regards to biodiversity, plant communities of fields and verges have become less diverse, mostly because of the increased use of artificial fertilisers and pesticides. Other reasons for diversity loss are the decline of livestock farming resulting in the loss of cultivar varieties and the simplification of crop rotation. There is a significant number of species related to cultivation systems based on the keeping of cattle in different types of natural meadows.

With the changing cultivation system, where natural meadows are replaced with cultivated ones, these species are vanishing rapidly. Declining species are those sensitive to herbicides and those unable to compete in the race for light and nutrients, i.e., low-growing species of meadows and dry meadows. Of Finland's extinct plants many were companion species of rye or flax. As a result of this simplification of plant communities, insect diversity and numbers have also dropped. The same has happened to many birds, like the declining grey partridge and the still relatively common starling and skylark (Pitkänen & Tiainen 2001, p. 91–92).

There have been, however, also positive effects on biodiversity in the agricultural environment in particular as a result of increased vegetated set-aside in the 1990s, the increase in the area of field verges and buffer zones, the increased application of pesticides and artificial fertilisers on the basis of need only, new small-dose herbicides, and especially as a result of the rise of organic farming (Pitkänen & Tiainen 2001.)

Another positive development has been the substantial increase of organic agriculture between the years 1993–2002 (Table 9). This increases the biodiversity because the absence of chemical fertilisers, and above all, pesticides creates a more versatile biological environment with many more species of insects, other animals and plants in the cultivation system and around it (Pitkänen & Tiainen 2001.)

7.4 Vulnerability for marginalisation and its implications

Status of vulnerability

Vulnerability is here understood as the threat to marginalisation in the future if the present trend continues.

As to biodiversity and in particular traditional agricultural landscapes, the situation is critical, but it is not possible to give exact percentages of the vulnerable area.

According to Perttu Pyykkönen (2001), 10% of agricultural land is vulnerable to marginalisation in Finland. This land is not evenly located in the country; rather, it is concentrating in the east and north of the country.

At farm level, Asko Peltola (2003) concludes that there is a growing group of Finish farmers who are getting poorer and would need more attention. Almost 10% of farmers have to survive on very low and, most probably, continuously diminishing income. The risk of marginalisation is the greatest on small farms owned by older farmers. The total number of farms at risk of exclusion is 5,000 to 6,000, according to Peltola. Out of 73,000 active farms in 2002, this makes for about 7 to 8%.

In regional terms, the current Objective 1 programme regions in northern and eastern Finland cover well the most vulnerable areas in terms of socio-economic marginalisation. These areas cover almost two-thirds of the country.

Implications

Socio-economic circumstances

It is clear that marginalisation and the widely felt threat of exclusion depress both the people and the economy of these regions. The general dependency of Finnish agriculture on subsidies makes Finnish farms also very vulnerable to political risks. The role of support in the income formation of agriculture is much more significant in Finland than in many other parts of the EU owing to Finland's unfavourable natural conditions. In 2002, support totalled €1.7 billion which represents 44% of the total return on agriculture and horticulture (€3.9 billion) (Niemi & Ahlstedt 2003, p. 47).

Political vulnerability is difficult for farmers to attack, since their message should have two different addresses which follow partly different logic. Finland pays 58% of the support needed in agriculture, while only 42% of the support is paid through the EU budget (Niemi & Ahlstedt 2003, p. 46). The composition of the support money varies so that EU stands alone for the support for arable crops, for other area payments and in the CAP support for animals. EU and Finland co-finance the LFA support and the environmental support, but in addition to these, completely nationally financed are the national support for southern Finland, the northern support, national support for arable crops and other national support. Also, the diverse types of national support have to be accepted by the EU Commission.

Regional marginalisation poses a huge political and economic challenge. This is especially true in northern and eastern Finland but also elsewhere, where particularly sparsely populated rural areas are at risk of further marginalisation. The increasingly sparse and diminishing and aging population means weaker economic base and diminished demand of both products and many services. On the other hand, healthcare and social support system will be increasingly strained. The efforts to counteract this has concentrated on the Objective 1 programmes, which probably have been able to slow down the drastic downward trends. But much more coherent policies and a more focused political agenda is needed in the future. There is a need to discuss possible future models for areas, which will not be able to retain the population level necessary for present day socio-economic structures. Alternative visions for future are needed with an open discussion of various alternatives.

Future prospects are not entirely bleak. There are counter forces to the negative development. In Finland there is an active and energetic movement for local rural development through local action groups and village associations which engage a considerable number of rural people in true grassroot development efforts. There is also a need for political discussion of the future role and financial basis of LAGs. Their economic basis must be widened as EU funding is likely to diminish drastically in the next programme period. The question of economic autonomy must be addresses in near future.

Landscape

Landscapes are undergoing further changes although the greatest qualitative changes have probably already occurred with structural and technological change. There is a need to create a more focused political agenda for securing the desired level of landscape diversity. The processes of change are related to the definition of the role of agriculture only as a producer of food and fibre vs. the acceptance of multifunctionality. A multifunctional role necessitates increased consciousness of positive externalities produced, and above all, a system of remuneration for the services rendered by agriculture in producing public goods.

Conservation

The conservation issue is a discussion topic on the political agenda. There are strong forces mainly from forest owners against further protection of ecosystems in southern parts of the country. But there is also an interesting counterforce. The attitudes of the municipalities towards natural conservation areas have dramatically changed during the last decade from stout opposition to eager lobbying for national parks in their area. The change is due to the fact that the municipalities have realised the great attraction value of national parks for both domestic and foreign visitors, to say nothing of the economic benefits to the area created by increased tourism.

Biodiversity

Loss of biodiversity is globally, perhaps, the most serious threat to ecological sustainability. Finland is a very sparsely populated area with vast areas of nature which are, however, apart from natural conservation areas, influenced by humans. The nature of production systems in agriculture and forestry basically define the state of the natural environment. The increasingly monotonous and vulnerable production systems both in agriculture and forestry mean a great threat to biodiversity since many species are dependant on more natural states of environment like meadows and natural forests which are becoming rarer. The survival of threatened species is entirely in the hands of human beings and a political and economic question. There is indeed need to discuss the aims of a biodiversity policy and so define the means for securing biodiversity for future generations.

7.5 Link between multifunctional land use and marginalisation in Finland

Multifunctional land use is promoted in Finland directly by means of agri-environmental support measures, and indirectly, in particular, via LFA support. LFA support has enabled farmers to continue farming in many cases in which they would otherwise have quit.

The purpose of agri-environmental support is to reduce the load on the environment and compensate the farmers for the costs and income losses due to the measures they have undertaken. The support scheme contains also an incentive which has been around 20% depending

on the measure. The main emphasis in Finland is on water protection, and efforts are also made to reduce emissions into the air and the risks due to the use of pesticides and to take care of rural landscapes and biodiversity. In addition, the aim is that the amount of humus in the soil should be increased and the productive capacity of the soil should be maintained or improved.

Environmental support represents a significant share of farmers' income, although its role depends on the production sector. Actually at least in part, environmental support can be considered as direct income payments to farmers. At the end of 2002, agri-environmental support covered 94% of Finnish farmers and 98% of the arable area, which is the highest proportion within the EU (Niemi & Ahlstedt 2003, p. 59). Because of this income-support dimension, it is somewhat difficult to evaluate the link between multifunctional land use and marginalisation of agricultural land.

The part of agri-environmental support which has been used for supporting the increase in organic farming has been directly beneficial to biodiversity and has thus prevented at least bio-physical marginalisation. Other additional measures such as funds for managing land directly for biodiversity and traditional landscapes have been applied for regrettably little, and covered less than 10% of farmland in 2001 (Pitkänen & Tiainen 2001, p. 91).

The main problem connected with the agri-environmental scheme often discussed in public is that the attention paid to the headland is disproportionate to the attention paid to the field itself. This is to say that other agricultural policy measures and, in particular, price policy re-inforce further structural change, intensification and regional concentration of the production as well as the simplification of the crop rotation cycle extremely strongly. These are the main reasons why Finnish agriculture and agricultural land gets marginalised, and the deeds that promote multifunctional land use are helplessly weak to combat the mainstream forces.

7.6 Conclusions and discussion

A number of unintended policy consequences cause marginalisation in Finnish agriculture and make agricultural land vulnerable to marginalisation. It has been estimated that about 10% of agricultural land has been marginalised or is under the threat of marginalising where the corresponding share of farms is about 7%, and, at regional level we can talk about the socio-economic marginalisation of northern and eastern Finland.

The main characteristics of the marginalisation of Finnish agriculture are soil compaction, simplification of the crop rotation system, concentration of livestock farming into only a few regions, loss of biodiversity and the disappearance of traditional agricultural landscapes.

The main characteristics in socio-economic marginalisation are the changing production systems in agriculture and forestry and lack of alternative remunerative employment prospects especially in the sparsely populated rural areas.

Part III: Marginalisation placed in a policy perspective

8 Marginalisation and multifunctional land use seen from a policy perspective

8.1 Introduction

EU policies and their connection to multifunctional land use and marginalisation will be discussed more in detail in the EU-level report of the research project. So, in this chapter we will just briefly refer to some policy effects specific to the case of Finland.

8.2 Evolution of policies having had an impact on marginalisation

CAP policies

After World War II, Finland developed its national agricultural policy into a direction that made it possible to survive on a rather small farm. This was possible via the use of significant subsidies which also had regional policy aims. When Finland became a member of the EU, its agricultural policy changed overnight, particularly as to price level. On the average producer prices decreased 40%. However, Finland negotiated a five-year transition period during which Finland was allowed to establish specifically targeted support measures not available in old EU member states. Without this massive support from EU and national sources, Finnish farms would have gone bankrupt. What happened was that support, which was earlier included in producer prices, has now been transformed into direct income support.

The kind of support allowed in Finland at the moment aims at the rationalisation of the farm structure, i.e., growing the size of farms. This indeed takes place at an enormous pace. However, Finland suffers from the fact that the main CAP support in the form of export subsidies and direct payments depends on the yields, and rewards countries and farms with the best competitiveness, best natural conditions and farm structure. No matter how much Finnish farms invest, they will never be able to catch up with the gap caused by climatic and topographic disadvantages.

Consequently, the main logic that the CAP continues to follow inevitably causes marginalisation of agriculture in Finland. Finland uses all possible means to support farmers' incomes, even with measures which have originally been formulated for other aims (LFA and agri-environmental measures). The volume and breadth of the so-called second pillar measures are far from enough to counteract the marginalising effect of the first pillar measures.

Non-CAP policies

Studying the effects of the structural policy and the CAP of the EU on remote, poor rural areas with diversified and agriculturally dependent economic structures, Efstratoglou et al. (1999) showed that the total economic effects of traditional CAP support on the local economies are lower than those of investments promoted by the Structural Policy.

Conclusions and discussions

The case of Finland is somewhat hopeless in the sense that however maximal the use of agri-environmental measures, for example, is undertaken – as these measures are actually used more as substitutes of income aid – they are designed in a way which hinders their potential to attack marginalisation. For example, funds directed at the management of traditional agricultural landscapes should be available to every farm regardless of size, type of production, or the age of the farmer, and even to those land owners who are not farmers. It would also be important to find ways to stop the declined in livestock farming and even to facilitate restarting it in particular in southern Finland, but under the current development trend this is not probable.

9 Overall status of marginalisation

The overall status of marginalisation is significant in Finland. Around 10% of agricultural land is estimated to be in danger of marginalisation, also around 8% of the active farming population is under threat of marginalisation, and regionally Objective 1 area of eastern and northern Finland are socio-economically marginalised.

Even with the help of this agricultural policy, not enough can be done to cope with the marginalisation of agricultural land, farms or regions. Some policy measures, like the LFA and agri-environmental measures, in particular promotion of organic farming, strengthen multifunctional land use and combat marginalisation, but cannot buck the trend. In its present form, multifunctionality cannot reverse marginalisation, although it may be the main option for agriculture in the northern margins of the EU. Much should still be done as to the volume of these policies and to target them better regionally.

Part IV: Case study

10 Mäntyharju

10.1 Introduction

The marginalisation processes identified in the EUROLAN national level study on Finland (Parts I–III of this publication) are concerned with agriculture. The *marginalisation of agriculture* is a process driven by a combination of social, economic, political and environmental factors in which farming ceases to be viable under an existing land use and socio-economic structure and no other agricultural options are available. In the case of Finland, this means that agricultural land is turned usually into forest, either in a controlled process of reforestation or by natural processes. The end result, the quality of the eventually created forest, is dependent on the natural specific circumstances of the particular location and of the methods used. Thus, *marginalisation of land use* – in the sense that the use of land for the any of main land-dependent activities (agriculture, forestry, housing, and tourism) totally ceases to be viable in the extreme form of land abandonment – does not happen mainly because forestry is generally always a viable option except in the far north where the entire land-use regime is different.

Present economic circumstances make farming economically unviable on many existing farms. This creates problems amongst others as to the multifunctionality of agriculture. Agriculture is very important for the ecological services it provides. Biodiversity in Finland is closely tied into agriculture and its different cultivation practices, since a significant share of endangered species are dependent on cultivation. Biodiversity is severely threatened with the ongoing qualitative changes of farming practices from diversified production with various animals to monoculture grain production. Agriculture is also important in preserving the cultural inheritance and identity of Finnish people which is very much rural oriented due to the late urbanisation in Finland. Since fields comprise only 8% of the land area, their role in creating open landscape is crucial and small changes in the field area can have large local impacts.

The concept of the *vulnerability of agriculture* is very pertinent in the case of Finland since agriculture in Finland is totally policy-dependent. The harsh climate and short growing period result in a low general level of production per unit although the level of research and technology development is very high. Thus, production is maximised in the prevailing circumstances. At the same time the expenses are high due to the natural circumstances. There is no area in Finnish agriculture which has comparative advantage towards other countries. The whole area of Finland is classified as LFA. The most economically remunerative production line is dairy production and, there, the productivity of animals is comparable to that of Central Europe, but since expenses are much higher due to the long winters and lower levels of feed production per hectare, the economic result is dependent on the EU and nation-

ally financed support systems. The economic base of Finnish agriculture is slowly eroding with the reform process of EU agriculture and with the uncertainty connected to national aid in southern Finland. Thus, the whole of the agricultural production system is very vulnerable to changes which seem to constantly worsen the economic environment of Finnish farms.

Finland has adapted to the changing policy environment with a very rapid structural changes in agriculture. This process started back in the 1970s but has accelerated with Finland's membership of the EU. The number of farms has decreased and the average cultivated area increased, but due to natural circumstances, the unit size of Finnish farms can seldom reach that magnitude of critical mass needed to successfully compete with Central European farms even with the present support regime. However, many Finnish farms are pluriactive and have other gainful activities on-farm or off-farm, as well as waged employment apart from the farm income.

The aim of the case study is to describe and analyse the marginalisation processes – ecological, social and economic ones – observable in Mäntyharju. Furthermore, the aim is to compare the findings with the national report and test the applicability of the indicators developed and to discuss the role of multifunctionality as a coping strategy for marginalisation. In terms of agricultural development, there is a clear trend in the declining number of farms and utilised agricultural area. There is also a distinct change from more economically remunerative and labour intensive milk production to grain production which in the local circumstances would require enormous areas in order to provide a decent income. As fields are small, stony and separated from each other by lakes, rocks and forests (see the map of change in field area, Figure 41) this is not feasible in reality. Forests and woodlands together with water areas already almost totally dominate the landscape. The unemployment rate is high and the population is aging. The income level is much below the national average. However, in civil society there is a flourishing local activism and many initiatives to develop the area. Mäntyharju represents the situation in eastern Finland and, more generally, in many ways the situation of any sparsely populated rural municipality. It is, however, relatively centrally located, thus many of the phenomena described and analysed in this study will be aggravated in the more remote borderland areas.

Marginalisation processes are analysed based on statistical material produced nationally and locally and on results of group discussions complemented with a few additional interviews. The method is described in Chapter 10.2. Mäntyharju, the study area, is described in Chapter 10.3 based on the material collected. The most important features of biophysical and socio-economic marginalisation are presented. Different types of marginalisation phenomena are analysed in Chapter 10.4. This analysis leads to conclusions on future development options and policy recommendations in Chapter 10.5.

10.2 Methods

The case study is used to test empirically, at local level, the observations made in the national level study and the set of marginalisation indicators developed in the national studies of the EUROLAN project. Marginalisation indicators are divided into a set of common indicators identified by all partners of the EUROLAN study. They reflect common ground in the national case studies. These are complemented with national indicators developed in the national study. The group of indicators is, however, re-examined in the case study context, and the indicators which reflect best the different aspects of marginalisation in the case study area and for which data is available are chosen. The number of indicators is limited to those most suitable in practice. The whole complete set of indicators is presented in Chapter 10.3 (the complete list of indicators is in Appendix 2).

The common indicators for all seven case studies are as follows:

- land use and land cover;
- population density;
- gender relation;
- economically active/inactive persons;
- net farm income per capita;
- ratio of agricultural subsidies in net farm income;
- accessibility of the regions.

Our case study is based on available statistical data and on a stakeholder workshop conducted in Mäntyharju. In addition, three interviews were carried out to complement the workshop information. Finally, a Geographical Information System (GIS) analysis based on maps for the years 1979–82 and 1999 were used to illustrate spatial land-use change development in agriculture in Mäntyharju.

The workshop was held on 8th September 2004 at Mäntyharju's town hall. The group comprised of representatives of both regional and local level rural development administration, the farmers' union, the rural advisory service and the village association (list of participants is to be found in Appendix 3). The discussion was based on the list of questions presented in the Guidelines for the Case Study (EUROLAN). The discussion themes were crystallised into five questions:

1) Why and what kind of fields are abandoned and left uncultivated?
2) What happens to former fields?
3) What kind of agriculture has a future in Mäntyharju?
4) Are fields as landscape worth money?
5) What other rural development options in addition to farming are there in Mäntyharju?

The discussion was lively and gave valuable information from different points of view since all the participants expressed personal commitment and interest in the issues discussed.

The information collected at the workshop was complemented by interviewing some key contributors (this list is to be found in Appendix 3) Statistical material was also provided by the Mäntyharju municipality and the Employment and Economic Development Centre of Etelä-Savo, representing central government at regional level.

The main source of statistics was Statistics Finland. The regional Employment and Economic Development Centre had also collected statistics on agriculture and rural development in the region. As to the Mäntyharju municipality itself, information was provided by the municipality officials. However, it was not possible to get complete annual indicator statistics for the past thirty years. The researchers had to make do with the available material. The methods of collecting and designing statistics have changed over the years so much that most coherent series are available only from 1995 onwards, when Finland joined the EU. Irrespective of these shortcomings, the database available should give enough satisfactory evidence for studying marginalisation in the area.

The data was used in the analysis by comparing the indicator information with national averages and the situation in the region of Etelä-Savo in general. Negative trends were noted and explanations for the trends revealed were sought from information gathered in the interviews and from other research. Policy analysis was used to explain certain developments pertinent to marginalisation and also the phenomena counteracting the marginalisation processes.

10.3 Description of the case study area and marginalisation indicators

General introduction

Marginalisation processes in the whole of society and, especially, in rural areas are most serious in Eastern and northern Finland. These areas are covered by the Objective 1 programme. The whole area is in the process of marginalisation with a declining and ageing population, high unemployment and a low educational level. Inside the Objective 1 programme areas, the population concentrates increasingly in the centres, and leave traditionally inhabited sparsely populated areas. But even the major towns in these regions have difficulty in keeping a positive population balance.

The region of Etelä-Savo, where the case study municipality of Mäntyharju is located, was chosen because it is a typical example of a NUTS3 region with very bleak economic prospects although it is relatively favourably located in the southernmost region of the Objective 1 programme for eastern Finland. It represents an area with downward pointing indicators for socio-economic development typical for eastern Finland. The municipality of Mäntyharju, on the other hand, was chosen because a key indicator, the change in agricultural land use in farms both in quantitative and qualitative terms implied an informative transformation during the last thirty years. The map in Figure 40 shows the geographic setting of the present analysis.

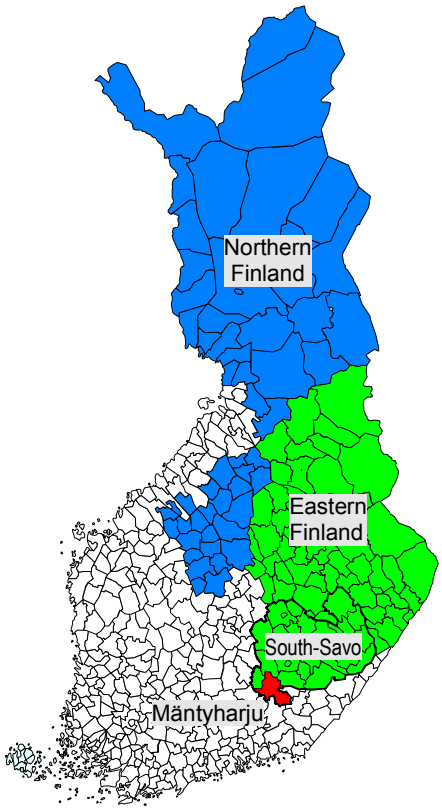


Figure 40. Map showing the case study area: the municipality of Mäntyharju (NUTS5), the region of Etelä-Savo (NUTS3) and the Objective 1 areas of eastern and northern Finland.

Mäntyharju municipality (NUTS5) is located at the south-western corner of the region of Etelä-Savo (NUTS3). Mäntyharju has an area of 1,210 sq. km, of which there is 230 sq. km water or around 19% of the area. The shore line is 1,520 km (Mäntyharju municipality). It was chosen as a case study area because it has many characteristics of an area prone to marginalisation. In the rural communal typology, Mäntyharju belongs to the sparsely populated countryside. The rural municipalities in Finland are classified as urban-adjacent, core and sparsely populated rural municipalities. The assumption is that marginalisation processes can best be observed in the sparsely populated rural municipalities. The land-use statistics show a dramatic decrease in the field area during the past decade and the municipality belongs to the Objective 1 programme for eastern Finland. Thus, it represents a municipality where marginalisation processes should be evident and possible to study.

Geography

Etelä-Savo is the region where the relative share of forests and lakes is biggest of all counties in Finland. Water covers 25% of the total area. There are around 7,000 lakes and innumerable ponds and around 5,000 km of rivers and streams in the region. Etelä-Savo belongs to the northern coniferous forest zone. Four fifths of the land area are covered by forests, which are mainly pine in the drier areas and spruce in the wetter areas as dominant species (Regional Council of Etelä-Savo).

Etelä-Savo is one of the most densely forested areas in Finland having 6% of the total forest area in Finland. The proportion of peatlands is low by national comparisons – this is partly due to the hilly nature of the region. The wood production capacity of the forests in Etelä-Savo is higher than in other parts of southern Finland. The area covered by good quality forest soils is about 80% of the total forest area. The wood production balance is positive and the amount of growth is greater than the amount of cutting (www.metsavastaa.net). Slash and burn cultivation of the woodlands formed the foundation of agriculture until the 19th century. Traces of this method can still be seen in the landscape in the form of patches of deciduous forests (Rikkinen 1992, p. 122).

History

The first archaeological evidence of permanent habitation by Finns in Mäntyharju comes from around 1000 A.D. but the area has been an important hunting ground first for the Lapps and later on for the Finns, at least from the Stone Age (6500–1300 B.C.). The first signs of agriculture are seen from 6th century A.D. onwards. Permanent cultivation was recorded from 1280 A.D. onwards (Favorin 1975).

Livelihood was based for many hundreds of years to cultivation mainly for household consumption and tar-burning for cash right up to the early 1800s. For a long time, most agricultural production was based on the slash and burn system. Hunting and gathering were important additions to the household food security (Favorin 1975).

The population fluctuated markedly due to precarious food security situations with fluctuating weather causing crop failures and deaths. The population was about 2,500 inhabitants in the 1600s. There were several bad years in a row in the last decade of the 1600s resulting in a famine in which about 38% of the population died (Favorin 1975).

The population started to grow again in the 1700s reaching 11,500 by 1868. This population growth induced a radical change in the social-economic structure. From having been socially a very equal society based on family farms, Mäntyharju became a deeply divided society with land owners, tenents and those who were landless. Landowners comprised about half of the population (Favorin 1975).

There was a general parcelling out of land in the end of the 1700s to rationalise farming units. This and the population growth resulted in the large-scale clearing of forest areas for cultivation between 1750 and 1850. Slash and burn cultivation gave way to permanent cultivation. This process changed the settlement pattern of Mäntyharju completely. People used to live in villages close to each other, now they moved closer to their fields and the settlement pattern became scattered (Favorin 1975).

Cattle also became increasingly important as a source of manure as cultivation became permanent. New meadows were created from peatlands by burning them and by drying up lakes. Slash and burn methods were still used to create meadows for the growing number of

cattle until the First World War. Cattle husbandry became in the 1800s the basic means of livelihood for Mäntyharju farmers (Favorin 1975, p. 16–55, 189–213, 277–383; Hänninen-Valjakka 1998, p. 13–19). At the same time, forests became increasingly important for the local economy and especially farm economy not only as a source of firewood for home consumption and local building material, but also as industrial goods.

The famine due to very unfavourable weather during a number of consecutive years in 1867–1869 also took a heavy toll on Mäntyharju with 670 dead in 1868 alone (Favorin 1983, p. 115–116).

In 1918 after independence, there was a bloody civil war which had its roots in the tenant crofters and landless people's harsh situation. After the war, the tenant crofters were allowed to buy their land to a maximum 10 ha of field and some forest. Cottagers were allowed to buy their houses with 2 ha of land. In Mäntyharju in 1920, there were 6,640 ha of cultivated fields divided between 1,350 farms (Favorin 1983, p. 348).

After the Second World War, around 400,000 refugees came from the area lost to the Soviet Union. About 45,000 new farms were created by splitting up existing farms. In Mäntyharju, 350 new farms were established from existing fields but because of their small size, new fields were also cleared from forests. All in all between 1919 and 1950, some 500 new farms with an area between 1 and 10 ha were established in Mäntyharju. The landscape became more open and larger unified field areas were developed (Favorin 1983, p. 347).

From the 1960s onwards, scattered dwellings have become uninhabited. Many farms have been transformed to residential houses or summer houses and settlement has kept on concentrating in the main village centre (Mustonen 1998, p.10–21).

Socio-economic patterns

In 2002 Etelä-Savo was the second poorest region (NUTS3) in Finland where gross value added per capita at basic prices was €16,330. For the poorest region, Kainuu, it was €15,740, while the national average was €23,371 (Statistics Finland).

The national economic recession of the early 1990s hit Etelä-Savo heavily. In 1994, the value of production was 11% lower that in the economic peak year of 1990. Recovery from the recession has been slow compared to more prosperous areas of the country (Statistics Finland). Reasons for the relative poverty of the area are many. According to Manni and Seppänen (1996), major reasons are its in-land location, agricultural dominance and the fact that production is geared to the home market. Transport connections are generally poor. The rail line is slow and the great lakes make travel times long.

Etelä-Savo has the lowest population density in southern and central Finland and amongst the lowest rate of urbanisation in Finland. The number of people living in the region is decreasing and the trend is expected to continue. The situation is due to both emigration and

a higher mortality rate than the birth rate. The relative share of elderly people is higher in Etelä-Savo than in other parts of Finland (in 2002, the index being 119 compared to 100 for the whole country). Emigration takes place in all municipalities, even from the major towns of the region. There is only one town area with a modestly growing population, the regional capital, Mikkeli. Educational levels are among the lowest in Finland. GDP in Etelä-Savo stands at around 70% of the national average (Statistics Finland).

In 2002, around 5% of the total land area was fields. Etelä-Savo has after Etelä-Pohjanmaa the highest share of population engaged in primary production, being 11% in 2001. There are only few alternative employment opportunities. The share of private sector services is also among the lowest in Finland. The marginalisation of agriculture in this area is likely to have a significant impact on liveability in general (Statistics Finland).

The specific feature of Etelä-Savo agriculture is the commitment to ecological production which has been a systematic feature of the regional policy since the late 1980s. There have been a number of development projects to boost the organic food chain and food processing facilities. In the area, there is also a research station of MTT Agrifood Research Finland engaged in research on organic production. University-level education on sustainable agriculture is concentrated in the region's capital, Mikkeli.

In the beginning of the 21st century private persons owned 78% of the forests in Etelä-Savo. Paper industry companies owned 11%; the state owned 6%, and municipalities and church congregations owned the remaining balance of 5% of the forests. In Etelä-Savo, farmers own more forest than on the average in Finland, and forest income is crucial in the long-term running of a farm. For example, farm investments are often financed by forest incomes. The number of retired persons who own forest is less that the national average. In the early 2000s women comprise 25% of the forest owners and their share is expected to rise to over one third. Of forest owners, 42% are living permanently on farms, while 44% live elsewhere in the same municipality and 14% live outside the municipality (http://www.metsavastaa.net).

The forest area in Mäntyharju totals some 83,000 ha, of which in 1988 65,000 ha or 78% was private, the same as the regional average. 40% to 50% of forests are owned by persons non-resident in the Mäntyharju municipality.

In the early 2000s there were 10 enterprises in Mäntyharju employing more than 20 persons. The biggest was Exel (171 employees), manufacturer of sports equipment, and Veisto (130 employees), manufacturer of saw machines. There were 111 small rural enterprises employing less that 20 persons – totalling 171 employees in all. The enterprises are indeed very small employing on an average 1.5 persons. Of these registered enterprises, 20 were located on farms. 35% of all jobs were in processing, while 14% were in agriculture and forestry, and 48% were in services. For a rural municipality, the share of processing is relatively high making the economic structure more balanced than in more sparsely populated rural areas. This explains the high level (95%) of self-sufficiency in employment opportunities. Com-

pared to all employed people in Mäntyharju, the existing number of jobs represents 95% (Mäntyharju municipality, Statistics Finland).

Transport connections

Mäntyharju is transversed by two major highways. Highway 5 coming from Helsinki via Lahti to the regional capital, Mikkeli, transverses western part of Mäntyharju from south-west to north-east. Highway 15 from Kouvola to Mikkeli passes through Mäntyharju from south to north at the eastern end of the municipality. The centre of the Mäntyharju municipality lies between these major roads around 40 km to the east and 50 km to the west of a highway. In the municipality, people regret that travellers on the highways seldom stop in Mäntyharju. The distance to Helsinki is around 200 km and to Mikkeli 50 km. The time taken to travel from Helsinki to Mäntyharju is around two and a half hours.

The railway line from Helsinki via Lahti and Kouvola to Mikkeli and further north passes through the centre of Mäntyharju. There are six trains daily running from Helsinki to Mikkeli stopping at Mäntyharju and vice versa. The time taken to travel to Helsinki is two and a half hours and to Mikkeli thirty minutes.

Environmental issues

There are no significant environmental problems in the area apart from the loss of biodiversity. The lakes are generally in very good condition. In Mäntyharju, water quality is very near the natural state. There is some localised pollution in the neighbourhood of paper and pulp factories but none of them is located in or near Mäntyharju (Etelä-Savon Seutukaavaliitto 1987).

There is some increased acidity in the environment due to the acidity of rain fall. This has led to acidification of some small lakes which have naturally a low buffer capacity. Also 11% of forest trees show some damage (1% serious, 1% some and 9% mild). The reason for the damage is assumed to be acid rain but also other factors may be involved. The sources of acid emissions are mainly in the areas of east and south Finland (Etelä-Savon Seutukaavaliitto 1987).

Marginalisation indicators: biophysical

Climate

Finland belongs to an area of snowy forest climate and damp cold winters where the mean temperature of the warmest month of the year is over +10°C and that of the coldest month below -3°C. Precipitation occurs in all months. In Mäntyharju, the average precipitation is 550–600 mm annually, half of which comes as snow. The thermal growing season is 165 days in Etelä-Savo. This refers to a period of the year when daily mean temperatures are above +5°C and which defines the agricultural production system (Rikkinen 1992, p. 24).

Geology and topography

Etelä-Savo belongs to the lake region of eastern and central Finland. The landscape consists of forested hilly areas interspersed with labyrinthine lake systems. The geology of Finland was strongly affected by the Ice Ages. Etelä-Savo consists of a basically horizontal peneplane which was broken up here and there. The ice sheet then cleared away the weakest parts of the weathered, faulted bedrock, which resulted in an irregular, rough terrain and the basins in which the present lakes have formed. The waterways often follow the old fault lines. The moraine material has accumulated to cover the bedrock forming streamlined ridges or drumlins, while the esker chains run in the same north-west-south-east direction of the glacial retreat (Rikkinen 1992, p. 121). This explains the difficulty of expanding fields into larger units in the area where the topography is so broken and irregular, and with the mainly moraine soils, so stony that suitable field areas are by necessity small.

Land use and land cover

Agricultural and horticultural land in Mäntyharju has been halved in thirty years. The decline was fast in the 1970s, but stabilised during the 1980s. Since 1990, the decline has accelerated, in particular during EU membership. While part of the fields have been abandoned, some new fields have been cleared, but much less has been lost from agricultural use. Land use has changed also in other respects. In the early 1970s, there were no leased fields at all. While in 2000, around one third of the cultivated land was leased. Meadows have all but disappeared and the forest area owned by farmers has diminished by around 65% between 1969 and 2000 (Table 23). The Table shows separately the annually cultivated area and the grazing and pasturage areas, which although mainly cultivated, are not ploughed annually. The significant decrease in forest area is due to inheritance by non-farming family members. It does not mean that forest area is affected. The classification includes both productive and unproductive forest land but in the case of Mäntyharju, where peat lands are rare, it is mostly productive forest land.

The Geographic Information Systems (GIS) map (Figure 41) shows the characteristic dispersed field structure and the decrease in field area between 1979–82 and 1999.

Table 23. The farm land use in Mäntyharju 1969–2000 in ha (Information Centre of the Ministry of Agriculture and Forestry, National Board of Agriculture).

Year	Agricultural and horticultural land, total	Rented arable land	Arable land under cultivation	Rough grazing and pasturage	Forest land	Other land	Total
1969	7,141		7,141	544	46,553	3,649	57,889
1980	5,932	253	5,501	512	36,888	3,058	46,391
1990	5,206	514	4,691	345	32,493	2,536	40,580
2000	3,821	1,174	3,749	69	16,307	1,251	21,442

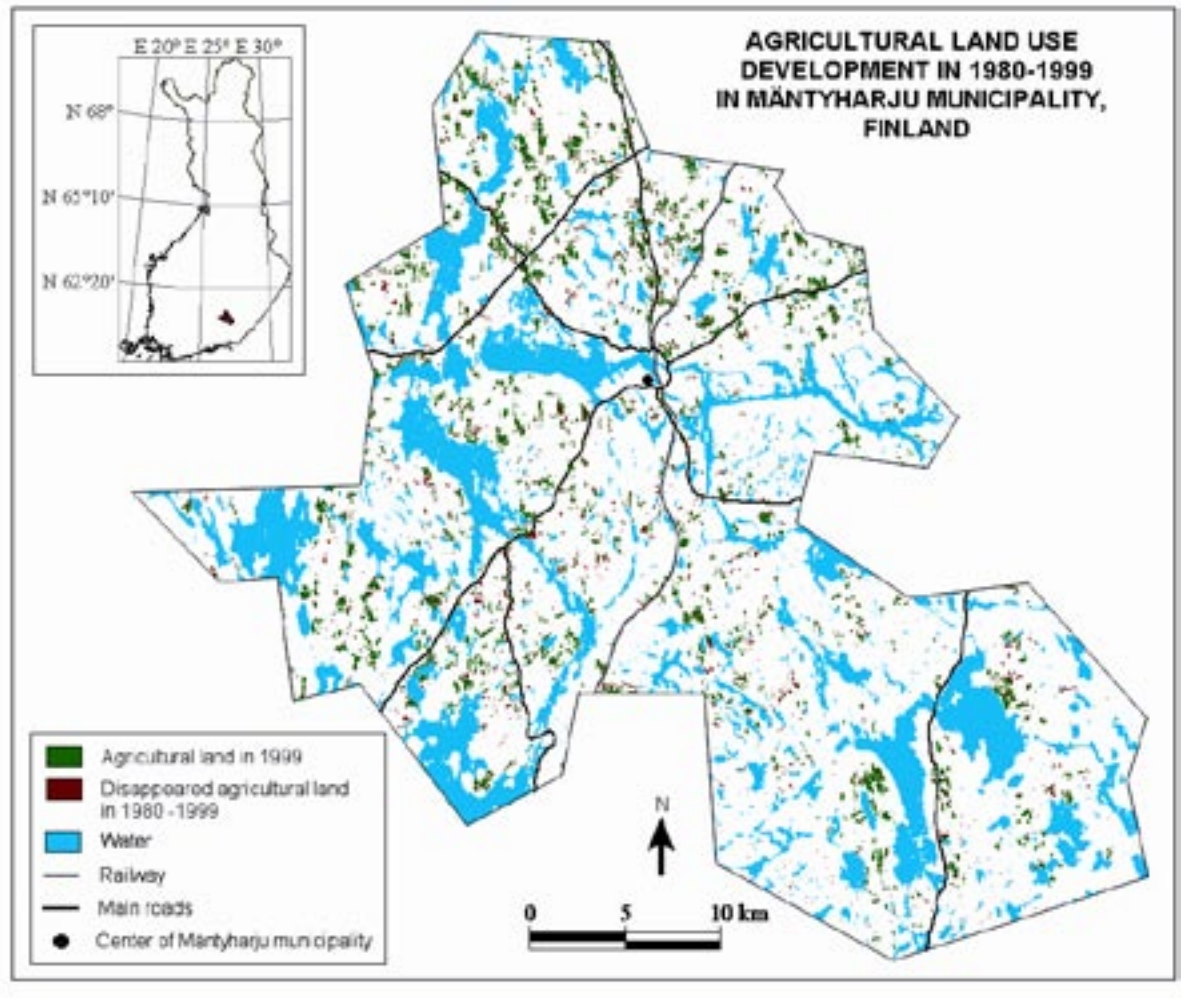


Figure 41. GIS map[3] of Mäntyharju showing the changes in field area between 1980 and 1999.

The study was done from the basic maps on a scale of 1:20,000 and maps on a scale of 1:50,000 if no maps in the larger scale were available at that moment (National Land Survey of Finland). The used maps were published in 1999 in digital format on a scale of 1:20,000 and in 1984–1987 in paper prints on a scale of 1:20,000 or 1:50,000. The land survey was done some years earlier and aerial photos used in the mapping are also older than the publishing date of the map. The interpretation of aerial photographs and land survey for the paper maps was done between years 1979–1982. Thus, time points of the study were 1979–1982 and 1999.

The digital map sheets have a spatial resolution of 2 m, and they have three raster layers: waters, fields and a so-called black layer which includes e.g. roads, building areas, names of villages, etc. The Mäntyharju municipality was covered by 26 map sheets of 10 km x 10 km. A mosaic of the field layers of maps was formed and the area of the municipality was cut using a vector layer of the municipality borders.

[3] The map in Figure 41 was drawn by Sirpa Rajaniemi, MTT Agrifood Research Finland, Environmental Research.

The paper prints were scanned using 24-bit colours and a resolution of 400 dpi. The scanned raster maps were registered to Finnish coordinate system (kkj, zone 3) and the pixel size was defined to 2 m. The scanned raster is one-layer image, in which all the map elements are included. Therefore the field cannot be extracted in a straightforward way as from digital three-layer maps. We used feature mapping procedure of TNTMips software to classify the fields from the map. In feature mapping, the user identifies the sample pixels from interested features (fields in this case), and then the image is automatically classified according to the spectral ranges of the sample pixels. Even though that classification procedure accurately found the field pixels, the elevation curves and the "black layer" (names, roads etc.) are overlaid on the fields, and none of classification algorithm can detect the field pixel under these map elements. Therefore, the field layer was manually edited to fill in the gaps.

As a result, two maps of field cover were formed. The differences in the field cover were then studied by forming a difference image of the field raster mosaics which shows where fields disappeared and where more fields were created. In the final map of the field cover change, the lakes and main roads from were also inserted. These were extracted from the digital maps sheets. The analysis was done using TNTmips version 6.9. software.

The accuracy of the change analysis depends, of course, on the accuracy of the maps, also the definition of field influence on the outcome. In the maps, uncultivated fields may be defined to be field, although in the official statistics, they are not included to the field area. The field cover can probably be estimated more accurately by the visual interpretation of the aerial photographs, but it would also demand more resources. The use of the existing basic maps provides only a rough estimate of the field cover change. The GIS analysis of the field cover change is therefore used only to shot the spatial analysis of the change (e.g. in which areas fields disappeared). The methodologies and spatial data sets used to estimate field cover in the different study sites has a great effect on the results, and should be taken into account when the results are compared.

Parcels supported

The number of parcels supported in 2004 was 2,470 and the average size was 1.62 ha. The average parcel size in 2004 in Etelä-Savo was 1.78 ha and, in Finland as a whole, 2.32 ha. The parcel size is very small and natural conditions are such that it is seldom possible to increase field parcel size. There are only limited areas of arable land due to the very stony moraine soils (Sami Myyrä, MTT Agrifood Research Finland, Economic Research from Information Centre of the Ministry of Agriculture and Forestry statistics).

Traditional landscapes

There were 30 farms receiving environmental aid for landscape management in 2003. The agreements covered around 35 ha. This is less than 1% of the cultivated area (Mäntyharju municipality). Mäntyharju has one nationally significant valuable traditional rural biotype,

two regional ones and two local ones which are all meadowlands (Hänninen-Valjakka 1998, p. 36–38).

Organic farming

Organic farming started at the end of 1980s. By 2003, 12% of the cultivated areas was under organic cultivation. Mostly the organic farms produce grain and grass but there is also one vegetable producer and one ornamental plant producer – actually the only one in the whole country. The area covered by organic farming in Etelä-Savo and the whole of Finland is 7% of the cultivated area (Employment and Economic Development Centre of Etelä-Savo).

Changes in landscapes

Between 1970 and 1995 around 750 ha of fields were reforested with reforestation support. After 1995, this support system was terminated. The rest of the fields which have been abandoned from cultivation, altogether some 2,570 ha in all, have probably started to grow bush and later forest through natural processes (these areas have fallen outside the statistical systems) (Mäntyharju municipality).

Marginalisation indicators: socio-economic

Population

The number of inhabitants has decreased continuously over the past thirty years. However, the emigration was significantly higher in early 1970s during the years of the great rural exodus in Finland. The decrease has slowed down and is nowadays due more to age structure than in the 1970s. The share of women is near 50% and an age disaggregating might show some differences. The population density is very low – around half of the national average of 15 persons per square km. There is a clear tendency of the population in rural areas to concentrate on municipality centres. This is also clearly visible in the case of Mäntyharju (Table 24).

Table 24. Population number, gender structure, density and population share of the municipality centre in Mäntyharju (Mäntyharju municipality, Statistics Finland).

Year	Inhabitants	Women (% of total population)	Population density (inhabitants per km^2)	Population in municipality centres (% of total population)
1970	10,191		9.6	20
1980	8,156		8.5	30
1985	8,071		8.4	-
1990	7,774	50.0	7.9	50
1995	7,498	49.9	7.6	50
2000	7,131	50.3	7.3	60
2002	7,061	50.6	7.2	63

Unemployment is still fairly high in Etelä-Savo and Mäntyharju after the deep economic recession in early 1990s, when one fourth of the workforce was unemployed in Mäntyharju, 23% in Etelä-Savo and one fifth in the whole country. The area has not yet completely recovered, unemployment rate in Etelä-Savo was still 16% in 2001 and even for Mäntyharju the figure was 14%. The development has been though positive with 12.9% for Etelä-Savo and less than 10% for Mäntyharju in October 2004 (Table 25).

Mäntyharju is a very rural municipality. This is shown by the share of employed in agriculture and forestry, which was 14.4% in 2001 compared to the national average of 4%. But thirty years earlier the share was over 50%, showing the late rural transformation in Finland (Table 25).

The economic burden on the employed is increasing since the number of persons supported by those between 15 and 64 years of age is growing due to the aging population. This together with the high unemployment rate sets a heavy strain on the capacity of the municipality to guarantee satisfactory level of services for the population. In Finland, school, day-care and health care are guaranteed to all citizens by the municipalities and financed through municipality taxes. Infrastructure is also very expensive to keep up due to sparse population, long distances and a harsh and cold climate which make specific quality demands on both road and other communication infrastructure and housing.

Mäntyharju has a very high level of employment self-sufficiency due to its considerable industrial base as compared to many other rural municipalities where 35% of the employment opportunities are in industry. In 2002, there were 111 small enterprises employing 171 persons in Mäntyharju (Statistics Finland). In the beginning of the 21st centry the self-sufficiency in employment opportunities was 95%, but since there is commuting both from Mäntyharju to other areas and from other areas to Mäntyharju, some 14.5% of the workforce commuted out of Mäntyharju (Mäntyharju municipality).

Table 25. Employment (share of unemployed, employed by agriculture, working in urban areas, economically inactive people, the relationship of employed to those outside employment) and commuting (Ministry of Labour, Statistics Finland).

Year	Unemployment % Mäntyharju	Unemployment % in Etelä-Savo	Unemployment % in Finland	Employed in agriculture and forestry % in Mäntyharju	Non-employed/100 employed in Mäntyharju*	Commuting % in Mäntyharju
1970				54.8 (in Etelä-Savo)		
1980				30		
1990	6	8	6	25	53	
1995	25	23	20	25.3	57	13.2
2000	15	18	12		60	14.6
2001	14	16	12	14.4	62**	

* Economically inactive people is calculated comparing the number of under 15 and over 64 year olf to those between 15 and 64 years of age; **Figure for the year 2002.

Table 26. Number and size distribution of farms in Mäntyharju (Information Centre of the Ministry of Agriculture and Forestry, National Board of Agriculture).

Size class	1970	1980	1990	2000
1–1.99	149		151	3
1.99–4.99	375		233	28
5–9.99	413		198	61
10–14.99	128		107	56
15–19.99	34		61	32
20–24.99	14		22	17
25–29.99	-		18	17
30–39.99	3		3	17
40–49.99	-		3	7
50–74.99	-		2	-
75–99.99	-		-	-
>100	1		-	-
Total	1,117	807	798	243
Average size	6.34	7.3	10.25	15.25

Number and size distribution of farms

During the last twenty five years, there has been tremendous structural change in agriculture of Mäntyharju. In 1980, 84% of all farms were under 10 ha. Since then, the number of farms has decreased 78%. The share of very small farms, under 10 ha is still high, at about 38%. Farms of this size cannot get their livelihood only from farming. They must have at least one household member employed outside the farm and/or they must be engaged in other gainful activities, or they must have a substantial forest area. The average farm size is still very small and around half of the national average (Table 26).

Production structure of farms

There is a shift from milk production to grain production in Mäntyharju. This is a shift also from full-time professional farming to pluriactivity with other income generating activities on or of farm and/or wage employment. Pig production is declining. Only very large units are profitable today. At the same time, specialisation in horses is a growing trend and the local action group together with the municipality has invested a lot to improve the potential for equine husbandry in Mäntyharju. Specialisation in vegetable and berry production has a stable share of farms in Mäntyharju (Table 27). However, with Poland joining the EU, there are fears of too strong a competition to the detriment of berry production in Mäntyharju and Finland in general.

Table 27. Production structure in farms of Mäntyharju (Employment and Economic Development Centre of Etelä-Savo).

Line of production	1995	2000	2004
Milk	110	63	53
Beef	42	31	32
Pigs	14	9	6
Horses	5	12	14
Sheep and goats	7	7	6
Eggs	2	-	-
Grain	43	50	56
Vegetables and berries	15	16	15
Glasshouses	2	-	-
Special plants	8	5	10
Other plants	8	18	21
Organic	13	7	-
Agric. production limiting contracts	12	1	-
Pluriactivity farm	1	1	-
Forestry	31	11	-
Total	313	231	214

NOTE! in 2002 the statistical system changed, organic farms, pluriactive farms and forestry farms were not registered separately any more.

Number of dairy farms and milk per farm in Mäntyharju

There has been a dramatic drop in the number of dairy farmers in Mäntyharju after Finland joined the EU. The number decreased by two thirds, from 188 to 56, in the years 1990–2000 (Table 28). This is due to the fact that Mäntyharju was defined as a support B area as all the neighbouring municipalities in Etelä-Savo were defined as the higher subsidy support area C (see the map in Appendix 4). This had serious economic consequences for the producers since the support in B areas means approximately €1,700 to €2,400 less support per farm annually. Support area B does not receive either the specific national support for northern areas and so its future support level is open and most probably decreasing.

Table 28. Number of milk producers and amount of milk produced per farm in Mäntyharju (Employment and Economic Development Centre of Etelä-Savo).

Year	Milk producers	Milk 1000l/farm
1990	188	40
1998	72	65
1999	65	68
2000	56	73

Share of farmers with other gainful activities

There is detailed information about other gainful activities on farms in the agricultural census of the year 2000 (Information Centre of the Ministry of Agriculture and Forestry) but unfortunately no earlier comparable data is available. According to the census, in Mäntyharju out of 246 farms, in 90 farms there were other gainful activities in addition to farming. This amounts to 37% of all farms. This is a high figure compared to the national average of 27%. Etelä-Savo as a whole had other gainful activities in 34% of the total number of farms. The most common activity in diversified farms in Mäntyharju was machine contracting (34 farms), on over one third of all farms with other gainful activities. The second most popular activity was rural tourism with 13 farms and the third was wood processing on 10 farms. There were also between three and seven farms engaged in transport, care, metal work, energy production, food processing and other services.

From their historical development, it can be said that there is a clearly increasing trend for farms to be engaged in other gainful activities. EU membership greatly increased this due to the falling economic development potential on the smallest farms – although a similar trend was discernible already prior to EU membership. However, the drastic change in policy regime after EU membership accelerated the process significantly. If farmers did not want to increase their farm size and invest heavily, the other option for continuous farming was to get additional income. In those cases where other job opportunities were scarce, the only option was to find additional income through other gainful activities. This is especially true for Etelä-Savo and Mäntyharju. The geographical nature of this area with a great number of lakes and a stony terrain with only few areas suitable for large field entities limits the possibilities for farms to increase their productive assets and unit size.

Net farm income per capita and taxable income per capita

Mäntyharju farmers get very low incomes from their farms even compared to their colleagues in Etelä-Savo and especially compared to the national average (Table 29). Income differences between Mäntyharju inhabitants and the inhabitants of the whole Etelä-Savo

Table 29. Net farm income per capita and taxable income per capita (Statistics Finland).

	Net farm income per capita (€)			Taxable income per capita (€)		
Year	Mäntyharju	Etelä-Savo	Finland	Mäntyharju	Etelä-Savo	Finland
1980	3,042	3,239	3,313			3,712*
1986	5,823	6,934	7,570			
1988				6,791	7,173	8,205
1990	10,325	11,325	12,521	8,395	8,820	10,114
1995	11,507	13,103	14,188	9,477	9,560	10,692
2000	12,958	15,452	17,406	11,618	11,646	13,976
2001		17,614	17,997	12,374	12,353	14,481

* Year 1978

have, however, diminished during the past fifteen years so that, in 2001, the taxable income per capita in Mäntyharju was for the first time slightly higher than for the whole NUTS3 area. However, the difference to the national average was clear.

Price of agricultural land

There are very few cases of the selling of agricultural land – the average price has been during recent years about €2,000 per ha (Mäntyharju municipality). "People do not want to sell their land. They would only want to buy some more" (group discussion). Consequently, because of a cultural setting, the price of agricultural land is not a very good indicator for marginalisation, since the field may well be marginalised from production, though not up for sale.

Number of generation changes

The number of generation changes has dropped radically since the beginning of EU membership. In the early 1980s, the number of generation changes was between 15 and 19 a year. Between 1996 and 1998, there were only between 4 and 8 generation changes a year. From 1999 onwards, the figure has been between 0 and 2 (Table 30). Part of the decline is due to the decrease in the number of farms but even more so as the low rate of generation changes leads to a decrease in farm numbers. Without generation change, the farm ceases to operate since domestic subsidies cease as the farmer becomes 65 years old and they form such an important part of total support that it is not possible to farm professionally without them.

Table 30. Number of generation changes in Mäntyharju 1983–2002 (Mäntyharju municipality).

Year	Generation changes in farms
1983	15
1984	19
1996	8
1997	4
1998	8
1999	0
2000	1
2001	2
2002	2

Ratio of agricultural and forest subsidies in Net Farm Income or taxable income

In 2003, agricultural support totalled about €1.8 billion in Finland, which represents 44% of the total income of agriculture and horticulture (Niemi & Ahlstedt 2003, p. 50). The share of agricultural subsidies in net farm income is also, in Mäntyharju, 44% on average but the precise amount depends on the production line (Mäntyharju municipality). Forestry is not directly subsidised in Finland. The state contributes with minor policy measures to the extension and renewal of forests, but this has very little direct income impact, whereas the agricultural support is of crucial importance.

In the case of Mäntyharju, its relative position in the Finnish context is weakened by the fact that it belongs to the area under the national aid for southern Finland negotiated on the basis of Article 141 of the Act of Accession (aid for serious difficulties) (see the map in Appendix 4). Finland has to negotiate with the Commission on the use of this aid every few years, and the amount has been reduced gradually. The region entitled to the national northern aid is better off, because the Commission accepts it to be a permanent form of support – provided that the National Parliament allocates the required sum in the budget.

In the Mäntyharju case, agriculture is vulnerable both because of the big share of subsidies in farm income as well as because a significant part of this subsidy is highly uncertain.

Accessibility to centres and services

Municipal services are usually located in the administrative centre – so also in Mäntyharju. There are a number of shops, restaurants, and banks. The visitor immediately pays attention to the number and quality of shops. It is more varied that one would expect in a municipality with 7,000 inhabitants. This is explained by the great number of summer guests (Mäntyharju municipality).

In sparsely populated rural areas with a declining population, services are also declining considerably. The concentration of population in the administrative centre is a noticeable trend in Mäntyharju with 63% of the population living in the centre in 2002 as compared to 20% thirty years ago (Table 24). In Finland, every village tries to keep three services, a school, a post office and a shop. The number of post offices has diminished radically since the postal service became a commercial enterprise. There are now 2 post offices in the centre of Mäntyharju and around 10 post offices elsewhere with limited services attached to other businesses like gas stations or shops **(**Mäntyharju municipality**)**.

There is still a number of village schools in operation in Mäntyharju. There are eight schools giving basic education from the first to the sixth class. Six of these schools are located in the villages outside the municipality centre. There is one school for 7th to the 9th classes in the centre. In Finland, it is obligatory to attend school up to 9th class. There is also an upper secondary school (gymnasium) in the municipality centre. Children from the villages, where

there is no school, are transported to the nearest school by special taxi-routes whose costs are subsidised by the state (Mäntyharju municipality).

Under Finnish law, municipalities have to organise day-care for all children up till 7 years needing it. There are two kindergartens and organised day-care in private homes in Mäntyharju (Mäntyharju municipality).

There is also an open college which gives yearly 134 courses in the evenings covering a wide variety of subjects from languages and arts, from gymnastics to computer programming. The Music Institute of Mikkeli has a department in Mäntyharju. In the centre of Mäntyharju, there is a public communal library. There is also a library bus which drives around the municipality even to its most remote corners once a week (Mäntyharju municipality).

There is a health centre in the centre of Mäntyharju with four doctors and 55 beds. There is a major hospital in Mikkeli, 50 km away.

Since in 2002 63% of the population lived in the administrative centre, these people can be said to have very good service accessibility. The area of Mäntyharju is vast and split by lakes. Thus from the most remote areas the distance to the centre is around 50 km. Thus some 40% of the population have to travel between 5 and 50 km to reach a doctor or to go to school if they are in the 7th to the 9th class or of high school age. The distances younger children have to manage are much shorter due to the prevalence of village schools (Mäntyharju municipality).

Number of summer houses

Mäntyharju is the Finnish municipality with the greatest number of summer houses in its area, in 2002 almost 4,500 in all (Table 31). There is a long tradition for summer villas in Mäntyharju, the oldest ones in the centre being over hundred years old. The natural conditions for summer houses are excellent with the great number of lakes (Mäntyharju municipality).

It is very common in Finland to have a summer house. Most of the people have access to a summer house, if not own, one belonging to the extended family. In Finnish summer house culture, it is essential that the house is by a lake or on the seashore, preferably with a clear distance to its nearest neighbours. Many of the summer houses are located in the area where the family comes from and where there are relatives living permanently in the area.

Table 31. Summer houses and summer guests in Mäntyharju (Statistics Finland).

Year	Number of summer houses	Share of summer guests of inhabitants (%)
1990	3,195	68
1995	3,863	81
2000	4,337	92
2002	4,436	96

The whole Etelä-Savo is the second region (NUTS3) in Finland for its number of summer houses. In the region in 2001, there were altogether around 41,000 summer houses. But in relation to the number of inhabitants, there are 2.5 times more summer houses in Etelä-Savo than in the next two most popular areas (Statistics Finland).

Mäntyharju has the advantage in Etelä-Savo to be located in the south-western corner and nearest to the capital city region. Thus, it is possible to reach Mäntyharju in two hours from Helsinki and this is considered to be a possible distance for weekend visits.

Summer guests double the population of Mäntyharju for some 86 days a year, which is the average time they stay in their cottages in Mäntyharju annually. The economic impact of summer guests is clearly visible in the Mäntyharju municipality centre. The number and type of shops, for example, with two shops specialising in interior designs, is exceptional for a sparsely populated municipality like Mäntyharju, but summer house owners do not bring as much money to the area as they would if they stayed in hotels (Mäntyharju municipality). In the group discussion, it was mentioned that in the future more concentrated summer house villages with local services might be built, especially having elderly people in mind, and why not also such younger people who no longer share the 'rural know-how' of doing everything by oneself. Furthermore, many leisure time activities which the summer residents have are free. In the Nordic countries, everyone is allowed to wander in forests and pick berries or mushrooms, for example. Also recreational fishing does not bring any significant money to the locality, since there is only a nominal fee. Thus, many rural amenities are difficult to sell in a country like Finland where there is a lot of space and a long tradition of shared use of scarce resources.

Consequently, national rural tourism in particular flourishes in Mäntyharju, but in order to make it a strong industry in the area the summer residents should be encouraged to avail of those services that have a proper price, and to buy more local products. Local business development efforts are needed.

10.4 Analyses on development of the area leading to the current situation

Trends in development of the area leading to the current situation with help of the selected indicators.

The case study area of Mäntyharju is located in eastern Finland which is the area most prone to agricultural marginalisation. The indicators in the case study are related to those of the national study. The indicators give a rich view of the different development trends discernible in Mäntyharju and more generally in eastern Finland. However, the favourable structure of industries compared to other sparsely populated rural areas leads to a more positive population development in Mäntyharju than is the case more generally in the area.

The marginalisation processes in Mäntyharju are evident from the indicators presented in the previous Chapter. The cultivated area has decreased by 47% over the last thirty years. Forests owned by farmers have diminished by 65% (Table 23). A significant decrease in fields and open landscapes has occurred. Since these fields have always represented a very small share, 8% of the total land area in 1970 and 4% in 2000, this development has to be considered as a serious threat to the landscape and biodiversity. The decreased forest area owned by farmers has also undermined the economic viability of the farms. Forest income has always been a very important part of the farm economy. The forest income in Mäntyharju has decreased from 35% of the total farm income to 29% in 2002. But this is still high compared to the national average of 11% for the year 2002 (Mäntyharju municipality). Reforestation was economically supported by the state between 1970 and 1995. But since forest grows very well in the Etelä-Savo region, natural forestation has probably meant that most of the area abandoned has gradually turned into forest.

There has been a modest attempt to secure the future of the most valuable landscapes with a specific agri-environmental aid for managing landscapes covering 35 ha (Mäntyharju municipality). This is 0.9% of the cultivated area. Thus, the impact of the support on the preservation of landscapes is negligible.

The greatest impact on biodiversity has been the change in production structure of the farms from dairy production to grain cultivation. Animal production is connected to more varied land-use practices with pastures and production of hay. Grain production means a more monotonous ecological environment and a decrease in the number of species, many of which are dependent on meadows and pastures and some of which are under threat of extinction (Hänninen-Valjakka 1998, p. 17–19).

However, population indicators do not look too bad. The population has almost stabilised after a rather steep decrease due to emigration in the 1970s, when there was a great structural change in Finland. The agrarian population migrated to southern Finland's larger cities and even in great numbers to Sweden. The gender balance is normal with no evidence of stronger female emigration (Table 24). The population density is very low with only 7 persons per square kilometre in 2002 (Table 24). This is about half the national average. This speaks of a specific feature of the Finnish countryside. Nature is very dominant and human presence is scarce. But as most of the forests are more or less cultivated, they cannot be considered to represent a natural state of forests. The forests are often monotonous and uniform. This enhances the value of fields as open spaces and makes every disappearing field a great loss to the area.

Mäntyharju is no exception of the internal "villagisation" process. Population is moving into population centres even in small rural municipalities. It is common for the older generation to move into the village centre so as to be nearer the services. It is also municipal policy to concentrate services in the administrative centre in order to lower the costs for providing

such services, and thus making it more attractive to move in. In 1970, only around 20% of the population in Mäntyharju lived in the municipality centre while the percentage in 2002 was 63% (Table 24). With the vanishing of farms, smaller villages are turning into "dormitory villages" as one contributor stated. Most of the people only go to their villages to sleep and commute into and from work in the centre during the daytime. Villages thus become very quiet places with few hands for all kinds of work to maintain properties and their surroundings. A specific feature in Mäntyharju is no doubt the great number of summer houses located in the municipality. Besides, this is a growing trend. The number of summer houses has been steadily increasing and is now around 4,500 (Statistics Finland).

In the early 1990s, Finland experienced a deep economic recession which is clearly visible in the unemployment statistics. The unemployment percentage in Mäntyharju soared from 6% in 1990 to 25% in 1995 (Table 25). The economy has slowly recovered, with a clear pattern of more favourable development in towns and rural areas adjacent to towns, while the remote rural areas, in particular, have lagged heavily behind and are still far from the pre-recession situation.

The rural nature and the importance of agriculture in Mäntyharju are obvious as in Table 25. The share of people employed in agriculture and forestry is 14.4% of all employed persons. Table 25 also shows the late transition from an agriculturally dominated society to an industrial and post-industrial one. Still by 1970, 55% of employed people were working in agriculture and forestry. This shows the late transition in Finland compared to other European countries. In the 1970s, there were 1,117 farms and their average cultivated area was 6.34 ha. At that time, farms had an average 43 ha of forest. Forestry was still at that time labour intensive and an important source of employment during the winter for farmers. Due to technological development, forestry is today completely mechanised and offers very few employment opportunities for specialised entrepreneurs who have been obliged to invest massively in multi-purpose forestry machinery.

Table 26 shows the fundamental change in farming that has taken place during the last thirty years. Mäntyharju is a typical area in the Etelä-Savo. The fields are small and scattered and farms are very small. The relative number of small farms is high. In 2000, while the average cultivated area was 15.25 ha, the median was lower, between 10 and 14.99 ha. By 2003, the average field size was 18.63 ha in Mäntyharju, while the average field size in the whole country was 30.98 ha.

Production structure in agriculture in Mäntyharju has changed to a great extent since EU membership (see Tables 27 and 28). Milk production has traditionally been the economically most remunerative line of production in this area. In 2000, in Etelä-Savo some 22% of farms had crop cultivation as their main production line but they produced only 1.5% of the output of agriculture. Around 50% of farms had milk production as their main production line in Etelä-Savo (Information Centre of the Ministry of Agriculture and Forestry). The same

figure for Mäntyharju is 27% in 2000 (Table 27). This is due to the support area structure as explained earlier.

56 farms in Mäntyharju have indicated grain production as their main line of production (Table 27). In Finland, the approximate cultivated area needed for earning €20,000 per year in grain production is 100 ha. This is considered to be the minimum level of earnings giving a decent living standard for one person per year (Heikki Lehtonen, personal communication). Thus, in all farms in Mäntyharju having grain production as their main line of production, farming is in a marginal state. The strategy for coping according to the group discussants was that after milk production is abandoned and grain production has become the main production line, the only option for the farmer is "to have a wife with a well-paid job in the public sector". The problem which has arisen is that since the husband has very little to do during the winter time, he easily starts drinking and "one day the wife does not come home from work". One respondent also mentioned that husbands were reluctant to re-train themselves for other kinds of work after milk production has ended.

With the existing farming structure, it is not surprising that other gainful activities are very important. In 2000, there were various sorts of other industries besides agriculture on 37% of farms. This can be compared to the national average of 27%. In the whole of Etelä-Savo, the figure is 34% which shows the limited potential for agricultural development and the necessity to find other means for living (Information Centre of the Ministry of Agriculture and Forestry). However in the group interview, several persons noted that surprisingly, indeed, it is often the most active farmers who invest in agriculture and have labour-intensive animal production, who also those to diversify to other activities. As a person said in the group interview: "activity concentrates surprisingly; big animal husbandry farmers also diversify their business; pluriactivity concentrates; there are 'overpluriactive' farms while others, who would have idle resources, do not do anything; they are overcome by some sort of paralysis".

In 2000, farmers in Mäntyharju earned on an average 17% less than their counterparts in Etelä-Savo, and 26% less than their counterparts in whole Finland. The difference has grown in thirty years. In 1970, the difference with the regional level was minus 7% and with the national level minus 8%. In 1990, the difference was 9% and 16% respectively. In 1995, when Finland joined the EU, the differences were 12% compared to Etelä-Savo and 19% compared to the national average (Statistics Finland). The reasons are the change from milk production to grain production and the geographical impediments for increasing the cultivated areas of the existing farms profitably.

The farmers of Mäntyharju do not want to sell their land. This is evident from the group discussion and information received from the municipality. As one contributor to the discussion said: "a Finnish peasant always buys. He never sells". And another said: "Land is sacred. Only in an ultimate misery does one sell". Instead, the leasing of agricultural land has be-

come very common. This is clearly visible in Table 23. In 1969 there were no leased fields. By the year 2000, the leased fields consisted of 30% of the cultivated area. According to our discussants, there is no envy which would jeopardise leasing. People feel it is important that fields are cultivated. In some areas in Etelä-Savo, occasionally fields are given for cultivation to neighbours without any rent being asked for (Jyrki Kuva, personal communication).

A significant indication of the future of farming in Mäntyharju is visible in Table 30. This tells about the unattractiveness of farming as an occupation for the younger generation. Over the period of EU membership, generation changes dropped first from around 15–19 annually during the 1980s to about 8 per year, and around the start of the new millennium generation changes have almost stopped. It tells also about the uncertainty of the future in farming with changing policies and short perspectives. Agriculture in Mäntyharju will continue to diminish if the generation change frequency does not increase considerably.

In Finland, farming is very dependent on subsidies. On average, subsidies represent 40% of net farm income. The situation changed dramatically with EU membership. Earlier the main form of subsidy was price subsidy where domestic prices were about double the EU prices and thus the amount of direct subsidies was much less. Due to EU membership and reforms of CAP, the share of direct subsidies has grown.

Marginalisation or vulnerability for marginalisation in the area with help of analysed trends, rate and weight of indicators and threshold values

The collected data shows clearly that there is an ongoing marginalisation process of agriculture in Mäntyharju. The cultivated area has dropped by almost 50% over the past thirty years. Former fields have been reforested or turned into forest by natural processes. In part, fields have turned into bushes which take a long time to develop into productive forests. However, the overall cultivated area has not decreased much in the first years of the 21st century. There is a renewed interest in keeping fields in some sort of cultivation now when EU subsidies are increasingly attached to the area cultivated. There are, at the same time, farmers who clear new land while others reforest. As one interviewed person said: “we are clearing forests for new fields while our neighbour on the other side of the road is planting trees”. Farmers investing in increased milk production also need more land to spread manure. However, at the moment the interest in investing in dairy production is very low. This leads to decreased need of fields, with the result that fields further away from the farmhouses will be abandoned.

Cultivation is concentrating as much as it is geographically possible. The so-called “thrown around” fields, meaning small fields, maybe some 0.10 ha far away from the farmhouse in the middle of the forest are increasingly abandoned.

In Mäntyharju, the reason for shifting from dairy production to arable production is policy-driven. According to the Act of Accession (Article 142), Finland is allowed to pay national

northern aid to north of the 62nd parallel and in adjacent areas, i.e. support area C. Most important aid measures are northern milk production aid (€202 million in 2004) and northern aid based on the livestock units (€105 million in 2004). Mäntyharju was unfortunate in the sense, that it was left just on the southern side of the northern aid border, even though the natural production conditions are at least as poor as in its neighbouring municipalities (see the map in Appendix 4). As a result, a dairy farmer in Mäntyharju, whose farm is classified in the national aid region B, earns on average €2,000 less in subsidies per year than a counterpart in the neighbouring municipality. Because subsidies form a decisive part of farmers' income, the dairy farmer in Mäntyharju looses motivation, gives up the cows, and continues arable farming while trying to find other income sources. In the case of Finland, production decisions depend heavily on the design of subsidies, since they form 40% of farmers' income. As the administratively set producer prices in the EU are very low for Finnish production costs all over the country, the conditions for support are crucial. In this case, the subsidy is likely to shift dairy production to the northern side of the national subsidy border. It is not a matter of production moving to areas with better production conditions, but to areas more profitable in the sense of subsidy maximisation.

The change of production structure gives a strong indication of the marginalisation of agriculture as an occupation in Mäntyharju. Since grain cultivation is not economically remunerative except on large farms, the threshold being 100 ha per person for a decent income, farms specialised in grain production in Mäntyharju can be regarded as marginalised. This is based on the topographic fact that field parcels are small, stony and located far from each other which make it inefficient to grow grain in the area. The tendency for increased change from milk production to grain production manifests the marginalisation of agriculture. This area has never been suitable for arable production, and during EU membership the number of grain producers has grown, while the most suitable production line has tailed off. The common feature of progress during EU membership has been that a farm gives up dairy cattle, and shifts to grain production which leads gradually giving up farming completely. While fields will be held in cultivation because of the subsidies tied to the land and the connection between the product and the income of the farmer is lost, farming looses both its economic and moral ground. This was widely expressed in the group discussion. As a suggestion for the marginalisation threshold, we would suggest both the amount of abandoned land and the number of generation changes.

On the future of agriculture in Mäntyharju, the group interview participants had quite unanimous views. They foresaw for the year 2015 that there will be 1 or 2 big milk producers per village, maybe 20 milk producers altogether. Most of the existing fields will be used by cattle farmers. There might be possibilities with organic production and with suckling cows. Grain production is so uneconomical in Mäntyharju, according to one interview, that it could be stopped completely if it were the only income source for farmers. However, there are possibilities with special crops and berries. An example is caraway seed (*Carum carvi*), the cultivated area of which has grown rapidly to 50 ha, which is considerable even on a global

scale. It is notable that the participants simply refused to think of the option that milk quotas will be removed one day. They did not even want to consider this alternative, because the milk quota system keeps dairy production in these areas.

In the group discussion, it was also stated by several participants that farming is no longer a business – it is a calling. Many landowners will continue farming as long as it does not bring outright economic loss. But the capital tied up in farming does not bring any profit either. This makes farming a strange kind of a hobby while income is generated in other activities on or off the farm.

Some persons interviewed were of the opinion that in ten years time there will be a radical change in the agriculture of Mäntyharju. Many farmers will retire and it will be very difficult to find successors. At the moment, the generation changes are only one to two per year. If we calculate one generation change in every thirty years and there are now around 240 farms, there should be 8 generations changes per year for the present number of farms to continue.

Consequences of changes for the landscape and the viability of the area

The consequences of the marginalisation of agriculture for the landscape are serious. Since the fields represent such a small part of the area, any reduction means ever more closed off, monotonous landscapes and less biodiversity. The landscape is closed off and both buildings and their surroundings fall into decay.

Those persons interviewed were unanimous. The shift to farming that has no connection to the price of the product will in the long-run be the end of agriculture in the area. Participants lamented also the fact that there is a tendency for cultivated areas to become more monotonous. This is very much due to policy, as milk production is decreasing and grain cultivation is increasing. The value of the grain yield is so low compared to the production costs that in difficult years like this year, when it is very wet, it is tempting to leave the crop in the field.

People consider open fields and the scenery to be important. At least the fields which are seen from the farmhouse window are kept in cultivation. As one interviewed person said “reforestation of fields is a bad thing; the change to the landscape has been dramatic; the landscape is closed off and the lakes cannot be seen anymore”. There was also a firm opinion that agricultural landscape is of fundamental importance for tourism. When fields are reforested, the cultural landscape is lost. Somebody said: “The fields turning into bushes are the end of tourism in Mäntyharju” and “closing off the landscape is a sad thing”. The fields beside the roads were considered to be of special importance and these should not be reforested.

Link between vulnerability for marginalisation and multifunctionality

The contributors had different opinions about the multifunctional use of fields. The issue was concretised with a question: is field as landscape worth money? Two of the interviewed persons were totally negative to the idea that farmers would be paid for cultivating their fields in order to preserve the landscape.

"It feels bad if fields are cultivated only because of the landscape, then there would be no need for the professional competence of the farmer. This would be mental violence!" Another person said that "Agricultural landscape is not credible without economic returns". But all the other persons interviewed were of the opinion that yes, the society could pay for farmers to keep some fields in cultivation. The important thing for many was that there would be "real cultivation" not just fallow or hay which is cut once in a summer and left to lie "turning brown and ugly". As for the economics of it, financial support should make the cultivation of fields comparable to the economic returns of forestry.

The fields by the side of the roads, in particular, were considered important. Possibly the subsidy should be geared to specially defined fields which are part of a valuable landscape or "fields that somebody is looking at".

Development dynamics, social capital – a possible counterforce against marginalisation

As for human and social potential, the situation is not at all that gloom and doom for Mäntyharju – quite the contrary. There are a number of village associations and Mäntyharju is a part of a local action group which finances a number of development efforts by various associations, groups, firms and private people in Mäntyharju. These local level development efforts indicate the presence of considerable social capital and also the process of increasing the level of social capital.

In 2003, there were around 4,000 villages in Finland and around 3,900 of them had a village association. A growing number of these are becoming registered and able to attract money from different sources for development activities. There were 40,000 people actively involved in these activities with equal number of men and women (Uusitalo 1998, p. 130, Rural Policy Committee 2004, p. 106, The Village Association of Finland 2003).

There are 11 village associations in Mäntyharju. One of them, Enonkylä ry, is a registered association. The village associations in Mäntyharju show different levels of activity. They have social activities and usually share common local premises for meetings, hobbies and celebrations. There are common activities to take care of the local environment and small development projects. Some village associations have internet sites with information on local entrepreneurs, hobbies, leisure, sports, and cultural activities. The most important contribution is no doubt the creation of social capital and social cohesion in the villages (Mäntyharju municipality).

All the village associations belong to the regional village network association, Järvi-Suomen kylät ry. This village network has its own half-time secretary. Eino Vähätiitto, the rural affairs secretary of Mäntyharju, is a member of the Board and Pekka Relander (present in the group discussion) from Mäntyharju is an alternate member. As an example of the type of activities the regional association is engaged in, here is a list of activities in 2003:

1) A municipality seminar on the cooperation between the village associations and the municipalities;
2) Village enterprises seminar;
3) Rural day at a motorway rest area to attract the interest of by-passers on rural culture and development issues;
4) A boat trip for the association Board members with in-depth discussions, some municipality representatives were invited to join;
5) Harvest market at the regional capital, Mikkeli;
6) Village day at Mikkeli;
7) Broadband seminar;
8) The regional association is taking part in the national village economy project, which is financed by ESR (Equal). 18 information events were organised. 6 persons were employed by village associations in the region;
9) Planning of regional re-migration service;
10) The chairperson took part in the preparation of the regional strategy for promoting living in second houses;
11) The village secretary took part in three international seminars in Finland, Sweden and Italy;
12) Järvi-Suomen kylät ry prepared comments for various national and regional policy documents (Järvi-Suomen kylät ry).

There are nine development programmes in Mäntyharju undertaken by the Veej'jakaja local action group under the national POMO+ programme (Mäntyharju municipality). POMO+ is comparable to Leader+. It is the nationally funded programme supporting local action groups which do not get financing from Leader+, Objective 1 programmes or ALMA (Rural Development Programme outside Objective 1 Areas).

During this programme period, Mäntyharju has got financing for the following projects:

- planning of a horse centre;
- building of a horse centre;
- building of a riding ground;
- a project to attract new horse entrepreneurs to the municipality;
- motor sports centre;
- traditional food programme;
- a hiking route;
- repair of the Halmesniemi Farmers' Association house;
- Koirankivi Youth Association, buying land and building a summer theatre (Mäntyharju municipality).

According to the group interview, Veej'jakaja has considerable development projects together with various associations. The action group projects have given strong support to the development of rural industries. The LAG activities have increased the cooperation between

villages and the old ‘talkoo’ tradition which means gatherings for voluntary work around a well defined goal. The work is usually carried out, ending in a feast and dancing.

There are a number of rural development projects in the area which belong to the Objective 1 programme started already in part during the previous programme period. Mäntyharju municipality had during the previous programme period three development projects financed by the Objective 6 programme:

- Wandering-route establishment, where 120 km of wandering routes were planned and built taking advantage of existing tourist enterprises;
- The Vihantasalmi project, where a plan for the development of tourism for the Vihantasalmi (a strait in a big lake) area was made;
- The Pyhäkoski rapids boat lock to enable boating from one lake area to another via a waterfall (Mäntyharju municipality).
- For 2004, Mäntyharju municipality has, for example, decided upon co-financing for the following Objective 1 programme projects:
- Terve lehmä (Healthy Cow) animal health care development project;
- TOP 10+ aims at on-farm enterprises, supporting development planning trying to attract a younger generation back to Mäntyharju and also doing work related to health care and stress management of farmers;
- Ravulla rahaa Etelä-Savoon (Money generation with the help of crabs in Etelä-Savo) trying to development entrepreneurial activities around crabs;
- Etelä-Savon eläinaines paremmaksi (Better animal genetic base for Etelä-Savo) aiming at better quality milking cows with embryo transfer technique for the area;
- Eteläsavolaisesta raaka-aineesta palvelutuotteeksi (From Etelä-Savo raw-material to service products) to increase the competitiveness of the food chain in Etelä-Savo (Mäntyharju municipality).

Various development efforts supported by the local action group, and planned and implemented by local actors are important. As one contributor said: “We have now a flourishing period in community development, at least, in those villages where there is a development project. In my own village the €40, 000 investment project to repair the community house has meant a lot. The people have become enthusiastic. The work is shared and there are dances after the work is carried out (talkoot)”. There are development dynamics in Mäntyharju to a great extent. The long-term village movement and the local action groups with their economic resources which were established with EU membership have build a social capital which is clearly a force to be recognised.

The structure of industries in Mäntyharju is good. Processing has the second highest value of GDP in Etelä-Savo. There are many thriving rural enterprises in rural areas, and the small and medium size companies have a central role in the local economy in the regional circumstances of Etelä-Savo. Primary production has a small share compare to many other municipalities in Etelä-Savo and Eastern Finland in general. there are other additional important income sources in the farms as well as wage labour.

Summer houses are important and will give new economic opportunities in the future. In the group interview, there were several people who estimated that there 1,500 summer houses more could be built in Mäntyharju. But there were also considerations that there is such a reluctance to sell land that in practice this would jeopardise such a vision. There are planned areas but this does not mean that there will be parcels for sale. There is a NIMBY – "not in my backyard" – phenomenon. The least attractive areas are rather offered for sale than the most attractive ones. In any case, summer houses or "second homes" are important to the local economy of Mäntyharju, especially for the service sector. There is plenty of unused potential to integrate the summer guests even closer into the local rural economy. Innovative approaches to use local food and different kind of local services could be developed.

10.5 Interpretation and conclusions

Measuring marginality in Mäntyharju

This study has applied, in a specific context regarding one municipality, the approach and indicator set developed in the first phase of EUROLAN in the Finnish national context. The indicator set has been slightly modified in accordance to the existing data, but basically the same phenomena were measured in both the national study and the case study. In this case study, the indicator information was completed with a group interview and some key informant interviews. The interviews increased the understanding of the dynamic processes behind the indicators greatly and deepened the understanding of the different aspects of marginalisation. The chosen method was found to be useful. The study raises a number of issues which make the complex processes of marginalisation visible and allows for a number of policy recommendations to be made. The future of agriculture and rural life in Mäntyharju can be, to some extent constructed from the trends visible in the indicators and from the results of the group discussion. This allows for a proactive approach to combat marginalisation with policy measures and can give rise to tailor-made actions relevant in the specific municipality context, but also in the region context.

It is clear, however, that the results are to some extent site- and to a large extent region-specific and cannot by any means be mechanically applied in a country- or EU-wide context.

Future perspectives

The marginalisation of landscape and the loss of biodiversity will continue with present policies since the cultivated area is decreasing and cultivation in the remaining fields is becoming more monotonous due to the decrease in milk production. Much will depend on the innovativeness of the people. Will there be more special plants like caraway seed? There is intense research activity on the way in Etelä-Savo. Will there be any means to establish a system to compensate for tending the landscape, based on some kind of contracts and compensation modalities, more tailor-made and concrete than the present agri-environmental measures? Can rural tourism be integrated into the aims of securing the landscape and bio-

diversity? There is a rural development momentum at the moment with the EU funded and corresponding national programmes to support grass root development activities through the local action groups. At the moment, it is open whether this kind of activities will continue with present volume during the next programme period. At the moment, it seems that inside the integrated rural development programme there will be a certain minimum percentage reserved for the LEADER type activities.

The number of farms will, at the present development pace, drop to one fourth of the number farms there are today. The number of professional milk farms will be some 20 in ten years time. Most of the cultivated fields will be used by them. The more remote fields will turn to forests if the present practice of "hobby cultivation" does not continue. However, the new policy of tying subsidies to land may counteract the decreasing trend to some extend. An open question is what kind of use is made of these fields which are kept in "cultivation" just to raise the subsidies per hectare. What will the impact be on biodiversity and the landscape? Most probably the "hobby cultivation" will persist and even grow in prominence, while the number of serious, professional farmers will decrease markedly. This is not by definition a bad thing, if income can be simultaneously generated from other sources. However, there is an economic imperative which is difficult to ignore.

The next generation farm owners will be in a decisive position. Most of them will never have farmed for living, but they have grown up in the farms, while farming was the back-bone of the family economy. The general intellectual-psychological climate in terms of the relationship of people towards nature and landscape as factors enhancing the quality of life will be important. Finnish people tend to have a double identity. On the one hand, they are inhabitants of their town environment where they live, work and consume. On the other hand, they at least up to now have had a rural identity which is a culturally important. In their rural second homes, people manifest their inborn tendencies for closeness to nature, silence, slowness, practical work, self-sufficiency (gardening, collecting of berries and mushrooms, fishing, and hunting) and a family-centred living often encompassing the extended family. A question for the future is whether the generations to come will inherit this dimension, as well as the evolving relationship of the summer residents towards their rural second home communities. Will the Mäntyharju summer guests in the future have a double identity apart from their city residence also towards their summer residence? This could mean an increased responsibility for the environment in the location covering larger areas than their immediate cottage surroundings. This would be very important in the preservation of a living, diverse countryside.

Policy recommendations – CAP and marginalisation in Mäntyharju

Under the current agricultural policy regime, only very few farms can be viable in Mänty-harju, and these would mainly be dairy farms. However, when there are fewer and fewer dairy farms in remote regions in Finland, the cost of collecting the milk will grow and under severe competition in the EU market this may lead to the situation where the farmer has to

pay for the transportation cost, while it is at the moment carried by the dairy and added to the price of milk. Without specific measures in this case, dairy farmers in most parts of Finland will be under threat. Another question is what will happen to this area if and when dairy quotas will be removed. Most probably the production will shift to more favourable areas in Finland, and later to more southern member states of the EU.

Another severe development trend is the simplification of agricultural production with all its impacts on soil quality, landscape and biodiversity and to the attractiveness of the countryside. The present policy measures do not take enough into account the problems of the northern location and the difficulties and costs of scale enlargement in a big, but sparsely populated country like Finland. The policy-enhanced concentration process of production, both to fewer farms and in fewer, in all respects more prosperous regions, counteracts all efforts at balanced territorial development and cohesion. In the case of Finland, and Mäntyharju in particular, we have to underline the fact that most of the subsidies farmers get are either LFA, environmental measures or national support based on specific geographic difficulties. The rationale behind these measures is connected to regional balance and multifunctionality. However, they seem not to be able to combat the marginalisation process.

As a policy recommendation, we suggest that EU faces seriously the fact that its current agricultural policy marginalises naturally handicapped areas located far from the centre of the main consumer market in Europe. It is a matter of choice whether there should be any agriculture in these areas in the future. From the narrow efficiency point of view, this is, perhaps, not the case. But there should be a clear democratic political decision taken as to the future of agriculture in these areas. This is important both from the point of view of the national economy (public money could be spent elsewhere) and of the private economy, because at the moment the local people take a huge risk when they invest in their farms completely dependent on political support, and have to live under great uncertainty.

On the policy measure level, this refers to the need of understanding that scale enlargement and concentration is not, in all circumstances, the key to success. If there is clear political will that agriculture should be possible also in the future in all areas in the union, areas like Mäntyharju should be allowed to tailor their farming in such a way that the old pluriactive tradition, where people used to combine scarce resources from a large physical area, could continue and become better connected to the demand of open landscape and biodiversity. In these areas, more should be invested in creating a kind of agriculture that is tied rather to the local rural economy than to the vertical chains of global food production. Multifunctionality should be operationalised closer to those who experience it, like in the case when in Mäntyharju it was suggested that one would get paid for keeping those fields in cultivation that someone looks at, like those along the road or offering a view down to the lake.

At the moment, regulations concerning public purchases, for example, make it very difficult to create any local food systems. The destiny of agriculture in the periphery of the EU is not solely in the hands of the CAP. It would require better integration of other policy sectors,

including regional policy and Structural Funds. In the ESPON Project (European Spatial Planning Observation Network) 2.1.3 (2004, p. 22) it has been aptly stated that "it is now generally understood that a purely sectoral approach is less successful in enhancing and stabilizing the performance of a region, whether rural or urban."

There is a need to safeguard valuable areas, which may represent scenic, biodiversity or ecotope values. This should be incorporated in the normal productive activities related to farming but also to other income generating activities, especially to rural tourism. Also, other productive activities such as food processing from agricultural, forest and fish products could gain of the image of ecologically sustainable, clean and diverse surroundings from where the products are collected. The region of Etelä-Savo is way ahead of other areas here by systematically introducing organic production as the strategic choice for agricultural production and processing in the area.

A large number of summer houses will enhance the economic potential of Mäntyharju municipality in the future with the presently (16.12.2004) introduced tax reform. The municipalities with summer houses will get a greater share of collected taxes. This money should be used to secure the quality of the environment, which has been the reason for the second-residence owners to choose Mäntyharju. These measures should include, at least, activities for the preservation of the biodiversity and the landscape diversity, also very importantly forestry measures which are compatible with multifunctional goals of forestry. This would also boost tourism since the main tourist attraction of Mäntyharju is the beauty and quietness of the nature.

The high level of social capital which has been developed in the local action group and village association must be secured by continuing to support these activities. The new programme period starting in 2007 should safeguard opportunities for this and try to offer more sophisticated tools in order to integrate the development efforts on the local economy to those of the civil society. Even though Finland is among the leading member states in mainstreaming the LEADER-type activities, the connection to general local and regional development could be one of the new focuses.

References

Baumol, W. & Oates, W. 1988. The theory of environmental policy. Cambridge: Cambridge University Press. 312 p. ISBN 0521311128.

Efstratoglou, S., Psaltopoulos, D. & Kola, J. 1999. Structural policy effects in remote rural areas lagging behind in development (STREFF): executive summary. Athens. 30 p.

Employment and Economic Development Centre of Etelä-Savo. Homepage: http://www.eteläsavo.fi.

ESPON (European Spatial Planning Observation Network) Project 2.1.3 2004. The Territorial Impact of CAP and Rural Development Policy. Available at: http://www.espon.lu.

Etelä-Savon seutukaavaliitto 1987. Etelä-Savon luonto ja luonnonvarat. Julkaisu 130:1987. Mikkeli: Etelä-Savon seutukaavaliitto. 90 p.

Favorin, M. 1975. Mäntyharjun historia osa 1. 1860-luvulle. Mäntyharju: Mäntyharju municipality. 524 p. ISBN 951-99062-8-2.

Favorin, M. 1983. Mäntyharjun historia osa 2. 1860-luvulta 1980-luvulle. Mäntyharju: Mäntyharju municipality. 501 p. ISBN 951-99494-1-0.

Heikkilä, M. Rintala, R., Airio, I. & Kainulainen, S. 2002. Hyvinvointi ja tulevaisuus maalla ja kaupungeissa. (Abstract: The welfare and future of rural and urban areas). Stakes publications 126, 93–98. Helsinki: Stakes. 153 p.

Hietala-Koivu, R. 2000. Maisema. In: Yli-Viikari, A., Hietala-Koivu, R., Risku-Norja, H., Seuri, P., Soini, K. Widbom, T. & Voutilainen, P. 2000. Maatalouden kestävyyden indikaattorit. (Abstract: Sustainability indicators for agriculture.) Publications of Agricultural Research Centre of Finland. Serie A 74. Jokioinen: Agricultural Research Centre of Finland. 116 p. + 1 app.

Http://www.metsavastaa.net.

Hänninen-Valjakka, K. 1998. Etelä-Savon perinnemaisemat. (Abstract: Traditional rural biotypes in the province of South Savo.) Alueelliset ympäristöjulkaisut 87. Mikkeli: Etelä-Savon Ympäristökeskus. 147 p.

Järvi-Suomen kylät ry. Homepage: http://www.jasky.net.

Keränen, H., Malinen, P. & Aulaskari, O. 2000. Suomen maaseututyypit. Finnish regional research FAR. Research papers 20. Sonkajärvi: Finnish regional research FAR. 87 p. (60 p. + 4 app.).

Keränen, R., Malinen, P., Keränen, H. & Heiskanen, T. 1993. Suomen maaseututyyppien alueellistaminen. Ylä-savon Instituutti. Tutkimusraportti 6:1. Sonkajärvi. 54 p.

Lankoski, J. 2003. The Environmental Dimension of Multifunctionality: Economic Analysis and Implications for Policy Design. MTT Agrifood Research Finland. Agrifood Research Reports 20. Helsinki: MTT Economic Research, Agrifood Research. 107 p. + 5 app.

Manni, E. & Seppänen, S. 1996. Suomipalapeli. Suomen alueiden kansainvälistyminen. Helsinki: Statistics Finland. 207 p. ISBN 951-727-240-5.

Ministry of Agriculture and Forestry 2001a. Regional Rural Development Programme for areas outside Objective 1 for 2000–2006. Ministry of Agriculture and Forestry. Publications 11b/2001. Helsinki: Ministry of Agriculture and Forestry. 181 p.

Ministry of Agriculture and Forestry 2001b. Strategy for Finnish Agriculture: final report of the Steering Group. Työryhmämuistio 16b/2001. Helsinki: Ministry of Agriculture and Forestry. 66 p. ISSN 0781-6723.

Ministry of Agriculture and Forestry 2002. Strategy for Renewable Natural Resources in Finland. Publications 8b/2001. Helsinki: Ministry of Agriculture and Forestry. 85 p. + 2 app. ISBN 952-453-054-6. Available at: http://www.mmm.fi/english/landwater/natural_resources/Luonnonvara_Englanti.pdf.

Ministry of Agriculture and Forestry 2004a. Maa- ja metsätalousministeriön aluekehitysstrategia 2005–2008 ja siihen liittyvä taustamuistio. Helsinki: Ministry of Agriculture and Forestry. 108 p. Helsinki: Ministry of Agriculture and Forestry. 108 p. ISBN 952-453-174-7. Available at: http://www.mmm.fi/julkaisut/tyoryhmamuistiot/2004/trm2004_3.pdf.

Ministry of Agriculture and Forestry 2004b. Horisontaalisen maaseudun kehittämisohjelman väliarviointi. Manner-Suomi (Summary: Mid-term evaluation if the Horizontal Rural Development Programme). Publications 1/2004. Helsinki: Ministry of Agriculture and Forestry. 272 p. + 6 app.

Ministry of the Interior 2000a. Pohjois-Suomen tavoite 1 -ohjelma. Yhtenäinen ohjelma-asiakirja. EU-ohjelmat 1/00. Helsinki: Ministry of the Interior. 157 p.

Ministry of the Interior 2000b. Itä-Suomen tavoite 1 -ohjelma. Yhtenäinen ohjelma-asiakirja. EU-ohjelmat 2/00. Helsinki: Ministry of the Interior. 193 p.

MTT Agrifood Research Finland, Economic Research. Homepage: http://www.mtt.fi/mttl.

Mustonen, T. 1998. Mäntyharjun kulttuuriympäristöohjelma. (Abstract: Management plan for the Mäntyharju cultural landscape. Suomen Ympäristö 191. Mikkeli: Etelä-Savon Ympäristökeskus. 80 p.

Mäntyharju municipality. Homepage: www. mantyharju.fi. Information given by Veikko Honkanen, secretary of agriculture, Mäntyharju municipality, and Eino Vähätiitto, rural affairs secretary, Mäntyharju municipality.

Niemi, J. & Ahlstedt, J. (eds.). 2003. Finnish Agriculture and Rural Industries 2003. Publications 103a. Helsinki: Agrifood Research Finland, Economic Research. 94 p.

OECD 2001. Multifunctionality. Towards an analytical framework. Paris: OECD. 104 p. + 7 app. ISBN 92-64-18625-5.

Peltola, A. 2000. Viljelijäperheiden monitoimisuus suomalaisilla maatiloilla. (Summary: Pluriactivity of farm families in Finland.) Agricultural Economics Research Institute, Finland. Publications 96. Helsinki: Agricultural Economics Research Institute. 280 p.

Peltola, A. 2003. Syrjäytymisvaara ja hanketoiminnan mahdollisuudet maatiloilla. Esimerkkeinä Etelä-Pohjanmaan, Keski-Pohjanmaan ja Keski-Suomen maakunnat. (Abstract: Risk of exclusion and possibilities of project work in the farms. Survey of the regions of South Ostrobothnia, Central Ostrobothnia and Central Finland.) MTT:n selvityksiä 38. MTT Agrifood Research, Finland Helsinki: Agrifood Research Finland, Economic Research. 89 p. + 2 app.

Pitkänen, M. & Tiainen, J. (eds.). 2001. Biodiversity of agricultural landscapes in Finland. Birdlife Finland conservation series; no 3, 90–93. Helsinki: BirdLife Finland. 93 p.

Pyykkönen, P. 2001. Maatalouden rakennemuutos eri alueilla (Abstarct: Regional differences in structural change of Finnish agriculture). Pellervo Economic Research Institute Reports No. 180. Helsinki: Pellervo Economic Research Institute. 61 p.

Regional Council of Etelä-Savo. Homepage: http://www.esavo.fi

Rikkinen, K. 1992. A geography of Finland. Lahti: University of Helsinki, Lahti Research and Training Centre. 143 p. ISBN 951-45-5887-1.

Rural Policy Committee 2000. Ihmisten maaseutu – tahdon maaseutupolitiikka. Maaseutupoliittinen kokonaisohjelma vuosille 2001–2004. Maaseutupolitiikan yhteistyöryhmän (YTR) julkaisu 8/2000. Helsinki: sisäasiainministeriö. 208 p. + 3 app. (Summary: Rural Policy Committee 2000. Countryside for the People – Rural Policy based on will. The Rural Policy Programme 2001–2004.

Rural Policy Committee publications 11/2000. Helsinki: Ministry of the Interior. 32 p. Available at: http://www.maaseutupolitiikka.fi.)

Rural Policy Committee 2004. Elinvoimainen maaseutu –yhteinen vastuumme. Maaseutupoliittinen kokonaisohjelma 2005–2008. Maaseutupolitiikan yhteistyöryhmän (YTR) julkaisu 10/2004. Helsinki: sisäasiainministeriö. 314 s. (Summary: Rural Policy Committee 2004. Viable Countryside – our joint responsibility. The Rural Policy Programme 2005–2008. Rural Policy Committee Publications 13/2004. Helsinki: Ministry of the Interior. 52 p. Available at: http://www.maaseutupolitiikka.fi.)

The Centre Party 2002. Keskustan maaseutuohjelma 2002 (Rural policy program of The Centre Party 2002). Helsinki: The Centre Party. Available at: http://www.keskusta.fi/tietopankki/?gid=7&ref_gid=&action=show_document&action_param=617.

The Finnish Social Democrats 2002. Suomen Sosiaalidemokraattisen Puolueen maaseutupoliittinen ohjelma 2002 (Rural policy program of the Finnish Social Democrats 2002). Helsinki: The Finnish Social Democrats.

The Green League of Finland 1997. Vihreän liiton maaseutuohjelma 1997 (Rural policy program of The Green League of Finland 1997). Helsinki: The Green League of Finland. Available at: http://www.vihrealiitto.fi/lennakit/maaseutu.shtml.

The Left Alliance 1995. Vasemmistoliiton maaseutuohjelma 1995 (Rural policy program of the Left Alliance 1995). Helsinki: The Left Alliance.

The National Coalition Party 2003. Kokoomuksen maaseutuohjelma 2003 (Rural policy program of The National Coalition Party 2003). Helsinki: The National Coalition Party. Available at: http://www.kokoomus.fi/dokumentti.php?did=91.

The Village Action Association of Finland 2003. All the power of a small village! National village action programme 2003–2007. Summary. Publications 5/2003. Suomusjärvi: The Village Action Association of Finland. 19 p. Available at: http://www.maaseutuplus.net/files/download/ebookPDFEnglanti.pdf.

Uusitalo, E. 1998. Elinvoimaa maaseudulle – miksi, kenelle ja miten? Maaseutupolitiikan perusteet. Helsinki: Kustannusosakeyhtiö Otava. 311 p. ISBN 951-1-15776-0.

Vihinen, H. 2003. Employment prospects in the countryside. In: Niemi, J. & Ahlstedt, J. (eds.). 2003. Finnish Agriculture and Rural Industries 2003. Publications 103a, 83–84. Helsinki: Agrifood Research Finland, Economic Research. 94 p.

Statistical sources

Employment and Economic Development Centre of Etelä-Savo. Homepage: http://www.eteläsavo.fi.

Finnish Forest Research Institute. Homepage: http://www.metla.fi.

Information Centre of the Ministry of Agriculture and Forestry. Homepage: http://tike.mmm.fi/.

Ministry of Agriculture and Forestry. Luonnonvaramittarit 2003. Available at: http://www.mmm.fi/mittarit/mittarilistaus.htm.

Ministry of Labour. Homepage: http://www.mol.fi.

Mäntyharju municipality. Homepage: http://www.mantyharju.fi.

National board of agriculture.

National Land Survey of Finland. Homepage: http://www.maanmittauslaitos.fi.

Statistics Finland. Homepage: http://www.stat.fi.

The Plant Production Inspection Centre. Homepage: http://www.kttk.fi/.

Appendix 1 (1/3). Territorial divisions used in the research

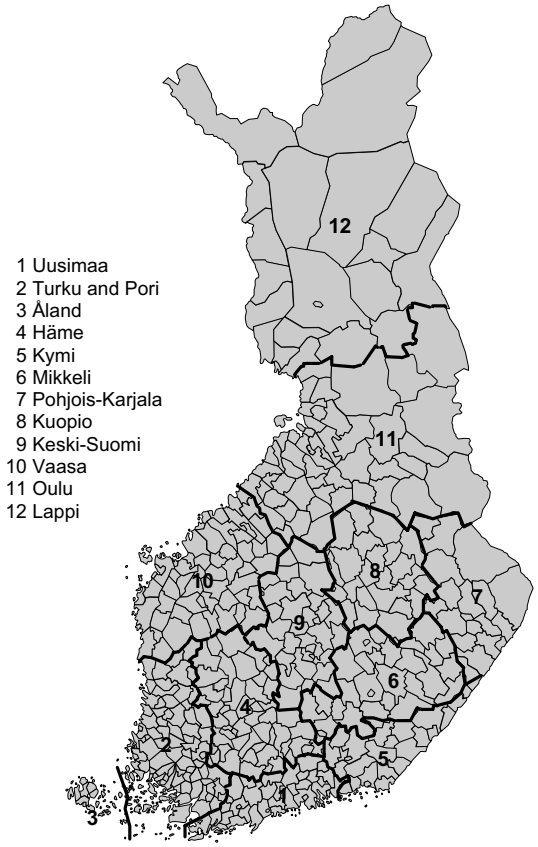


Figure 1. Earlier provinces (before 1.9.1997).

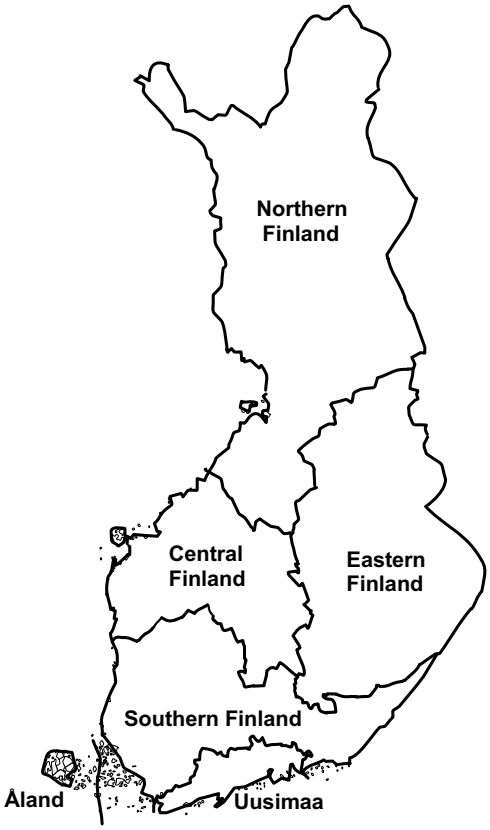


Figure 2. NUTS2 areas in Finland.

Appendix 1 (2/3).

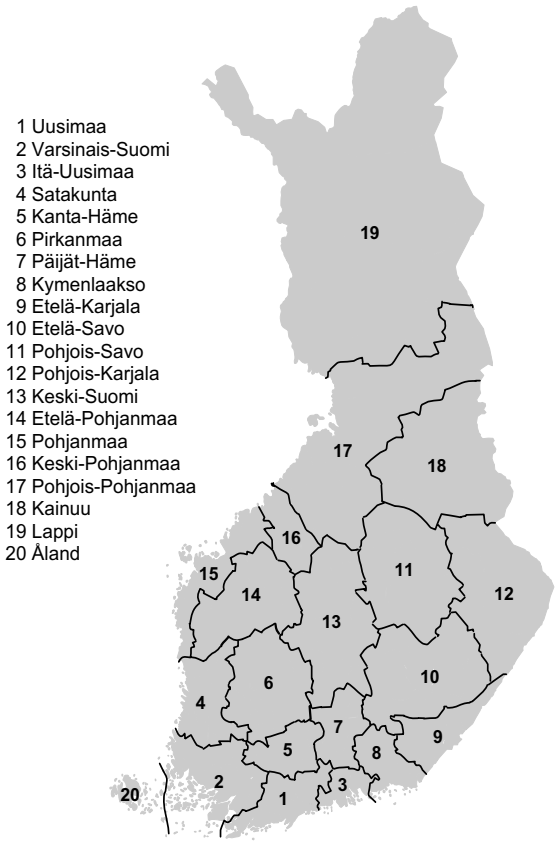


Figure 3. NUTS3 areas (regions) in Finland.

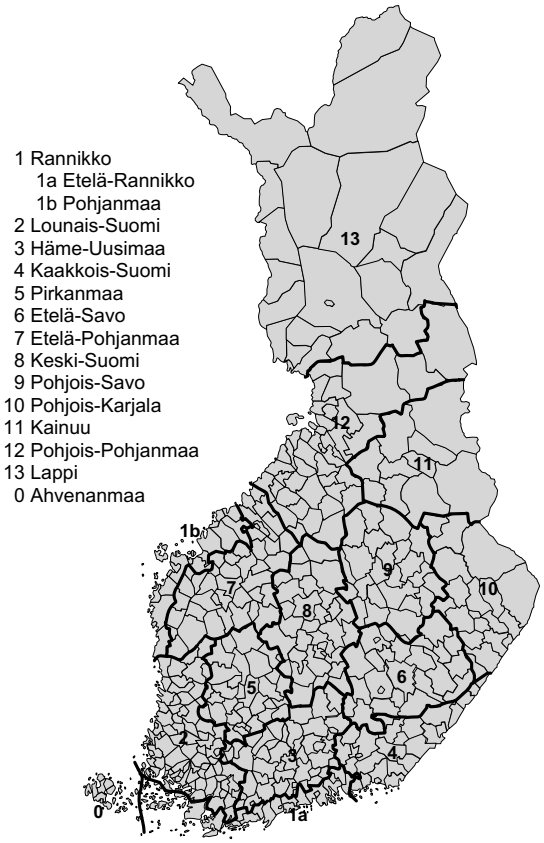


Figure 4. Forestry centres in Finland.

Appendix 1 (3/3).

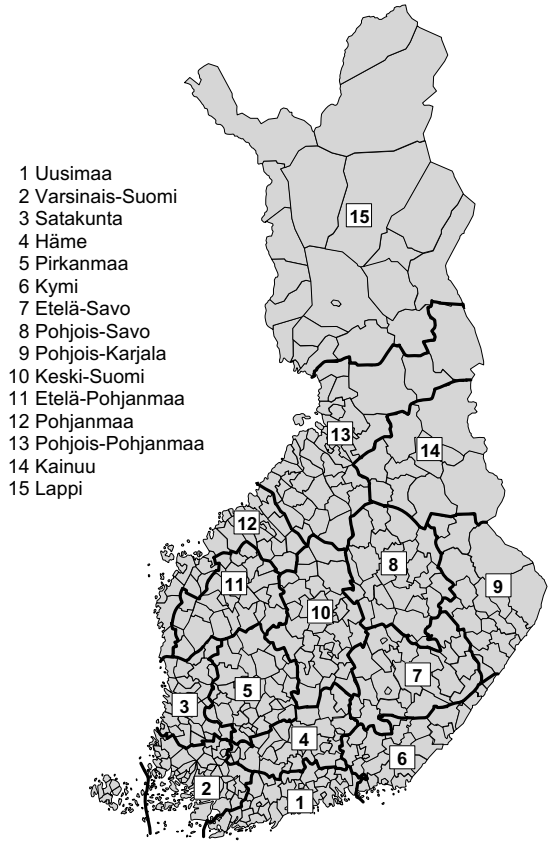


Figure 5. Employment and Economic Development Centres in Finland.

Appendix 2 (1/1). The common (C) and national indicators

Biophysical indicators

1. Climate
2. Geology and topography
3. Land-use cover (C)
4. Field parcels supported
5. Heritage landscapes
6. Organic farming (ha)
7. Changes in landscapes –for this there is only descriptive evidence gathered in interviews

Socio-economic indicators

1. Population number, gender structure (C), density (C) and population in the municipality centre
2. Employment (share of unemployed, employed by agriculture, working in urban areas, economically inactive people (C))
3. Number and size distribution of farms
4. The production structure of farms
5. The number of milk producers
6. Share of farmers with other gainful activities
7. Net income from agriculture and other gainful activities (C)
8. Price of agricultural land
9. Number of generation changes in the
10. Ratio of agricultural and forest subsidies in net farm income or taxable income (C)
11. Accessibility to centres and services (C)
12. The number of summer cottages

Appendix 3 (1/1). List of participants in the group discussion and persons interviewed

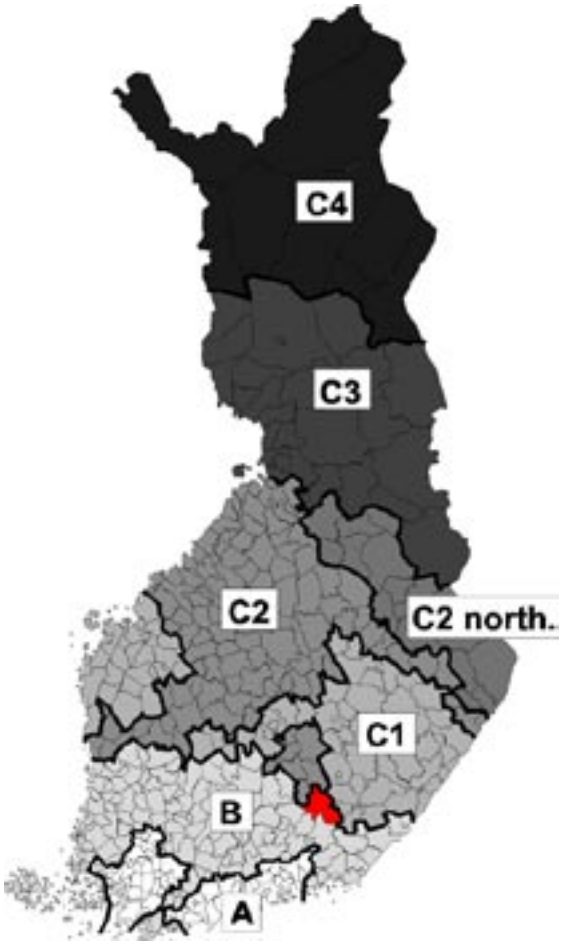
The workshop participants were as follows:

- Ilpo Lehtinen, Employment and Economic Development Centre of Etelä-Savo (the regional government body responsible e.g. for the implementation of rural development measures financed by the EU and the national government)
- Heikki Pahkasalo, Etelä-Savo Pro Agria (regional body of the national rural advisory service)
- Panu Karjalainen, farmer, the chairman of the Municipal Rural Affairs Board (maaseutulautakunta), Mäntyharju Municipality
- Vesa Kallio, Etelä-Savon MTK (the regional manager of the Farmers' Union)
- Eino Vähätiitto, rural affairs secretary, Mäntyharju municipality
- Veikko Honkanen, secretary of agriculture, Mäntyharju municipality
- Pekka Relander, Järvi-Suomen kylät ry (a representative of the local village movement), Mäntyharju
- Hilkka Vihinen, MTT Economic Research (chairperson)
- Marja-Liisa Tapio-Biström, MTT Economic Research
- Ella Mustakangas, MTT Economic Research

Interviewed persons:

- Eino Vähätiitto, rural affairs secretary, Mäntyharju municipality
- Veikko Honkanen, secretary of agriculture, Mäntyharju municipality
- Marja Mattila, farmer, chairperson of the Mäntyharju municipality government, member of the board of the local action group Veej'jakaja, chairperson of a local village committee, member of the Regional Council of Etelä-Savo
- Jyrki Kuva, councellor, Regional Council of Etelä-Savo
- Heikki Lehtonen, senior research scientist, MTT Economic Research
- Sami Myyrä, researcher, MTT Economic Research

Appendix 4 (1/1). National support areas for agriculture and horticulture



Agrifood Research Working papers on Rural Studies of MTT

No 95 Voutilainen, O. 2005. Yritystuki maaseudun kehittämisen välineenä - maaseudun mikroyritykset ja yritystukien kohdentuminen. 85 s. 6 liitettä.

No 103 Vihinen, H., Tapio-Biström, M.-L. & Voutilainen, O. 2005. Rural marginalisation and multifunctional land use in Finland. 121 p. 4 appendices.

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Rural marginalisation and multifunctional land use in Finland

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