

# Populating Finland

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The demographic structures and settlement patterns of Finland have evolved during the past 10,000 years. During this time the population has grown to its present size of almost 5.2 million through phases of fast and slow increase, and occasional periods of decrease.

Changes in the settlement pattern have accompanied the population growth. From the twelfth to the middle of the twentieth century, the general trend was a continuous dispersion of settlement from the southern core areas. The most significant twentieth-century redistributions of the population happened in connection with the resettling of over 400,000 refugees after World War II, and the *Great Move* in the 1960s and 1970s from rural to urban areas and to Sweden.

Finland remained a predominantly rural country until the 1960s. Structural changes within primary production and an increasingly international economy set into motion a regional concentration of the population. Today over 80 percent of the population lives in densely built areas covering only 2.2 percent of the land area.

The population's age structure and the current level of natural reproduction will lead to a fast population decrease beginning in the 2020s. The work force will decrease from 2010 onward. These demographic problems will damage the future economy and competitiveness of Finland, unless immigration is encouraged and actively supported.

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## Introduction

The aim of this article is to give a general overview and cartographic presentation of the population and settlement developments in Finland. Finland is a very suitable subject for such a presentation, as already in the middle of the sixteenth century, when Finland had been a part of the Kingdom of Sweden for almost 300 years, the Swedish Crown initiated a detailed settlement survey. This was motivated by a need to map the kingdom's resources in the context of international competition and armed conflicts. These first surveys contain highly detailed and comprehensive information about individual villages and farmsteads, allowing the drawing of accurate settlement maps of what today's Finland looked like in the 1540s and 1560s (Jutikkala 1949: 14–17, Atlas of... 1973).

A systematic gathering of population statistics began in Sweden in 1736, but as early as in 1721 the clergy was obliged to send information concerning births and deaths in their parishes to the central government (Koskinen et al. 1994: 15). The Statistical Office in Finland was founded in 1865 and began to publish separate demographic data regularly. It is therefore possible to trace Finland's demographic development and settlement history through several centuries and to identify events and circumstances that have influenced this process.

In this article, an overview of the background and growth of the population of Finland is presented. Secondly, certain important events, periods and patterns concerning the settlement development are discussed. Finally, some main characteristics of the present population structure and settlement patterns are analysed against the background of future scenarios.

## Origins and growth of population

Artefacts found in the 1990s – pebble tools, scarred flakes, etc. – in the cave *Susiluoto* in southernmost Ostrobothnia, bear witness to a hominid presence in Finland over 100,000 years ago, during the interglacial period preceding the last Ice Age. The Weichselian Ice Sheet, however, ended this Palaeolithic settlement. Modern man entered the scene that today is the state territory of Finland soon after the withdrawal of the ice sheet and in step with the revelation of dry land from the sea as a result of the isostatic land uplift (see Maaranen 2002; Tikkanen & Oksanen 2002). Climate variations during the Holocene have also played a role in the colonisation and spread of settlement in Finland (Nunez 1999; Solantie 1988, 1992).

As late as in the twentieth century, the common view among researchers in Finland was that Finno-Ugric settlers started to arrive in Finland about 2,000 years ago. The ancestors of these colonisers had left their original settlement area along the shores of the Volga River some 3,000 years earlier and ended up in Estonia, Finland, and Hungary (Rikkinen et al. 1999). The proposed original settlement area in Russia is, true enough, still today inhabited by ethnic groups speaking Finno-Ugric languages (cf. Suihkonen 2002: Fig. 1). According to this *Hackman paradigm*, Finland had lost its earlier population because of – among other things – declining climatic conditions during the Subatlantic period (2,500–0 B.C.) (Pitkänen 1994: 19; Edgren 1999: 311). The land thus lay open for new colonisers who, according to this line of thought, began to cross the Gulf of Finland from Estonia during the first century A.D.

The contemporary view is that Finland was colonised through a gradual influx of settler groups coming from different directions, and that the genetic history of the present population can possibly be traced all the way back to the initial hunter-gatherers who arrived over 9,000 years ago. The ethnic origin of these first settlers remains unknown, but they were probably not of Finno-Ugric extraction (Jutikkala 1987: 352). After that, genetic and cultural material was added as new groups arrived from the south, west, and east. Finno-Ugric dominance resulted when significant numbers of speakers from such language groups began to arrive from the east, probably during the fourth millennium B.C., assimilating the original

population of unknown ethnic background (Pitkänen 1994: 20). Recent studies show that 75 percent of the genetic composition of the Finns consists of a western heritage and only 25 percent of an eastern component (Vilkuna 1999). One could therefore say that the main Finno-Ugric element of today's Finland is Finnish, the majority language. Although heavily borrowing words and concepts from Indo-European neighbours, the language survived the assimilation of other ethnic groups, while the genetic structure of the original Finno-Ugric population was gradually “westernised” through this process. Archaeological evidence also speaks for closer pre-historic contacts with western Indo-European cultures than with eastern Finno-Ugric ones. The present view is thus that the “main ancestral home” of the Finns is to be found in Central Europe, complemented by several other “minor homes.”

When discussing the colonisation of Finland and its cultural and genetic impacts, one should always remember that the size of the population inhabiting the territory of contemporary Finland has always been very modest. It is estimated that the population of Finland at the end of the Stone Age (second millennium B.C.) was 5,000–10,000 persons. By the time of the first crusade to Finland, in the 1150s, the population had grown to 20,000–40,000 persons (Pitkänen 1994: 48). When the first taxation-motivated survey was conducted in the mid-sixteenth century, the population was almost 300,000 persons. Two hundred years later the number exceeded 420,000 (STV 1998: 49).

Figure 1 presents the population development and the growth rate from 1750 to 2000. The growth is fairly steady when analysed on the basis of ten-year intervals, while the growth rate varies quite significantly. One-year intervals would show markedly stronger variations in both absolute and relative population growth, including negative growth with a varying frequency throughout the period in question. The variations in the growth rate curve and the gradient of the absolute growth curve indicate that epidemics, famines, wars, and periods of large-scale emigration took their toll and hindered growth on several occasions. Furthermore, the influence of some changes in the national borders and administrative decisions, as well as a decline in both mortality and nativity in modern times are reflected in Figure 1.

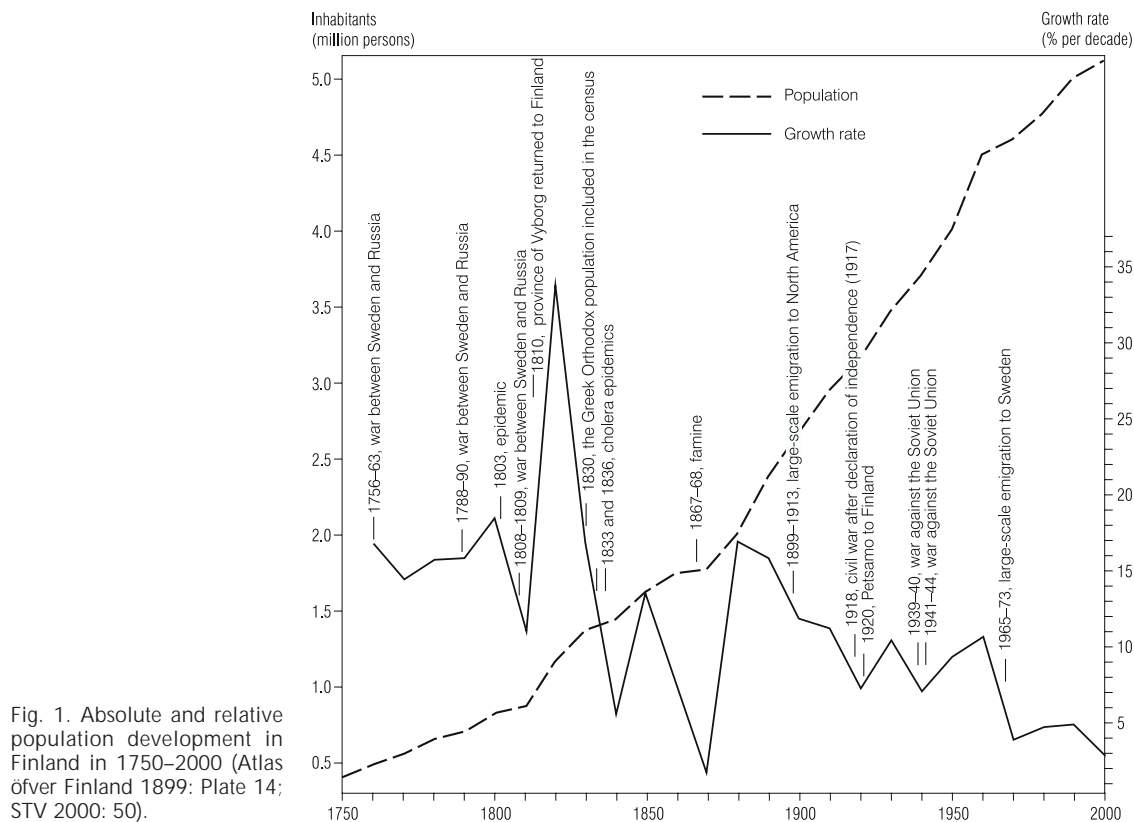


Fig. 1. Absolute and relative population development in Finland in 1750–2000 (Atlas öfver Finland 1899: Plate 14; STV 2000: 50).

During the eighteenth century, the overall population growth rate in Finland was high compared to most of the rest of Europe. This was due to a very high nativity, especially in the eastern parts of the country where extended families were common. The high nativity, in turn, was a result of a higher marriage rate among the adult population than in many other parts of Europe, although the age of marrying was on the rise also in Finland during the eighteenth century (Jutikkala 1980: 156, Pitkänen 1994: 43). Children born out of wedlock were also a common phenomenon in the Kingdom of Sweden. Some 40 percent of the unmarried women, belonging to the rural landless population in 1700–1860, had children (Jutikkala 1980: 160). The rapid population growth during the eighteenth century was slowed down somewhat by repeated warfare between Sweden and Russia. These hostilities culminated in the war of 1808–1809, after which Finland became a part of the Russian Empire.

The war of 1808–1809 doubled the mortality rate, up to six percent of the population in both 1808 and 1809, causing a negative population growth (–3%). The slow growth in 1800–1810 was further accentuated by a severe epidemic in 1803. In addition, smallpox, a common disease, endemic in Finland at the time, claimed an average of 2,000 lives per year in the beginning of the nineteenth century (Pitkänen 1990). In 1812, the areas ceded by Sweden to Russia in 1721 and 1743 were returned to Finland as the province of Vyborg (see Jukarainen 2002: Fig. 1). The 185,000 inhabitants of this province lifted the population numbers and growth rate back to their pre-war level (Atlas öfver Finland 1899: Plate 14; STV 1998: 49).

An administrative decision in 1830 to include the Greek Orthodox population in the census increased the population by 25,000 persons. This increase was countered by cholera epidemics in 1833 and 1836. The epidemic of 1833 was espe-

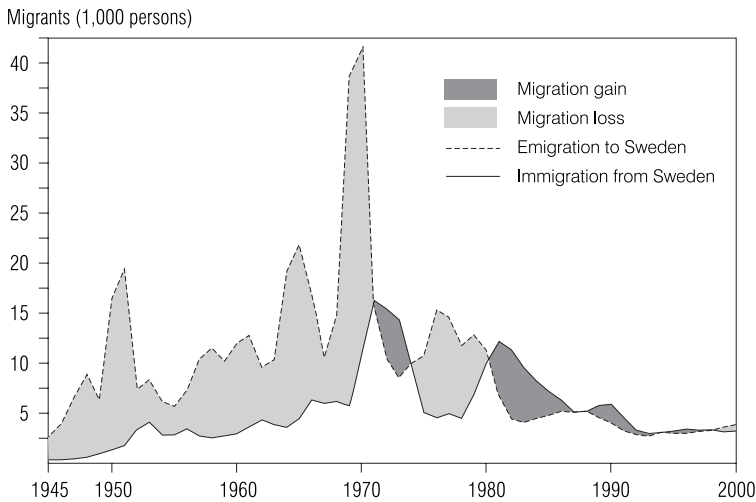


Fig. 2. Emigration and immigration flows between Sweden and Finland, 1950–2001 (Maahan- ja maastamuuttaneet... 2002).

cially severe and caused a negative population growth that year. The next significant negative impact came in the late 1860s when consecutive crop failures, combined with an undeveloped infrastructure and a restrictive economic policy, caused acute famine in a large part of the country in 1867 and 1868. During the winter and spring of 1867–1868, the population of Finland decreased by about 100,000. Some eight percent of the population died in 1868, which was three to four times higher than the normal mortality rate. This was the last major peacetime famine in Western Europe.

The impact of the civil war in 1918 on the growth rate can be detected even in an analysis based on decade intervals (Fig. 1). According to the latest findings, the war caused over 34,000 deaths in battles and as a result of executions and harsh internment after the war (see <[www.narc.fi](http://www.narc.fi)>). On top of the losses caused by the war, Finland was hit by severe flu epidemics, also called the *Spanish disease*, in 1918, 1919, and 1920. These flu epidemics claimed some 25,000 lives. The losses were partially compensated when the newly established Soviet Union agreed to cede the Petsamo area in the northeast and 1,500 people to Finland in the Peace Treaty of Tartu in 1920 (see Jukarainen 2002: Fig. 1).

The Winter War of 1939–1940 and the Continuation War in 1941–1944 seriously tapped the male population of Finland. In these wars almost 71,000 Finnish soldiers died in combat and over 203,000 were wounded. The death toll comprised

about nine percent of the male population aged 15–39 years in 1940 (STV 1946: 39).

The heavy war losses are not clearly reflected in Figure 1, because they are compensated by the baby boom generations of 1945–1950. During that period, the annual number of newborns exceeded 100,000. The size of these annual age groups was impressive. In 1946, the population of Finland was 3,865,000 persons and live births numbered 106,075 (2.7%). By 2000, the population had grown to 5,181,115 persons, but the annual number of newborns had been almost halved, to only 57,577 (1.1%) (STV 2001: 72).

The growth rate took a marked downturn during the 1960s, when profound structural changes within primary production and the economy as a whole launched an unprecedented out-migration and depopulation in rural areas (see Häkkinen 2002; Kortelainen 2002). A significant part of these migratory flows was directed toward Sweden. During the peak years of emigration, in 1969 and 1970, altogether 80,000 Finns crossed the Baltic to Sweden, either seeking work or accompanying jobseekers (Häggström et al. 1990: 56) (Fig. 2). The population growth of Finland was negative during those two years because of this migration. More than 500,000 persons have left Finland for Sweden during the post-war period. About half of them have returned (Sandlund 1982: 5; Korkiasaari & Söderling 1998: 8) (Fig. 2).

The emigration to Sweden had a particularly strong impact on the Swedish-speaking population of Finland, the *Finland-Swedes* (see Raento

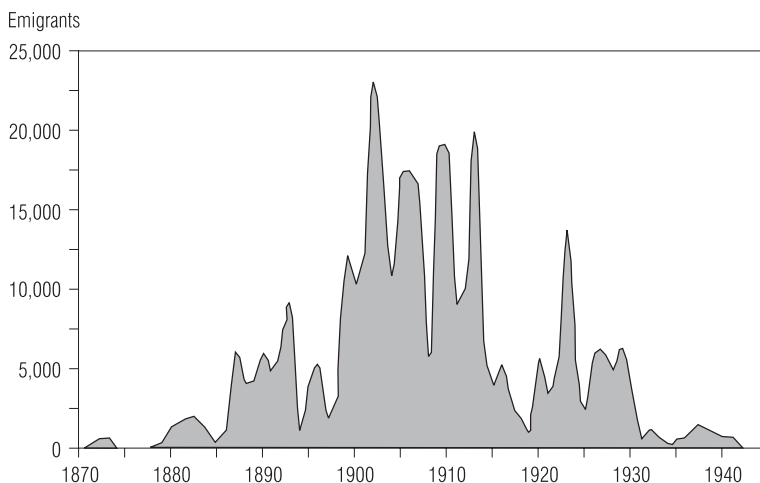


Fig. 3. Transatlantic emigration from Finland, 1870–1945 (Kaukosiirtolaisuus... 2002).

& Husso 2002). One-fourth (25,000 persons) of the Finland-Swedes born in 1931–1950 had emigrated to Sweden by 1975 (Sandlund 1984: 199). Particularly the Swedish-speaking coastland of Ostrobothnia in the west was, and still is, affected by a high propensity to emigrate. This region was also in the forefront during the emigration to North America some one hundred years earlier (Herberts 1996: 12). Altogether 370,000 Finns emigrated across the Atlantic between 1860 and World War II (Korkiasaari 2002). This emigration flow peaked between 1899 and 1913 (Fig. 3), clearly affecting the population growth rates in Finland during that period (Fig. 1).

### Spread and patterns of settlement until 1600

Population growth or decrease always causes a redistribution of the settlement pattern. Population growth can result in a denser settlement pattern or in an expansion, if uninhabited areas remain to be colonised. A decrease can, in turn, lead to a sparser pattern or to a direct contraction, if, for instance, marginally located settlements go under for one reason or another. Also other than demographic factors can trigger changes in the settlement pattern. Political decisions or a restructuring of the economy can initiate redistributions regardless of demographic trends. All these processes of adaptation can be seen in the settlement development of Finland.

Central basic structures of the contemporary settlement pattern in Finland had already evolved in the Middle Ages, although a large part of the inner and northern regions of the country still remained without permanent settlement at the end of that historical period (Orrman 1999: 375). The colonising of Finland and the settlement spread during and after the Middle Ages was initiated and steered by numerous circumstances.

One common way to cope with a rising population pressure in economies based on agriculture is to push the agricultural frontier into less favourable areas. Solantie (1988, 1992) presents an interesting study concerning the spread of settlement and its relation to the general climate conditions in Finland and climate fluctuations since 500 A.D. He uses the risks and expected frequencies of crop failure with field rye in connection with frosts in the vegetative season and problems during wintering.

During warmer periods the population in already settled areas grows and the harvest per capita decreases, which builds up a population pressure in relation to the resources. When the climate cools down, the harvest per capita decreases even further. This can lead to a direct population decrease *in situ*, through famine and disease, or to a push into agriculturally less favourable areas in order to increase the total production, albeit at the cost of a decreasing marginal product.

The findings of Solantie, presented in Figure 4, illustrate the spread of settlement in Finland until the mid-sixteenth century. Solantie (1988: 9) states

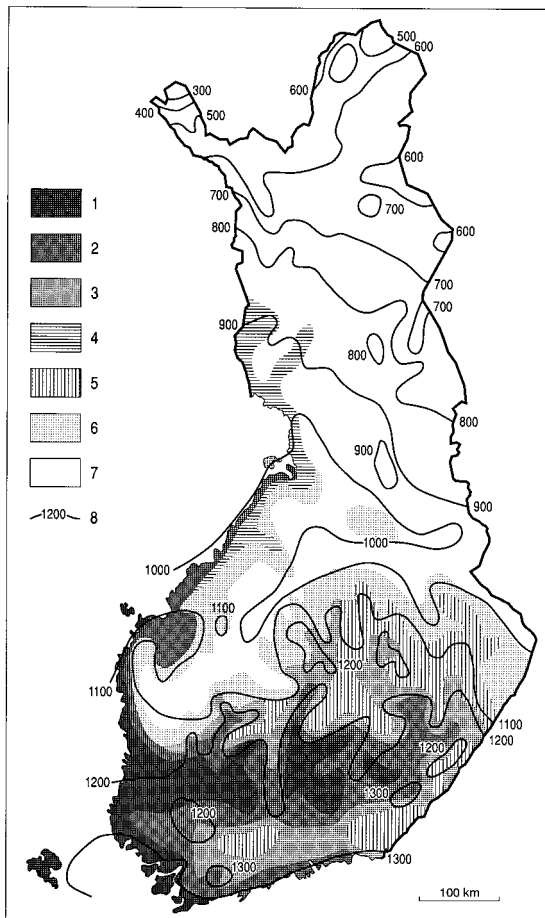


Fig. 4. Effective temperature sum during the growing season 1931–1960 and settlement spread in Finland from the beginning to the middle of the sixteenth century. (1) Zone with most favourable climate and longest continuous settlement history (except some archipelago areas); (2) Zone with favourable climate. Received permanent settlement in 1080–1500; (3) Old wilderness hunting lands, colonised in 1250–1500; (4) Oldest settlement area within the middle boreal zone, colonised in 1250–1500; (5) Area within the southern boreal zone, colonised in 1400–1540 using burnbeat rye; (6) Young wilderness hunting lands on the limit of grain cultivation. Hunting remained important for a long time. First colonisers in 1540–1560; (7) Area unsuitable for grain cultivation. Mainly colonised during a warmer period beginning in the mid-eighteenth century. Sporadic colonisation in the sixteenth and seventeenth centuries; and (8) Effective temperature sum (compiled from Helminen 1987: 9 and Solantie 1992: 91).

that the areas permanently settled already in the Merovingian period (600–800 A.D.) and Viking times (800–1050 A.D.) had a crop failure risk of less than ten percent. The largest villages were to

be found in places with a risk probability below five percent. Some exceptions notwithstanding, the overall picture is that settlement based on agriculture gradually spread from these hearth areas, reaching the limits shown in Figure 4 by the mid-sixteenth century.

Naturally, such factors as soil conditions, improvements in production methods, and the Crown's settlement policies had a role to play as well. During the time span presented in Figure 4 periods of faster and slower spread occurred. Two of these periods deserve closer attention here, as their influence is still clearly present in the population and settlement structures of Finland.

### The arrival and impact of the Swedes

The ethnic territory, consisting of a number of geographically separate regions along and outside the southern and western coasts of Finland, called *Swedish Finland* (see Raento & Husso 2002: CD-Fig. 1), began to take shape in the twelfth century. The main inflow of settlers evidently occurred during the thirteenth century, probably with a continuation into the fourteenth century in some places. Since that time the regional entities comprising this territory have remained surprisingly intact regarding width and borders, although the population living within these borders has undergone major shifts in favour of Finnish-speaking Finns, especially in the south, during the last fifty years (Westerholm 1999a: 283–284).

Solantie (1999: 87–89) connects the Swedish colonisation of the coastlands with a deteriorating climate in Scandinavia during the first half of the twelfth century and again in the beginning of the thirteenth century. These climatic downturns would then have initiated an emigration eastward to Finland, from regions in Sweden that had become overpopulated during an earlier warmer period in 1080–1105. Whether the connection between the climate and the Swedish colonisation was as direct as Solantie suggests is hard to determine, but the fact remains that a population pressure had developed in the central settlement area of Svealand already during the late Viking and pagan eras, and that this process continued forcefully from the eleventh century onward. This initially led to a colonisation of marginal lands in the Mälaren Valley. After this interest was turned toward more distant lands suitable for colonisation, for instance in the provinces of Västmanland, northern Uppland, and Dalarna (Meinander 1983: 241).



The settlement expansion in the beginning of the second millennium coincided with major social changes. The Kingdom of Sweden was emerging from a long period of unrest and struggles between competing factions aiming for power positions, struggles that with a varying intensity continued into the thirteenth century (Gallén 1998: 50). At the same time Christianity, in the form promoted by the Roman Catholic Church, was taking an ever-firmer grip on society, changing both old customs and the social fabric. Agricultural production based on large holdings using farmhands and slaves fell apart. Bondsmen families left and established their own farms. A growing number of freed slaves added to the number of potential colonisers. "Forests were cut down and cleared, a mass of new settlements, fields and grazing lands were established between the years 1000 and 1200," writes Maja Hagerman (1996: 222; the author's translation from Swedish). Obviously a part of this pioneer spirit was directed toward Finland. This settlement expansion also included the coastlands of north-western and northern Estonia (Hoppe 1993; Westerholm 2001).

Certain *push factors* favouring emigration across the Gulf of Bothnia and the Åland Sea can thus be easily identified, but what about the *pull factors*? What were the circumstances that attracted colonisers and enabled them to settle down on the other side of the sea without running into serious conflicts with the original population? The main reason for this was that the coastal and archipelago areas of Finland were more or less void of settlement and population at the time. Any Finnish settlement was very sparse and much of the coastal zone was used only seasonally, by people from settlements located further inland. The reasons for the sparse Finnish presence on the coast have been debated and several explanations have been suggested (Kaukiainen 1980: 45; Orrman 1999: 380). One reason for the sparseness of settlement could have been harassments caused by plundering seafarers sailing the water routes that ran parallel with the coast during the Viking era (Meinander 1983: 232). Sometime these plunderers even ventured along the lake and river waterways all the way into southern Tavastia (Häme) (Orrman 1990: 210) about one hundred kilometres north of present-day Helsinki. Southern Häme was already a central settlement area during the Iron Age and was an important fur centre in early medieval times. The existence of sparsely populated areas along the

coasts most probably constituted one central pull factor.

Another pull factor originated from the ongoing land uplift. An increasing amount of available agricultural land rising from the sea must have attracted land-hungry potential colonisers from the overcrowded central districts of Sweden. The colonisers were familiar with the light Litorina clays and silts of coastal Finland, but they could not tackle the heavy glacial clays further inland (Tikkanen & Oksanen 2002: CD-Fig. 4). The Litorina clays thus restricted the extent of penetration of the Swedish settlement further inland, despite the more fertile inland glacial clays (Orrman 1987: 177–188, 1999: 380).

The overseas colonisers followed in the footsteps of an expansion of a larger dimension and fundamental meaning, namely that of Christianity and the Roman Catholic Church. The first crusade to Finland, organised by the Swedish Crown, took place in the 1150s. One purpose of this military invasion was to consolidate Christianity in south-western Finland. The Swedes undertook two additional crusades during the following century: one in the late 1230s in order to pacify the Tavastians, who were showing signs of turning back to paganism, and another to Karelia in the late 1290s.

These Swedish military operations in Finland during the twelfth and thirteenth centuries were also a part of an evolving competition for regional hegemony in the north-eastern part of the Baltic. This struggle continued in the form of different alliances and constellations well into the twentieth century. In the beginning, mainly Sweden, Denmark, Novgorod, and the German Knight Orders participated in this struggle (Koczy 1936: 15–17). From Sweden's point of view, the Novgorodian military expeditions against the Tavastians, who in turn frequently went on forays into Novgorodian territory in Karelia, were especially troublesome (Sundberg 1999: 59). Swedish supremacy in Finland was challenged, which called for countermeasures in the form of military interventions.

These events had an immense impact on the future of Finland in many ways. By becoming a part of Sweden, Finland also became a part of the western cultural hemisphere in Europe. The significance of this for the political and juridical development of Finnish society was enormous. From the point of view of settlement, the Crown's attempts to enhance the economy by broadening

the tax base and securing the eastern border of the kingdom were important (Jutikkala 1963: 97). In order to reach these goals the Crown encouraged colonisation, both around existing settlements and into the “wilderness” close to the border. The Crown granted tax reductions to colonisers and supported them when they got into conflict with people who for centuries had seasonally used the newly colonised areas for hunting, fishing, and other activities and who thus considered themselves to be owners of these *wilderness hunting lands* (in Finnish, *erämaa*) (Jordan & Kaups 1989: 49; Pitkänen 1994: 31). This kind of crown-supported settlement expansion in Finland began in the fourteenth century and continued in various forms for centuries (Jutikkala 1963: 94–99; Jokipii 1992: 5–9).

Becoming a part of Sweden also exposed Finland to Swedish laws concerning land organisation and division in the villages. These concepts date from the Middle Ages to the implementation of the first enclosure, or *Great Partition*, in the eighteenth and nineteenth centuries. These legal measures had a marked effect on the morphology and land use of the villages and hamlets and, thus, on local settlement structures, especially in the most integrated parts of Finland in the south and southwest (Helmfrid 1976: 35; Roeck Hansen 1998, 1999). Being a part of the Swedish Kingdom also guaranteed the existence of free peasants with a voice both in Parliament and local jurisdictions.

### The Savonian expansion

Until the beginning of the fifteenth century the inner parts of Finland north of 61°30'N were more or less without permanent agricultural settlement, and even south of that line large areas were very sparsely populated. The major relatively densely populated areas during the Middle Ages were the shores of Lake Ladoga and the Karelian Isthmus (Karelians), the coasts in the south and southwest and the river valleys of Ostrobothnia (Swedes and Finns), and southern Tavastia (Häme) to the eastern shores of Lake Päijänne (Tavastians) (Jokipii 1992: 6). In the north, though obviously further south than today, Sami families pursued a nomadic life of gathering, fishing, and hunting (Magga 1999: 127).

During the Viking era a few Tavastian settlements had already been established far to the east, close to the Karelian settlement area. These easternmost Tavastian settlements were relatively

weak and gave way to the Karelians, when they began to enlarge their settlement area westward and northward, probably with the endorsement of Novgorod. This expansion began during the eleventh century. Solantie (1988: 89) also connects the Karelian expansion with periods of deteriorating climate. Jordan and Kaups (1989: 45) suggest that the lucrative fur trade was behind the expansion. The traditional settlement area around Lake Ladoga had been overtrapped and in order to continue the trade the Karelians had to acquire new lands. Be this as it may, the fact remains that during the first century of the second millennium Karelians entered lands traditionally used by Tavastians as wilderness hunting areas, and in time the Karelian culture in the new lands transformed into what today is recognised as Savonian culture. The expansion gathered pace and during the sixteenth century the frontier advanced by three hundred linear kilometres in only three quarters of a century. In time the reach of this expansion became very extensive. As Jordan and Kaups (1989: 46) put it, “On Ladoga’s far shore, a pioneer culture that would touch America sprang into motion.”

The Savonian expansion was steered by the routes of watercourses and the state of affairs along the often quite diffuse and conflict-prone border between the territories of Sweden and Novgorod/Russia. For example, the settlements around Lake Oulujärvi were wiped out during the 25-year war in 1570–1595 (Rikkinen 1980: 53) (cf. CD-Fig. 1A & 1B). The expansion was a complex process based on general governmental settlement policy and personal decisions – for instance, in order to evade rising taxes one could “disappear” into the wilderness (Soininen 1961: 212).

The Tavastians themselves were generally not willing to undertake the colonisation of their wilderness hunting areas, despite support from the Swedish Crown (Jutikkala 1963: 98). The Tavastians were field cultivators dependent on the existence of sorted fine sediments, clays, and silts. These become scarce going north and east from the traditional settlement area of the Tavastian in southern Häme (Orrman 1999: 378). The Tavastians also practised burnbeat techniques in deciduous or mixed forests, a method called *normal kaski* (normal burnbeat), but they lacked the knowledge of how to burnbeat in coniferous forests growing in moraine lands. The Karelians, the ancestors of the Savonians or the Savo-Karelians, as Jordan and Kaups (1989) call them, possessed



this knowledge. They had obviously adopted the *huuhtakaski* method from neighbours to the east (Kaukiainen 1980: 71) (for a description of the method, see Jordan & Kaups 1989: 40–43 or Aarnio 1999: 75–80). This knowledge enabled them to spread further into the taiga clearing shifting plots preferably in spruce forest.

It has been verified that Karelians were present in the area around today's city of Mikkeli already in the twelfth century (Orrman 1999: 378). When the colonisation in the southern parts of the Savo region was completed and the settlement became denser, a push northward was launched in the fifteenth century (Kaukiainen 1980: 34–35). During the sixteenth century the pioneer front advanced rapidly and even reached the lake district in Central Ostrobothnia and the coastal zone of northern Ostrobothnia. There was also a push to the north and northeast reaching into the region of Kainuu. The immensely expansive character of the Savonian culture is shown by the fact that Finland soon grew too small for these slash-and-burn cultivators (Kaukiainen 1980: 37). At the end of the sixteenth century a new Savonian frontier was opened in Sweden proper when Savonians, with the blessings of the Crown, in 1580–1680 emigrated to the “virgin” coniferous forests in central and northern Sweden (Jutikkala 1963: 99, Jordan & Kaups 1989: 44). In some parts of *Finniskogen* (*Finnforests*) in Sweden, the Savo-Karelian culture and the use of the Savo dialect of Finnish lived on into the second half of the nineteenth century (Bladh 1955: 314).

From a settlement point of view the Savonian expansion has left a heavy stamp on both the landscape and culture of Finland (see Raento & Husso 2002: CD-Fig. 5). The Savonians opened up the wilderness and established a structure, albeit a very sparse one, from which a growing population could spring into the adjacent wilderness. The pioneer spirit, an inherent part of the Savonian and Karelian culture, could still be felt as late as in the 1940s, when a part of the population from the areas ceded to the Soviet Union after World War II had to be resettled in forestlands formerly not touched by a plough.

## Settlement consolidation and social reforms

The seventeenth and eighteenth centuries brought many hardships to Finland, mainly due to seem-

ingly endless conflicts between Russia and Sweden. Conscriptions took a considerable part of the young male population to the battlefields around Europe, from which only a lucky few returned. In the eighteenth century the Russians devastatingly occupied Finland for several years, in 1714–1721 (Great Wrath) and 1742–1743 (Little Wrath). Epidemics and famines also took their toll. For instance, a severe famine accompanied by diseases killed a very high proportion of the population in 1695–1697, and many farmsteads were abandoned (Jaatinen et al. 1989: 56). These farms, however, soon got new occupants, who came from a steadily growing and landless rural population.

In spite of these adversities the population continued to grow. The settlement pattern became denser and the agricultural frontier continued to push slowly northward, a process that continued long into the twentieth century (CD-Fig. 1A & 1B). The growing population pressure also called for several administrative decisions in order to enable the rural population to sustain itself.

Since 1694 some kinds of crofter farms had been established in Finland when a new military organisation, based on soldier crofts upheld by the local peasantry, was introduced. By 1740, the government's decision to allow crofter or tenant holdings on land cleared on mires and other “wastelands” belonging to peasant farmsteads (Gylling 1909: 110) would, however, have a marked effect on the local and regional settlement development for a long period of time. Before that crofts had only been allowed on manor and other land holdings belonging to the gentry.

The crofter reform of 1740 resulted in a settlement dispersion locally and regionally, as formerly landless families established tenant farms on marginal lands. Population pressure forced the landless population to carve out an existence in areas earlier considered to be more or less uninhabitable. For instance, in the archipelagos even some of the most remote, almost barren islands and skerries housed tenant fishers during the latter half of the nineteenth century.

The number of tenant farms grew rapidly, especially in the southern and central Finland (Jokipii & Rikkinen 1992: 10). In 1738, the total number of tenant farms was only 2,247 (Gylling 1909: 72). By 1805 the number of crofters had grown to 25,394 (Gylling 1909: 220), from which it grew to 67,083 in 1901 (Jutikkala 1963: 514). The last number includes holdings of a miniscule

size, as does the official number of holdings (96,167) on tenant land in 1910 (STV 1919: 221–222). The numbers reveal, however, that the number of people not owning the land they tilled was growing fast and began to constitute a severe social problem by the end of the nineteenth century. In fact, the situation of the rural landless population was one cause of the civil war in 1918 (see Alapuro 1988; Ylikangas 1993).

The landless and deprived rural population constituted a problem that the government made efforts to solve during the 1920s and 1930s. A law passed in 1918 gave tenant farmers, or crofters, the right to buy the land (max. 20 hectares arable land) they had been cultivating. The crofters were also given the right to buy up to 20 hectares of forestland. Some 90,000 tenants used this right before 1940 (Jutikkala 1963: 462). In 1924, *Lex Kallio* allowed the acquisition of land for completely new homesteads, even through expropriation. The aim was to place some of the dependent lodgers in the countryside on farms and holdings of their own. This law resulted in 13,553 new homesteads and 8,414 smaller holdings (Jutikkala 1963: 466). *Lex Kallio* was continued in the settlement laws of 1936 with the aspiration to create economically sustainable farms and in that way improve the living conditions in rural areas. In 1922 a law on the settling of state-owned forestlands was passed in the Parliament. The combined result of these settlement laws was a huge number of new, small independent farms.

The law granting the right to crofters to buy their land did not change the settlement pattern notably, as these holdings had already existed as tenant farms. The other laws established rural settlements in formerly more or less uninhabited places, making the net of rural settlement denser and wider than earlier.

## Re-settling refugees in the 1940s and 1950s

After World War II Finland ceded a large part of Karelia and the Petsamo corridor to the Soviet Union. The Porkkala peninsula, located thirty kilometres west of Helsinki, was leased to the Soviet Union for fifty years, but was returned to Finland in 1956. The population of the ceded areas was evacuated across the new borders. 423,300 refugees, 11 percent of the total population of Finland at the time, had to be resettled, and Finland

lost 15 percent of its cultivated area (Talman 1987: 225). Of the refugees, 55 percent were farmers and their families. Ceded Vyborg, with its 72,680 inhabitants, was the second-largest city in Finland in 1939 (STV 1941: 15). The urban refugees raised the number of inhabitants in several cities. The rural refugee population was dispersed mainly throughout the southern half of the country.

After the war a law on land acquisition was passed in the Parliament. According to this law, land was distributed first of all to the refugees and front soldiers. The right to receive land also included war invalids and widows, war orphans, and farmhands who had lost their positions as a consequence of the war. The main part of the land area used for this purpose, 73 percent, was either state-owned or owned by other public or private organisations, such as municipalities, parishes, and foundations. Twenty-one percent was taken from independent farmers, mostly from farmsteads with more than 25 hectares of arable land (Palomäki 1960: 150). In northern Finland state-owned forests were set aside for the establishment of *cold farms*, that is, farms cleared in areas where fields did not exist prior to the post-war settlers' arrival (Talman 1987: 226; Häkkinen 2002). Altogether some 16,000 cold farms were cleared in Finland during the 1940s and 1950s.

Different types of holdings were the result of the land acquisition act. Not all farms were intended to be self-supporting. On some farms it was intended that the farmer could support his family by working part-time or seasonally outside the farm (cf. Kortelainen 2002). Altogether 128,434 self-supporting and 15,865 non-self-supporting farmsteads were established before the end of the 1950s. Over 2.6 million hectares of land changed owner, including land given for non-agricultural purposes (for instance, to veteran housing in the outskirts of urban settlements) (Palomäki 1960: 151). One common feature of the laws between 1918 and 1944 favouring the creation of new independent farmsteads was that they, for the most part, generated farms too small to survive future challenges. The average size of a former crofter farm was only 4.8 hectares of arable land (Jutikkala 1963: 462), while a self-supporting farm established after World War II had an average size of 53.8 hectares (including forest areas). The non-self-supporting farms averaged 20.9 hectares (Rikkinen 1992: 16).

The numerous new farms of the twentieth century filled still-existing gaps in the net of rural set-

tlement. At the same time a ticking demographic time bomb was set in the countryside. The detonation of this bomb would change Finland dramatically during the latter half of the twentieth century.

### Contraction and concentration – settlement change from the 1960s onward

Freedom of trade, granted in 1879, made possible the emergence of new small-sized trade and manufacturing centres around the country. Gradually public service functions dispersed to the rural municipalities. The supporting activities needed by a mechanising agricultural production attracted private services and enterprise to the central nodes of municipalities, which in many places began to grow from the 1920s onward. Centres also evolved around larger sawmills and other manufacturing activities using local resources. Traffic communities sprang up at intersections in the expanding railway and highway networks. Through the development of communications and an economy dominated by various service functions, a settlement pattern based on functional regions surrounding larger population centres slowly evolved. This functionally based regional structure with an uneven population distribution gradually substituted the historical structure formed by a relatively evenly dispersed rural settlement. This process can clearly be seen in the map series of Schulman (1999: 135) (CD-Fig. 2).

The initial phases of the urbanisation process in Finland were slow. The urban population surpassed the rural population in numbers as late as in 1960 in Finland, while in Sweden the urban population already outnumbered the rural inhabitants in the early 1930s. The workforce employed within manufacturing did not surpass the agricultural workforce in Finland until 1967 (Hustich 1977: 215).

From the 1960s onward the pace of urbanisation in Finland has, however, been among the fastest in the western industrialised world. Today over 80 percent of the population in Finland dwells in densely built areas. Even in Lapland the share of the urban population exceeds 70 percent.

Several articles in this special issue of *Fennia* touch upon the economic and social restructuring that began in Finland in the 1950s and initiated what has come to be called the *Great Move*

(Antikainen & Vartiainen 2002; Häkkinen 2002; Kortelainen 2002; Tykkyläinen 2002). In the 1960s, several economic and social trends coincided and resulted in an accelerated concentration of population on all regional levels. The mechanisation of forestry and farming led to a diminishing demand for labour in the countryside at the same time as the baby boom generations reached adulthood, increasing the supply of labour. Employment opportunities in the home region were almost nonexistent, so a substantial number of the baby boomers moved away to find work elsewhere. Manufacturing in Finland was unable to employ all these migrants. The emigration to Sweden thus grew significantly. These migration flows depopulated the countryside, but did not initially change the basic structure of the settlement pattern, as the farms were largely still active and inhabited. Fairly soon, however, the small farms established during the twentieth century proved economically unviable and many were abandoned. The abandonment was also partly a result of the aging of the initial settlers, many of whom relocated to municipal centres closer to services. In 1959, the number of farms with at least two hectares of arable land was 284,778 (STV 1968: 86). In 1979, this number was 208,080 (STV 1983: 83). This downward trend has continued and in 2000 the number of active farms meeting this criterion was only 78,434 (STV 2001: 101; cf. Häkkinen 2002). This development has had a remarkable “thinning effect” on the rural settlement pattern.

### Living close to one another in a vast space

The average population density in Finland is 17.1 persons per square kilometre if only the land area (304,473 km<sup>2</sup>) is taken into account. However, only 105,000 square kilometres are inhabited (Kauppinen et al. 1997: 8). The average density is thus 49 persons per inhabited square kilometre. Furthermore, considering that 82.3 percent of the population lives in densely built areas covering only 2.2 percent of the total land area and with an average population density of 626 persons per square kilometre, one can say that the population distribution of contemporary Finland is highly concentrated (STV 2001: 117).

This population concentration is nothing new. Since the Middle Ages the population of Finland has been concentrated in the south and southwest and the coastal zone along the Gulf of Bothnia.

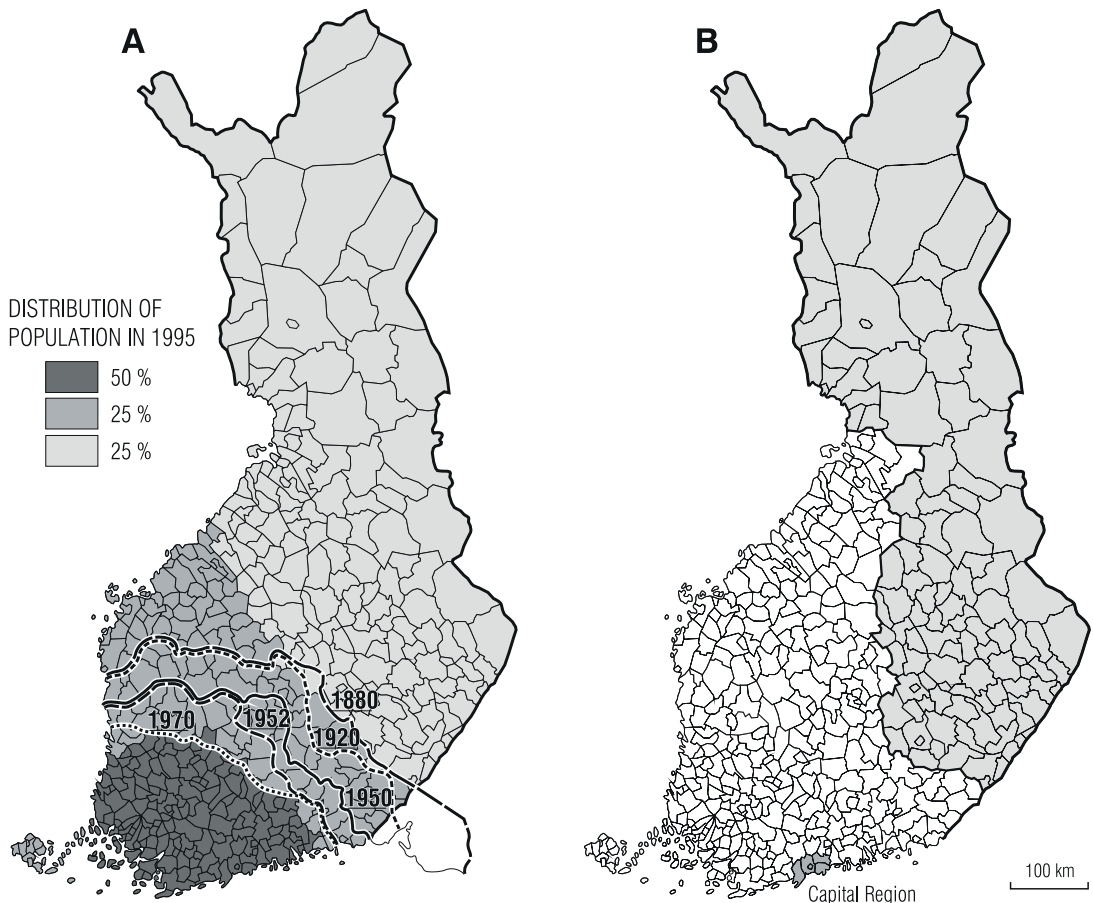


Fig. 5. Contraction of the south-western part of Finland covering 50 percent of the population from 1880 to 1995 (A) and the area of northern and eastern Finland (shaded) with a population equalling the population of the immediate Capital Region (955,748 inhabitants) in 2000 (B) (Hustich 1977: 215; Westerholm 1999b: 91; STV 2001: 78–99). For more, see CD-Figure 3.

The historical phases described above evened out the general pattern, but the population centre of gravity always remained in the south. Even during government efforts to establish new farmsteads, the area covering one half of the population kept on shrinking due to domestic migration (Fig. 5 & CD-Fig. 3).

This development has strongly favoured Helsinki and its surroundings, up to a commuting distance of about 70 kilometres. In 1950, the immediate Capital Region, consisting of the current cities of Espoo, Helsinki, Kauniainen, and Vantaa, harboured about ten percent of the total population. This share was 18.5 percent in 2000 (STV 2001: 35). The fast development within information technology and the increasing importance of

foreign trade and external relations after Finland joined the European Union in 1995, have again accelerated domestic migration. A substantial share of these flows is directed toward the Capital Region, but also toward other university cities or urban districts, such as Oulu, Jyväskylä, and Tampere. The concentration of the population thus continues. This time the flows consist largely of well-educated persons in contrast to the Great Move period. The know-how needed in an internationally integrated, high-tech economy thus keeps concentrating regionally (Havén 2002: 7; see Antikainen & Vartiainen 2002; Husso & Raento 2002: CD-Fig. 2; Mikkonen 2002), a fact that most certainly will affect future population and settlement structures.

## An uncertain future

### Prognoses

The population potential and demographic development of Finland has been discussed by academics for more than a century. Zachris Topelius (1818–1898), professor of history at the University of Helsinki and one of the great literary icons in Finland, suggested that Finland could feed a population of 16 million, of which 14.4 million would find their livelihood within the primary sector. Johan Evert Rosberg (1864–1932), the first professor of geography in Finland, estimated that the potential field area of Finland could sustain between 8 and 9 million people. Taking into account all the other sectors of production, Rosberg concluded that Finland could maintain close to 15 million people in a perspective of two to three hundred years (Hustich 1959: 10). Both of these calculations were based on the assumption that Finland would be unable to compete in the world market of manufactured products with already industrialised larger countries. The population development in Finland would therefore continue to depend on agriculture's capacity to employ and feed. This opinion concerning Finland's inability to industrialise in any foreseeable future was deeply rooted. Even as late as in the beginning of the 1930s, a committee appointed by the government recommended a continuation of the colonising activities with a reference to Finland's weak ability to employ people within manufacturing (Jutikkala 1963: 466). History has proved this opinion wrong. Finland industrialised her economy rapidly after World War II and soon a considerable part of the population was engaged within manufacturing. In spite of this and the rise of the service sector as an employer, the present estimates of Finland's future population are much gloomier than those presented by Topelius and Rosberg.

The sun will set on the last Finn in year 3702 according to Statistics Finland (Karlsson 1992: 46). This prediction is based on decreasing fertility rates and a continuously aging population (Fig. 6). When Finland became independent in 1917 the mean age of the population was 28 years. Today it is 43 years. The general fertility rate [live births per thousand women in childbearing age (age 15–49 years) per year] was 46.6 in 2000. In 1950, it was 92.9 and in 1990, 52.1 (STV 2001: 139). The average number of children born to a

Finnish woman during her lifetime is now down to 1.7, which is fairly high in a European comparison (STV 2001: 588).

The nativity in Finland still does not, however, guarantee even a population of the present size in the long run, especially since the average age of women having their first child (today 28 years) continues to rise. This will lead to diminishing numbers of children in the future. Today the annual number of live births still exceeds the number of deaths by about 7,500. This is due to a low mortality rate and a rising average life span among both sexes. The situation will most certainly start to change in a not too distant future, when the baby boom generations grow old. In 2000, men born in 1945–1950 had a life expectancy of 23.2–27.3 years while the number of remaining years for women in this age group was between 28.1 and 32.7. According to Statistics Finland (SVT 2001: 9), the number of deaths will consequently exceed the number of childbirths by 715 in 2024 and the gap will widen rapidly after that – to 8,158 in 2030. The population growth will turn negative in 2027, resulting in a population of no more than 5,290,563 persons in 2030, which is only about 100,000 more than today. According to this prognosis the population of Finland will reach its maximum in 2025 when the number of inhabitants is estimated to be 5,318,236.

A prognosis made by Kela (The Social Insurance Institution of Finland) in 1993 states that the population size will begin to decrease in the 2020s and will be only 4,988,108 in 2030. This trend will continue and, according to this prognosis, Finland will have a population of only 4.5 million inhabitants in 2050 (Väestöennuste... 1993: 7). These diverging numbers show how difficult it is to make population prognoses. The prognoses made by Statistics Finland during the last thirty years have usually proved to be too pessimistic (SVT 2001: 13–14). The main reason for this has been the difficulty in estimating future migration flows between Finland and the rest of the world.

### Population and settlement structures in the periphery

In step with growing foreign trade, Finns have become increasingly dependent on foreign resources. Imports of raw materials and foodstuff are today a necessity if current living standards are to



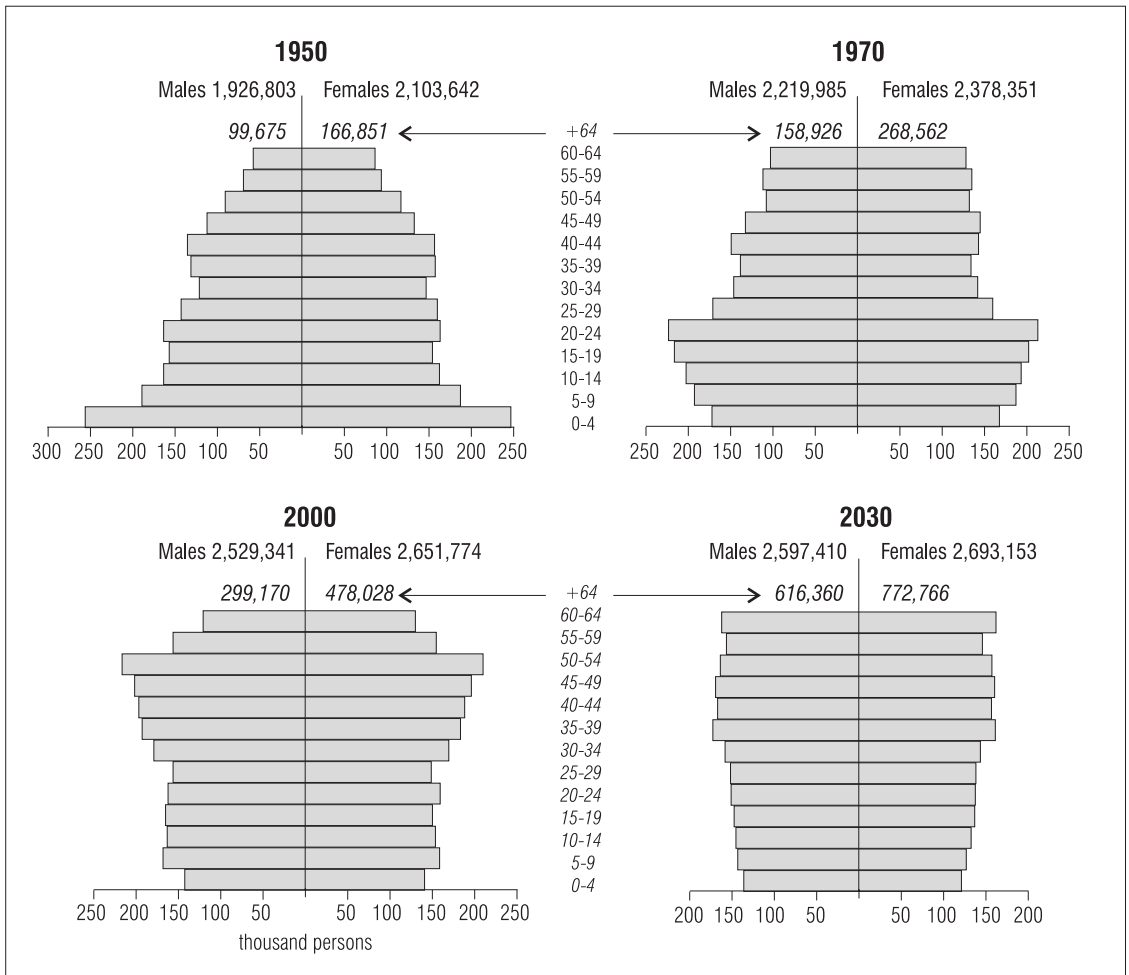


Fig. 6. Population age structures in 1950, 1970, and 2000, and a prognosis for 2030 (SVT 1956: 49; 1973: 53; 2001: 20-29).

be maintained. The population size and distribution of Finland must thus be evaluated in an international context, where national boundaries play only a secondary role. Never before has the economy of Finland been as integrated internationally as it is today. This fact links the population development and the settlement patterns of the country to the population development and distribution in Europe, which in turn is regionally organised around the demographic core in north-western Central Europe.

Southern Finland is located some two thousand kilometres away from the demographic, economic, and administrative core of Europe. In spite of

its peripheral location Finland has a well-educated population with a high vocational proficiency. When Finland joined the EU in 1995, a large new labour market was opened for the Finnish labour force to explore. Today Finland has to compete in the international labour market, even though in the near future, all things unchanged, the country will suffer from a severe shortage of labour.

The share of persons over 65 years old will rise from today's 15 percent to 26 percent by 2030. This means that there will then be 80 percent more people belonging to this age group than presently (Fig. 6). The share of people on the job

market (aged 15 to 64 years) will simultaneously decline from 67 percent to 59 percent. The working population will begin to decrease in 2010 when the first baby boom generation reaches the official retirement age of 65 (SVT 2001: 10). The common practise of retiring before that will, however, start to decrease the work force even earlier. Statistics Finland predicts that the work force will be 370,000 persons smaller in 2030 than today's 3.5 million persons.

Urbanisation has clearly left a mark in the settlement structure, both regarding the regional pattern and the population composition. Many an agricultural village has lost its population almost completely, and small hamlets and towns, earlier serving a more populated countryside, have been losing inhabitants at a rather constant rate for many years. At the same time the remaining population in the depopulating areas has grown older. The share of persons at least 64 years old is over 22 percent in many of the municipalities located in the zones demarcating functional regions of major urban centres. In Ostrobothnia and Lapland the share drops below this mark in some municipalities because of a traditional, culturally induced (religious) high nativity (cf. Raento & Husso 2002: CD-Fig. 4). In these municipalities a pool of migrants is continuously maintained, while the absolute migrant flows from peripheral areas in other regions will eventually fade out, due to lack of potential migrants.

The difficult demographic situation in a large part of the country is clearly reflected also in the gender balance distribution. Women are more active migrants than men, which has led to a situation where the number of women aged 20–39 years equals the corresponding number of men in only a few municipalities, in some urban centres, and adjacent rural municipalities (STV 2001: 36). The chances of population recovery through natural reproduction is thus out of the question in most parts of the country.

In any given realistic scenario, the population of Finland will continue to concentrate regionally and the permanent settlement pattern to thin out in the peripheries. Only a major change in the operational environment, affecting considerably larger areas than Finland, can in reality turn the development in another direction. One has to remember, however, that there will always be a place for agriculture, albeit most certainly of another structure and character than today, even in the peripheral northern and eastern parts of Fin-

land (Häkkiä 2002). Furthermore, the seasonal population consisting of tourists and summerhouse owners, who in many areas double or triple the population during the vacation seasons, will support a certain amount of permanent settlement and population connected to various service functions. The 456,706 summerhouses in Finland (Skoglund 2002: 13) make the rural landscape seem inhabited and, in many areas, have turned this landscape from a production landscape into a predominantly leisure landscape (see Vuoristo 2002: CD-Fig. 6). The fact that Finland still to a considerable degree relies on the wood processing industry and the metal industry as engines of prosperity will maintain communities and population centres outside the regionally restricted national core area (cf. Kortelainen 2002: CD-Fig. 2). Centres of higher education located outside the national core area will also help to maintain settlement. This does not, however, solve the fundamental demographic problems that will torment Finland in coming decades, if decisive measures to solve them are not taken.

### Future challenges

The interwar governments of Finland had to deal with problems connected to an "overpopulated" countryside. The governments of today and tomorrow face two demographic problems of an acute nature. The first one concerns measures needed to keep well-educated people in the country in order to maintain the competitive edge in the world market of technological products and services. Rising numbers of well-educated emigrants were recorded in the latter half of the 1990s (Kultalahti & Karppi 1999: 170). The second problem has to do with an aging population that will need more and more social and health services. This will require continuously increased employment within these sectors in the future. Presently Finland suffers from an outflow of medical personnel to countries like Britain, Norway, and Sweden. This emigration is triggered by lower wages and general working conditions within this sector in Finland.

A solution to both problems lies in an active and partly selective immigration policy. The age structure of the country cannot be corrected, nor the future demand for labour satisfied, without increased immigration. The above-mentioned pessimistic population prognosis of Statistics Finland assumes that the annual migration balance will

remain unchanged, generating an annual surplus of only 5,000 persons. The immigration numbers have risen during the last decade, but the skill structure of the immigrants has failed to meet the demand structure on the labour market, causing social problems (see Raento & Husso 2002: Fig. 3, Fig. 4 & CD-Fig. 11). A more active policy could correct this and ensure stable positive population development.

Today immigrants and refugees comprise a considerable part of the population growth. In the future they alone will build up the growth potential of the population. Increased immigration will certainly strengthen the already densely populated areas of the country, especially the Capital Region, which is also the part of the country most integrated with international economic and social networks. The prognosis of Statistics Finland (SVT 2001: 32–33) is that the population of the southernmost regions Uusimaa and Itä-Uusimaa, even with an unchanged net migration, will grow by 223,128 persons in 2000–2030.

To keep the educated work force in the country and to attract skilled personnel from abroad, environments that favour entrepreneurship (including large international stock exchange companies) and offer high-quality living conditions must be strengthened. There are only a restricted number of localities in Finland where these conditions can be met, today or in the future, namely, the larger urban districts. These are able to offer competitive cultural services, housing, and communications of an international standard. To ensure this future regional politics in Finland will have to pay even more attention to the operational preconditions of urban centres and districts.

The pattern of permanent settlement in present day Finland is, after centuries of dispersion, contracting towards a pattern familiar already from the early Middle Ages. The seasonal influx of tourists and summerhouse occupants during the winter and early spring to Lapland, and during the summer to the rural areas in the south, could be compared to the seasonal hunting expeditions of the Karelians and the Tavastians to the inner wilderness and archipelagos of Finland during the Middle Ages. The future development of this settlement structure of permanency and seasonality largely depends on events and trends in the international environment and Finland's role in this environment.

## REFERENCES

- Aarnio J (1999). Kaskiviljelystä metsätöihin. Tutkimus Piellisjärven kruununmetsistä ja kruununmetsätorppareista vuoteen 1910. *University of Joensuu, Department of Geography, Publications 4*.
- Alapuro R (1988). *State and revolution in Finland*. University of California Press, Berkeley.
- Antikainen J & P Vartiainen (2002). Finnish districts and regional differentiation. *Fennia 180*, 183–190.
- Atlas of the settlement in Finland in the 1560s* (1973). Historical Society of Finland, Forssa.
- Atlas öfver Finland* (1899). Sällskapet för Finlands Geografi, Helsingfors.
- Bladh G (1999). Finnskogens landskap och människor under fyra sekler – en studie av natur och samhälle i förändring. *Meddelanden från Göteborgs universitets institutioner B 87*.
- Edgren T (1999). Alkavan rautakauden kulttuurikuva Länsi-Suomessa. *Bidrag till kännedom av Finlands natur och folk 153*, 311–333.
- Gallén J (1998). Finland i medeltidens Europa. Valda uppsatser. *Skrifter utgivna av Svenska litteratursällskapet i Finland 613*.
- Gylling E (1909). *Suomen torpparilaitoksen kehityksen pääpiirteet Ruotsinvallan aikana*. KF Puumies, Helsinki.
- Hägström N, L-E Borgegård & A Rosengren (1990). *När finländarna kom. Migrationen Finland-Sverige efter andra världskriget*. Statens institut för byggnadsforskning, Gävle.
- Häkkiä M (2002). Farms of northern Finland. *Fennia 180*, 199–211.
- Hagerman M (1996). *Spåren av kungens män*. Rabén Prisma, Stockholm.
- Havén H (2002). Inhimillinen pääoma keskittyy muutamille harvoille alueille. *Tietoaika 3*, 7–9.
- Helmfrid S (1976). Agrarlandskapets former och utveckling. In Ahlmann HW (ed). *Norden i text och kartor*, 34–37. Generalstabens Litografiska Anstalt, Stockholm.
- Helminen VE (1987). Lämpöolot. In Alalammi P (ed). *Atlas of Finland, Folio 131: Climate*, 4–10. National Board of Survey & Geographical Society of Finland, Helsinki.
- Herberts K (1996). Svenskosterbottinsk emigration. In Herberts K, N Jokiahö & S Remell (eds). *Österbotten. Resan hemifrån hem*, 12–24. Svenskosterbottniska samfundet, Vasa.
- Hoppe G (1993). Jordbruk och landsbygd i Estland: Ett långtidsperspektiv med särskild tonvikt på landets svenskbygder. *Ymer 113*, 44–68.
- Husso K & P Raento (2002). Science policy and research in Finland. *Fennia 180*, 261–274.
- Hustich I (1959). Huru många människor kan Finland föda? *Meddelanden från ekonomisk-geografiska institutionen vid Svenska handelshögskola 17*.
- Hustich I (1972). *Finland förvandlas*. Holger Schildt, Helsingfors.

- Hustich I (1977). Suomen "kutistumisen" vauhti hiljenee. *Terra* 89, 214–224.
- Jaatinen, S, A Peltonen & J Westerholm (1989). Ålands kulturlandskap – 1700-talet. *Bidrag till kännedom av Finlands natur och folk* 137.
- Jokipii M (1992). Historiallinen aika. In Winquist S & H Ursin (eds). *Atlas of Finland, Folio 153: Settlement*, 5–9. National Board of Survey & Geographical Society of Finland, Helsinki.
- Jokipii M & K Rikkinen (1992). Maaseutuasutus. In Winquist S & H Ursin (eds). *Atlas of Finland, Folio 153: Settlement*, 9–11. National Board of Survey & Geographical Society of Finland, Helsinki.
- Jordan TG & M Kaups (1989). *The American backwoods. An ethnic and ecological interpretation*. The Johns Hopkins University Press, Baltimore.
- Jukarainen P (2002). The boundaries of Finland in transition. *Fennia* 180, 83–88.
- Jutikkala E (1949). *Suomen historian kartasto – Atlas of Finnish history*. WSOY, Helsinki.
- Jutikkala E (1963). *Bonden i Finland genom tiderna*. LT, Stockholm.
- Jutikkala E (1980). Suurten sotien ja uuden asutusekspansion kaudet. Asutus ja väestö. In Jutikkala E, Y Kaukiainen & S-E Åström (eds). *Suomen taloushistoria 1*, 147–170. Tammi, Helsinki.
- Jutikkala E (1987). Finlands befolkning och befolkan- de. *Historisk Tidskrift för Finland* 72, 351–373.
- Karlsson R (1992). Viimeinen suomalainen kuolee 3702? Hyvästi Albina. *Suomi 75. Juhlalehti jokaiseen kotiin*, 46. Yhtyneet Kuvalehdet, Helsinki.
- Kaukiainen Y (1980). Suomen asuttaminen. In Jutikkala E, Y Kaukiainen & S-E Åström (eds). *Suomen taloushistoria 1*, 13–145. Tammi, Helsinki.
- Kaukosiirtolaisuus 1870–1945* (2002). Institute of Migration. 26 August 2002. <[www.utu.fi/erill/instmigr/img/ff\\_02.gif](http://www.utu.fi/erill/instmigr/img/ff_02.gif)>
- Kauppinen J, E Rissanen, J Rusanen, T Muilu, A Naukkarinen & A Colpaert (1997). Asutus tiivistyy kaupunkien sisälläkin. *Tietoaika* 11, 8–11.
- Koczy L (1936). *The Baltic policy of the Teutonic Order*. The Baltic Institute, Torun.
- Korkiasaari J (2002). Suomalaiset maailmalla. Institute of Migration. 5 July 2002. <[www.utu.fi/erill/instmigr/art/joukork1.htm](http://www.utu.fi/erill/instmigr/art/joukork1.htm)>
- Korkiasaari J & I Söderling (1998). Finland: From a country of emigration into a country of immigration. In Söderling I (ed). A changing pattern of migration in Finland and its surroundings. *Publications of the Population Research Institute D* 32, 7–28.
- Kortelainen J (2002). Forest industry on the map of Finland. *Fennia* 180, 227–235.
- Koskinen S, T Martelin, I-L Notkola, V Notkola & K Pitkänen (1994). Väestö tutkimuksen kohteena. In Koskinen S, T Martelin, I-L Notkola, V Notkola & K Pitkänen (eds). *Suomen väestö*, 11–18. Gaudeamus, Helsinki.
- Kultalahti O & I Karppi (1999). Kansainvälisen muu- ton keskusalueet. In Westerholm J & P Raento (eds). *Suomen kartasto*, 168–171. Suomen Maantieteellinen Seura & WSOY, Helsinki.
- Maahan- ja maastamuuttaneet vuosina 1945–2001 (2002). Institute of Migration. 26 August 2002. <[www.utu.fi/erill/instmigr/fin/f\\_02.htm](http://www.utu.fi/erill/instmigr/fin/f_02.htm)>
- Maaranen P (2002). Human touch, natural processes: The development of the rural cultural landscape in southern Finland from past to present. *Fennia* 180, 99–109.
- Magga T (1999). Saamelaiset – vähän totta ja paljon tarua. In Westerholm J & P Raento (eds). *Suomen kartasto*, 126–129. Suomen Maantieteellinen Seura & WSOY, Helsinki.
- Meinander CF (1983). Om svenskarnas inflyttningar till Finland. *Historisk Tidskrift för Finland* 68, 229–251.
- Mikkonen K (2002). The competitive advantage of regions and small economic areas: The case of Finland. *Fennia* 180, 191–198.
- Nunez M (1999). Role of food production in Stone Age Finland. *Bidrag till kännedom av Finlands natur och folk* 153, 133–142.
- Orrman E (1987). Om geologiska faktorers inverkan på bebyggelsen i södra Finland mot slutet av järnåldern och under tidig medeltid. *Historisk Tidskrift för Finland* 72, 169–188.
- Orrman E (1990). Den svenska bebyggelsens historia. In Zilliacus K (ed). *"Finska skären."* *Studier i åboländsk kulturhistoria*, 197–278. Konstsamfundet, Helsingfors.
- Orrman E (1999). Suomen väestön ja asutuksen kehitys keskiajalla. *Bidrag till kännedom av Finlands natur och folk* 153, 375–384.
- Palomäki M (1960). Suomen sodanjälkeisen asutustoiminnan alueellisia piirteitä. *Terra* 72, 149–163.
- Pitkänen K (1994). Suomen väestön historialliset kehityslinjat. In Koskinen S, T Martelin, I-L Notkola, V Notkola & K Pitkänen (eds). *Suomen väestö*, 19–63. Gaudeamus, Helsinki.
- Pitkänen RL (1990). Ortnamn av finskt ursprung. In Zilliacus K (ed.). *"Finska skären."* *Studier i åboländsk kulturhistoria*, 135–193. Konstsamfundet, Helsingfors.
- Raento P & K Husso (2002). Cultural diversity in Finland. *Fennia* 180, 151–164.
- Rikkinen K (1980). Väestö ja asutus. In Rikkinen K (ed). *Suomen maantiede*, 53–68. Otava, Helsinki.
- Rikkinen K (1992). Asutus elinkeinovapauden jälkeen. In Winquist S & H Ursin (eds). *Atlas of Finland, Folio 153: Settlement*, 14–19. National Board of Survey & Geographical Society of Finland, Helsinki.
- Rikkinen K, P Maaranen & P Suihkonen (1999). Erä- taloudesta nyky-yhteiskuntaan. In Westerholm J & P Raento (eds). *Suomen kartasto*, 48–53. Suomen Maantieteellinen Seura & WSOY, Helsinki.
- Roeck Hansen B (1998). Early agrarian landscapes in Finland. *Geografiska Annaler B* 80, 187–201.
- Roeck Hansen B (1999). Land organisation in Finnish villages around 1700. *Fennia* 177, 137–156.

- Sandlund T (1982). Social structure and social mobility. A study of the Swedish population in Finland 1950–1975. *MOB Research Reports* 10.
- Sandlund T (1984). Finlanssvensk social och geografisk rörlighet efter andra världskriget. *Skrifter utgivna av svenska litteratursällskaper* 519, 193–224.
- Schulman H (1999). Etelän ydinalue muodostuu. In Westerholm J & P Raento (eds). *Suomen kartasto*, 134–137. Suomen Maantieteellinen Seura & WSOY, Helsinki.
- Skoglund K (2002). Mökkirakentaminen hieman vilkastunut. *Tietoaika* 2002: 7, 13–15.
- Smeds H (1960). Finland. In Sømme A (ed). *A geography of Norden*, 155–203. Svenska bokförlaget, Stockholm.
- Soininen AM (1961). *Pohjois-Savon asuttaminen Keski- ja Uuden ajan vaihteessa*. Forssan Kirjapaino, Forssa.
- Solantie R (1988). Climatic conditions for the cultivation of rye with reference to the history of settlement in Finland. *Fennoscandia archaeologica* V, 3–20.
- Solantie R (1992). Klimatperioder och Finlands kolonisering. *Historisk Tidskrift för Finland* 77, 86–96.
- STV 1919 = *Statistical yearbook of Finland 1918* (1919). Statistics Finland, Helsinki.
- STV 1941 = *Statistical yearbook of Finland 1940* (1941). Statistics Finland, Helsinki.
- STV 1946 = *Statistical yearbook of Finland 1944–45* (1946). Statistics Finland, Helsinki.
- STV 1968 = *Statistical yearbook of Finland 1967* (1968). Statistics Finland, Helsinki.
- STV 1983 = *Statistical yearbook of Finland 1982* (1983). Statistics Finland, Helsinki.
- STV 1998 = *Statistical yearbook of Finland 1998* (1998). Statistics Finland, Helsinki.
- STV 2001 = *Statistical yearbook of Finland 2001* (2001). Statistics Finland, Helsinki.
- SVT 1956 = *Official statistics of Finland, 1950 Population census, Volume I VI C 102*. Statistics Finland, Helsinki.
- SVT 1973 = *Official statistics of Finland, 1970 Population census, general demographic data, Volume I VI C 104*. Statistics Finland, Helsinki.
- SVT 2001 = Population projection by municipalities 2001–2030. *Official statistics of Finland, Population 2001: 10*. Statistics Finland, Helsinki.
- Suihkonen P (2002). The Uralic languages. *Fennia* 180, 165–176.
- Sundberg U (1999). *Sveriges medeltida krig*. Hjalmarson & Högberg, Stockholm.
- Talman P (1987). Population and settlement in Finland. In Varjo U & W Tietze (eds). *Norden. Man and environment*, 225–240. Gebr Borntraeger, Berlin.
- Tikkanen M & J Oksanen (2002). Late Weichselian and Holocene shore displacement history of the Baltic Sea in Finland. *Fennia* 180, 9–20.
- Tykkyläinen M (2002). Spatial turns of manufacturing since 1970. *Fennia* 180, 213–226.
- Väestöennuste 1992–2050 (1993). *Kansaneläkelaitoksen julkaisuja* T9 48.
- Vahtola J (1983). En gammal germansk invandring till västra Finland i bynamnens belysning. *Historisk Tidskrift för Finland* 68, 252–279.
- Vilkuna J (1999). Suomalaisuus – oppihistoriallinen näkökulma. Paper presented at the seminar “Näkökulmia suomalaisuuden tutkimukseen ja ymmärtämiseen” 8–9 April 1999. 3 July 2002. <[www.finnica.fi/seminaari/99/luennot/vilkuna.htm](http://www.finnica.fi/seminaari/99/luennot/vilkuna.htm)>
- Westerholm J (1999a). Kansa ja alue. Suomenruotsalaiset osana kansakuntaa ja valtiota. In Löytönen M & L Kolbe (eds). *Suomi. Maa, kansa, kulttuurit*, 278–289. SKS, Helsinki.
- Westerholm J (1999b). Asutus harvenee ja keskittyy. In Westerholm J & P Raento (eds). *Suomen kartasto*, 90–91. Suomen Maantieteellinen Seura & WSOY, Helsinki.
- Westerholm J (2001). Svenskestland – kustlandskap i förändring. *Sphinx* 2000–2001, 29–45.
- Ylikangas H (1993). *Tie Tampereelle 1918*. WSOY, Porvoo.