

# Basan project

## Finland's report



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# 1. Introduction

## 1.1 Present-day population growth and demographic structures

Ethnically speaking, Finland is an extremely homogeneous nation. Finland has two official languages; in 1997, 92,7% of the population were Finnish speakers and 5,7% (294,000) Swedish speakers. There are about 1700 people whose first language is Same and 20.000 whose first language is Russian. Lutherans account for 85,6% of the population, Orthodox for 1.1% (living mainly in the towns and in the easternmost municipalities) and those unaffiliated with any church 12,3% (compared with 2.7% in 1950). The number of foreigners resident in Finland has been very low, but is now growing. In 1980, there were 12,800 foreigners, with the largest numbers coming from Sweden, Germany, the United States and the Soviet Union. In 1990, there were 26,200, with Swedes remaining the largest group and Russians on the increase. According to 1996 statistics, the number of foreigners in Finland has gone up to 74,000, with Russians being the largest group (about 20% of the total) followed by inhabitants with Estonian, Swedish and Somali citizenship.

The Finnish population exceeded the five million mark in 1991. Finland's population figures increase very slowly. The contribution of natural population growth to the increase is falling and net migration is taking its place as the factor with the strongest effect on population growth. Finland, formerly a source of emigrants, is now becoming a destination for immigrants. In 1997, the birth rate in Finland was 11.5 per 1,000 (about 59,000 children a year) and the death rate was 9.3 per 1,000 (about 49,000); the natural population growth is thus only 2 people per thousand inhabitants. The birth rate and natural population growth is higher in the north of Finland than in the south.

Families with one child are the most common; they account for 45% of the 641,000 families with children. 39% of families have two children, and 4% have four or more children. In 1970, those with four or more children accounted for almost 10% of all families. Families in the north of Finland are larger than families in the south. Net immigration increased the population of Finland by 0.7 per 1,000. The contribution of immigration to population growth has increased in the 1990s. Part of the immigration consists of Finns returning from Sweden. In 1997, 13,000 people immigrated to Finland, while 10,000 emigrants left the country.

Compared with other countries in western Europe, Finland has few refugees and asylum-seekers. In the 1990s, only approximately 3,000 refugees and asylum-seekers have entered the country annually. People of Finnish descent in Russia are regarded as returning Finns. The number of refugees in Finland was about 15,000 in 1997.

Based on demographic data, it is apparent that the Finnish population is aging. This places growing demands on care of the elderly and pension schemes. The proportion of children (under 15) has dropped to 19%, from 30% in the 1950s, and the proportion of elderly people (over 64) has grown from 7% in the 1950s to 14%. The average life-expectancy of Finnish women is 80.3 years and of men 73.3. The most common causes of death are cardio-vascular diseases, cancer and respiratory diseases. Accidents account for 10% of deaths.

Finland economic structure is that of a typical urbanized country; 66% of the population were employed before the rapid increase in unemployment during the 1990s. Primary production is now a source of employment for only 7% of the population, while 28% work in industry and construction and 65% in trade and services. The 94 towns in

Finland have a total of 3.1 million inhabitants, and the inhabitants of rural municipalities are also concentrated in urban centres. A total of 5.2 million Finns, 81.2% of the population, live in urban communities.

In the 1980s and 1990s, migration within Finland has not achieved the proportions of the 1960s and 1970s. People mainly move within their home municipalities. Some 570,000 Finns (7.5% of the population) move within their municipalities each year and 200,000 (4%) move to a different municipality. Such mobility is no longer as strongly directed away from rural municipalities and towards the towns, particularly in the Helsinki area, as it was three decades ago. A balance has now been achieved.

Most of the migration between municipalities takes place between urban municipalities (99,000 people in 1996). The largest urban municipalities have lost people to surrounding municipalities due to suburbanization. While 62,000 people move annually from rural areas into the urban municipalities, the number of people moving from the towns to the countryside is not much lower, i.e. 53,000. Thus 'counter-urbanization' has also been observed in Finland during the 1990s. Some 23,000 Finns also move between rural municipalities.

The regional distribution of the population illustrates the resources available in different parts of Finland. The migration flows show people's reactions to the information available about opportunities in different areas. Finland's most densely populated and urbanized areas lie in southern and southwestern Finland. Historically, these same areas have also been the core of Finland. Finland population is, in fact, very unevenly distributed. The overall population density is 16 per km<sup>2</sup>, yet the density in the province of Uusimaa, which includes the capital, is almost 136 per km<sup>2</sup>. The population density in the other, more industrialized southern provinces is over 30 per km<sup>2</sup>, while that in the provinces of the east and north is less than 10 per km<sup>2</sup>. Lapland is the most sparsely populated province, with a population density of only 2.2 people per km<sup>2</sup>.

Uneven population distribution has had many negative effects on the development of infrastructure and the provision of services, and on raising the unit costs of diminishing minor communities. In the south of Finland, overcrowding has negative effects on both the environment and social conditions, while the declining population in sparsely inhabited areas makes it difficult to maintain even the existing economy and service facilities. For three decades now, one of the central aims of Finnish regional policy has been to achieve a more even population distribution. As mentioned above, population trends in the administrative provinces have become more balanced. This trend shows that regional policy has been successful to some extent, although its effect on real development is subject to a certain delay.

Where population policy is concerned, Finland future problems will be related to the increasing proportion of elderly people and the attendant growing demands for services, particularly when the post-war 'baby boomers' reach retirement age. New types of problems will also arise in family policy. Finding employment for people of working age is also a growing problem. Finally, Finland should strive to develop policies for immigration and refugees that are appropriate to its own conditions and in harmony with international agreements.

#### Total area:

- 338, 000 square kilometres, of which 10% is water and 69% forest;
- 187,888 lakes, 5,100 rapids and 179,584 islands;
- Europe's largest archipelago, including the semi-autonomous province of Åland

#### Distances:

- 1,160 km north to south, 540 km west to east
- Finland's land border with Russia (1,269 km) is the eastern border of the European Union

#### Climate

- The climate of Finland is marked by cold winters and fairly warm summers. In the far north of the country the sun does not set for about 73 days, producing the white nights of summer. In winter the sun remains below the horizon for 51 days in the far north.
- In summer the temperature quite often rises to +20 Celsius or more and occasionally goes close to +30 in southern and eastern parts of the country. In winter, temperatures of -20 Celsius are not uncommon in many areas. Finnish Lapland invariably has the lowest winter temperatures. The mean temperature in Helsinki in July is +17 Celsius and in February -5.7 Celsius.

#### Population

- 5.2 million, 17 inhabitants per square kilometre
- 67% live in towns or urban areas, 33% in rural areas
- Principal cities: Helsinki (555,500), Espoo (213,300), Tampere (195,500), Vantaa (178,500), Turku (172,500) and Oulu (120,800)
- About one million people live in the Helsinki metropolitan area.
- Finland has a Sami (Lapp) population of 6,500

Table 1. Population by activity

	1990	1995	1998	2000	2001
<b>Mean population</b>	<b>4 986</b>	<b>5 108</b>	<b>5 153</b>	<b>5 176</b>	<b>5 188</b>
<b>Population aged 15-74</b>	<b>3 737</b>	<b>3 839</b>	<b>3 878</b>	<b>3 901</b>	<b>3 909</b>
Labour force	2 586	2 481	2 507	2 589	2 605
Employed	2 504	2 099	2 222	2 335	2 367
Unemployed	82	382	285	253	238
Not in labour force	1 151	1 358	1 370	1 312	1 304
Labour force rate, %	69,2	64,6	64,7	66,4	66,6
Unemployment rate, %	3,2	15,4	11,4	9,8	9,1
Employment rate (persons aged 15-64), %	74,1	61,1	64,1	66,9	67,7
<b>Employed</b>	<b>2 504</b>	<b>2 099</b>	<b>2 222</b>	<b>2 335</b>	<b>2 367</b>
Part-time work	238	245	253	286	288
Full-time work	2 267	1 853	1 968	2 047	2 078
Private	1 793	1 469	1 588	1 692	1 718
Local government	482	463	480	486	497
Central government	226	162	149	151	147
Unknown	3	5	5	6	5
Self-employed persons and ass. family members	388	325	317	319	307
Wage and salary earners	2 116	1 773	1 905	2 016	2 060
Agriculture and forestry	222	170	144	142	135
Manufacturing	556	457	475	494	497
Construction	201	115	139	149	145
Trade, hotels and restaurants	395	301	339	354	357
Transport and communications	179	163	170	171	174
Activities auxiliary to financial intermediation, insurance and business services	268	228	249	287	301
Public and other services	681	659	700	732	750
Industry unknown	3	6	8	6	7
<b>Hours worked, million hours</b>	<b>4 415</b>	<b>3 719</b>	<b>3 912</b>	<b>4 019</b>	<b>4 009</b>

Source: Statistics Finland, Labour Force Survey, Last Modified: 11.3.2002

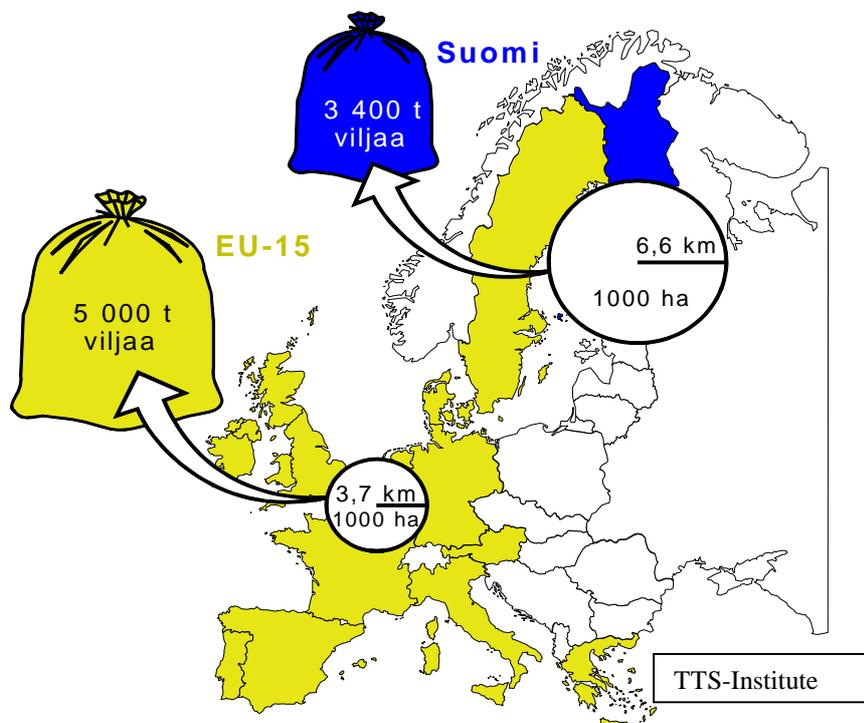
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## 2. General information on Finnish agriculture

### 2.1 Crop production in the south and cattle breeding in the north

There is agriculture all over Finland, though up in the north in Lapland this is mainly reindeer husbandry. Even if Finland lies between the parallels of latitude 60 and 70° N, farming is successful because the Gulf Stream keeps temperatures here 3° to 4° C higher than in other areas on these latitudes.

As Finland is nearly 1,100 kilometres long from north to south, there are considerable regional variations in the climate. The thermal growing season (the period with an average daily temperature of more than +5° C) varies from nearly 6 months in the south to between 2 and 3 months in the north. In Southern Finland, the growing season starts in late April and lasts until mid October. The total effective temperature sum is between 500° and 1,300° C per day, and the average total precipitation in the summer months is between 180 mm and 220 mm.



In Continental Europe, the growing season is 260 days long and in southern parts of the continent more than 300 days. This means that the 170-day growing season on our latitudes is too short for cultivars grown elsewhere. Thus, frost-resistant varieties have been developed that can absorb all the rays of daylight during our cool, short growing season. Because of this short growing season, Finnish cultivars do not yield as much as those in Central and Southern Europe. The harsh Finnish winters also reduce productivity as they restrict the cultivation of winter cereals.

In Southern Finland, the ground is covered with snow for 3 to 4 months and in Northern Finland for 7 months. In the south the soil is frozen solid for 2 to 5 months and in the north for 8 months.

The location of the different production lines and use of arable land are dictated by the climatic conditions in a particular region. Thus, most crop production farms are in the south, whereas cattle breeding is concentrated in central, eastern and northern parts. Though milk is produced all over Finland, even in the northernmost parts of Lapland, the main production areas are in Ostrobothnia, Pohjois-Savo and North Karelia, which account for more than half of all the milk produced in Finland. Pig and poultry farming are concentrated in the west and south, and most cereals come from Southern and South-Western Finland. Fodder cereals can be grown all over the country, except for the extreme north.

Table 2. Statistics of Finnish agriculture, Farms

By size of arable land area	1990	1995	2000	2001	Land use, 2001 <sup>2)</sup>	
ha	No.					1 000 ha
1-10	47 035	27 037	17 209	16 136	Arable land and garden	2 219
10-30	64 637	50 971	35 163	33 363	- rented fields	712
30-50	12 678	15 451	15 621	15 337	- arable land under cultivation	2 202
50-	4 764	6 505	10 897	11 483	Meadow and pasture <sup>3)</sup>	20
<b>Total</b>	<b>129 114</b>	<b>99 964</b>	<b>78 890</b>	<b>76 319</b>	Productive forest	3 490
					Other land	1 118
					<b>Total</b>	<b>6 845</b>
					2000	6 958
					1995	7 629
					1990	9 425
<p>The average arable land area of farms (&gt;1 ha) was 29.07 hectares in 2001.            1) Active farms.            2) Incl. 1 001 farms with under 1 hectare of arable land.            3) In 2001 only used meadows and pastures, and grazing land.</p>						

Source: [Information Centre of the Ministry of Agriculture and Forestry.](#), Last Modified: 2.5.2002  
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## 2.2 Finnish agriculture relies on family farms

In 2000 the number of active farms that received income support was 77,896, and agriculture employed almost 118,000 persons, i.e. a little over 5 % of the employed labour force. The number of people working in the food processing industry is more than 40,000, and 150,000 people work elsewhere in the food sector.

Most of the Finnish agricultural products come from family farms. 88 per cent of farms receiving support (active farms) belong to private persons and 11 per cent to estates and family enterprises. The rest are owned by cooperatives, corporations, companies, the Finnish Government, local authorities and parishes. The average age of farmers is 48 years, full-time farmers being younger than those farming part-time.

About half of the farms receiving agricultural support practice crop production as their main production line. Most of these produce cereals (72 %), a little over a fifth (22 %) cultivate other crops and the rest (6 %) practice horticulture. Dairy production is the main production line on almost 30 % of the farms. About 7 % of the farms specialise in beef production and 6 % in pig husbandry. Among the pig farms, 30 %, specialise in raising finishing pigs, 31 % in combined production and 39 % in piglet production. The shares of poultry farms and organics farms are around 2 % each. Of the poultry farms 74 % specialise in egg production, 13 % in poultry meat production, and 13 % in

breeding. About 2 % of the farms practice horse husbandry, and the shares of sheep husbandry, forestry and reindeer herding are about 1 % each.

Forest is an integral part of the Finnish farm, since 95 % of active farms own some forest. In Finland 62 % of the forest area is privately owned.

**Table 3. Harvested areas and yields of main crops in 2000**

	Area 1,000 ha	Yield 100kg/ha	Total mill.kg
Winter wheat	40.0	37.0	148
Spring wheat	109.5	35.7	391
Rye	44.6	24.3	108
Barley	559.0	35.5	1,985
Oats	400.0	35.4	1,413
Mixed cereals	16.7	30.5	51
Peas	5.2	22.5	12
Potatoes	32.3	244.6	785
Sugar beets	32.1	325.5	1,046
Hay	157.6	37.2	586
Green fodder	23.1	121.1	280
Silage	372.3	191.5	7,129
Oil-seed plants	52.5	13.5	71
Other crops	36.2		
Pasture	116.4		
<b>Total</b>	<b>1,997.5</b>	<b>3,273*</b>	<b>6,065**</b>
Set-aside	181.6		

\* f.u./ha without straw, \*\* mill .f.u. without straw

**Table 4. Livestock quantity**

	1960	1970	1980	1990	1996	2000	2001
Cattle	1 922	1 873	1 738	1 360	1 146	1 057	1 037
Pigs	483	1 047	1 451	1 394	1 395	1 296	1 261
Poultry	5 778	8 264	8 476	6 477	5 429	4 024	*4 245
Sheep	341	189	106	103	150	100	96
Horses	251	90	34	44	52	57	59
Reindeer	181	118	186	239	213	203	186

Source: [Information Centre of the Ministry of Agriculture and Forestry](#)

Table in Excel format [taskus\\_maat2.xls](#)

Last Modified: 2.5.2002

Table 5. Livestock production in Finland in 2000

	mill.kg	mill.l
Dairy milk		2,371
Beef	91	
Pigmeat	173	
Eggs	59	
Poultry meat	64	

The total annual consumer expenditure on food and beverages is about EUR 12.8 bill., which is a little under 11 % of the Finnish GDP. The gross value of the domestic agricultural and horticultural production is about EUR 3.5 bill. In 1999 the value added produced by agriculture and horticulture to the Finnish national economy totalled about EUR 1.2 bill., which is 1.2 % of the total GDP of all sectors.

In Finland agriculture and horticulture are closely linked to the industries processing agricultural and horticultural products. More than 80 % of the output of agriculture and horticulture goes to the processing of industries.

The gross value of food industry was almost EUR 8.2 bill. in 1999, which is more than 9 % of the gross value of all industrial production. The value added produced by the food industry was EUR 1.9 bill. in 1999, which is 1.8 % of the value added produced in the whole Finnish national economy.

Measured by the value added of the production, food industry is the fourth largest industrial sector in Finland, after the metal, forest and chemical industries. The main food processing sectors are meat processing, bakery industry and dairy industry.

**Table 6. Other entrepreneurship on farms whole country 2000**

<b>Entrepreneurship</b>	<b>Farms with other entrepreneurship</b>	<b>Farms where line of business is most important</b>
<b>INDUSTRY</b>		
Food processing	1 511	1 065
Meat processing, slaughtering	305	219
Processing of vegetable, root crops and berries	391	269
Dairy products	122	89
Flour mill products	253	114
Bakery products	335	181
Beverages production	69	36
Other food processing	265	157
Processing of other agricultural products	325	134
Processing of wood and/or flax	200	62
Other processing	145	72
Timber processing	1 892	1 349
Sawing, planing, impregnation	1 627	1 128
Production of joinery products	356	221
Handicraft	458	274
Other textiles production	238	119

Furniture production	147	94
Energy production	2 333	959
Fuelwood and wood chips production and sale	1 951	640
Sale of straw etc. for energy production	35	8
Peat production	397	311
Production of metal products	991	625
Other production	599	380
<b>TRADE</b>		
Wholesale and retail trade of agricultural product	795	475
Other wholesale and retail trade	849	581
<b>SERVICE</b>		
Tourism, accommodation and recreation services	3 032	2 272
Holiday cottages leasing	1 753	1 193
Accommodation services	509	194
Restaurant and/or cafés	330	132
Catering services	471	177
Recreational fishing, riding, camping	963	576
Contracting	11 790	8 880
Contracting (Farming machines)	5 999	3 247
Contracting (Forest machines)	2 635	1 370
Snow removal, road maintenance	7 459	3 362
Foundation	1 878	901
Care services	339	263
Transport	1 299	1 055
Taxi	479	434
Truck and lorry transport	835	621
Other services	3 491	2 549
Accountancy office	441	286
Data processing services	317	116
Waste management	202	91
Other services	2 784	2 056
<b>OTHER PRIMARY PRODUCTION</b>		
Fish, crayfish etc. farming	231	112
Fur farming	679	632
Farms whose line of business is not known	233	233
Total 1)	21 838	21 838

Foreign trade occupies a significant position in the food chain as well. In 2000 the value of imports totalled EUR 2.0 bill., and that of exports EUR 0.8 bill.

In 2000 the Common Agricultural Policy (CAP) support to Finnish agriculture and horticulture totalled EUR 1.1 bill. The total national support was about EUR 0.6 bill. On the other hand, the State collects a value added tax of 17 % on staple foodstuffs. The State revenue from the value added tax on food totals about EUR 1.8 bill. per year, and the excise taxes on alcoholic beverages collected each year amount to about EUR 1.2 bill.

### 2.3 Quality in the food sector

Agricultural production, environmental considerations and welfare of animals are closely linked to food safety. The situation is very good in Finland, and the whole food chain works together in order to do more than their best for the quality of food.

### 2.4 Agricultural policy

Since 1995, the Finnish agricultural support measures have been based on the Common Agricultural Policy of the EU (CAP). In Finland support accounts for a larger percentage of farmers' income than in the other EU Member States. Subsidies are crucial for Finnish farmers, because the harsh natural conditions keep the productivity well below the EU average. The support paid to Finnish farmers is in keeping with the support measures applied in the EU and the Treaty of Accession, which provides for agricultural aid to be paid out of the national coffers. To ensure the appropriate allocation of the support, Finland has been divided into different areas.

In 2001 the new kind of agricultural policy became fully effective in Finland as the five-year transitional period granted when Finland joined the EU came to an end in 1999, together with the special transitional aids for agriculture. Most of the national income support in Finland is, according to the Accession Treaty, long-term support. Finland is authorised to pay national aids for livestock production and horticulture in Southern Finland as well as raised investment aid until the end of 2003.

The next steps in the reform of the Common Agricultural Policy are expected in 2002 and 2003, and the Ministry of Agriculture and Forestry in Finland has also started to look into the future challenges. The working group led by Mr. Kalevi Hemilä, Minister of Agriculture and Forestry, gave its contribution in October 2001.

The key issue in the Agenda 2000 reform was the gradual reduction in the institutional prices for cereals, beef and milk. The first cut in the cereal prices (by 7.5 %) was made in July 2000, and the second cut in July 2001. Mandatory set-aside will stay at 10 % until 2006. The market prices for beef will be cut in three equal steps by altogether 20 %. In July 2002 intervention price will be replaced by a basic price for private storage. However, intervention system can be used as a safety net. In the milk and milk products sectors the Agenda 2000 reform will become effective from the marketing year 2005/2006. The intervention prices for butter and skimmed milk powder will be reduced by altogether 15 % in three stages. The proposal will be reviewed in 2003.

## 2.5 Agricultural support

The income support system for agriculture and horticulture in Finland is based on the support measures of the Common Agricultural Policy of the EU (CAP).

The most important measures are the support systems for arable crops and livestock premiums (CAP support) financed in full by the EU (1.) as well as compensatory allowances (LFA support) and environmental support part-financed by the EU. The most important measures in the national aid scheme (2.) complementing the EU measures are national aid for Southern Finland, northern aid and national aid for arable crops. In order to differentiate the support by region, Finland has been divided into seven support areas.

Income support refers to direct payments based on the area or head of animal/livestock units or the quantities produced, aimed at securing the profitability and continuation of the production.

### **2.5.1 Support based on the CAP**

**Income support/direct payments** of the EU are used to compensate farmers for the income losses due to the decrease in institutional prices as a result of the agricultural policy reforms (reform of 1992 and Agenda 2000).

**EU support for arable crops** is paid on the basis of the area under cereals, oilseed or protein crops, oil flax and set-aside. As a result of the Agenda 2000 reform Finland has been allowed to pay a supplement to the area payment, the so-called drying support for cereals and oil-seed crops as well as the EU support for arable crops for grass silage. The support paid for the production of 2001 is estimated at FIM 2.0 billion.

**Livestock premiums** of the EU include the special premium for bulls and steers, suckler cow premium and ewe premium as well as extensification payment for bulls, steers, suckler cows and dairy cows in mountain areas. According to Agenda 2000, slaughter premiums for calves and bovines as well as additional payments for bovines were introduced as new measures. The support paid for the production of 2001 is estimated at a little over FIM 300 million.

**Compensatory allowances (LFA support)** improve the profitability of agriculture and secure the continuation of agricultural production in farming regions with unfavourable natural conditions. Finland as a whole has been classified as such a region. During the current programming period 2000-2006 compensatory allowances based on the arable area may be paid in the whole country. LFA support for the production of 2001 is estimated at FIM 2.5 billion (EUR 423 million). In the programming period 2000-2006 the EU contributes, on average, 33% of the LFA support.

**Environmental support** for the programming period 2000-2006 consists of the basic and additional measures intended for all farmers and special measures requiring more efficient environmental protection and management measures. The objective of environmental support is to reduce the load on the environment, in particular, surface waters and groundwater as well as the air through more efficient utilization of plant nutrients and reduction of the risk due to the use of pesticides. Further objectives are the preservation of biodiversity and plant and animal species as well as management of farming landscapes. Environmental support is compensation for the costs and income losses due to the required measures, and the support also includes an incentive. Environmental support is based on the arable area, and the support for the

production of 2001 is estimated at FIM 1.7 billion (EUR 295 million). In the programming period 2000-2006 the EU contributes, on average, 56 % of environmental support.

## 2.5.2 National aids

The objective of the national aid scheme is to complement the measures based on the common agricultural policy of the EU, secure the preconditions for agriculture in the different production lines and regions as well as maintain the viability of rural areas. The national aid scheme consists of three main measures, national aid for Southern Finland, northern aid paid in Central and Northern Finland and national aid for arable crops. In addition to these, there are certain other national measures, such as the national aid for potato production. Most of the national aid (70 %) is paid for livestock production. National aid for the production of 2001 is estimated at FIM 3.5 billion (EUR 588 million).

Table 7. Self-sufficiency in foodstuffs

Production as % of consumption										
Product group	1970	1980	1990	1995	1996	1997	1998	1999	2000	2001
Cereals	114	70	175	72	79	74	65	40	103	92
Dairy products										
- fluids	.	129	122	111	106	109	108	110	112	112
- fats	126	128	143	126	126	128	127	130	132	135
Beef	110	102	109	98	98	100	95	93	93	97
Pork	110	119	114	100	102	109	105	103	101	105
Eggs	136	151	137	124	125	124	120	114	114	113
Sugar	27	60	91	74	75	76	70	71	71	71

Source: Food and Farm Facts Ltd

Table in Excel format [taskus\\_maata4.xls](#)

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## 3. MINISTRY OF AGRICULTURE AND FORESTRY

### 3.1 Administration

The **Ministry of Agriculture and Forestry** in Finland is responsible for laying the foundations for sustainable and diversified use of renewable natural resources and the development of economic and recreational activities in rural areas. The Ministry also safeguards the quality of the commodities extracted from these resources.

The biggest single department at the Ministry of Agriculture and Forestry is the **Department of Agriculture**, which is responsible for the development and implementation of agricultural and rural policy and intervention. The following agencies,

organizations and companies operate under and with the Department: Agrifood Research Finland MTT, Plant Production Inspection Centre, Boreal Plant Breeding, Seed Potato Centre, Avena Group, Plant Variety Board, Plant Variety Rights Office, Appeals Board for Rural Industries, Advisory Board for Agricultural Research, Rural Departments of the Employment and Economic Development Centres and Information Centre of the Ministry of Agriculture and Forestry. There will be changes in this organisation in 2002.

The Department of **Food and Health** of the Ministry of Agriculture and Forestry contributes to the well-being of animals and thus provides a firm basis for livestock production. It works to ensure the purity and safety of livestock products and to prevent diseases from spreading from animals to humans. The National Veterinary and Food Research Institute (EELA) and veterinary surgeons at the state provincial offices, slaughterhouses and municipalities and those in private practice work under the Department. EELA is responsible for monitoring, prevention and research related to animal diseases as well as the safety and control of livestock products, scientific research and provision of information.

## 4. Agricultural related research in Finland

### 4.1 MTT Agrifood Research Finland

MTT Agrifood Research Finland is an expert body operating under the Finnish Ministry of Agriculture and Forestry. MTT produces and disseminates scientific research information and develops and promotes the transfer of new technology for the agriculture and food sector as a whole. Their research, which covers the fields of biology, technology and agricultural economics, promotes the competitiveness of the food industry, the quality of the production environment and the rural environment in general, the vitality of rural areas and their interaction with urban areas, and the welfare of consumers.

#### **4.1.1 MTT's expanding research base**

MTT Agrifood Research Finland is the largest research institute in Finland, and one of the largest institutes in Nordic countries carrying out agricultural and food research, plus economic and environmental research related to agriculture.

MTT operates in 20 different locations across Finland. The executive and operational centre is located in Jokioinen, 120 kilometres north-west of Helsinki.

### 4.2 University of Helsinki

Founded in Turku in 1640, the University moved to Helsinki in 1828. The University of Helsinki has nine faculties: Theology, Law, Medicine, Arts, Science, Education, Social Sciences, Agriculture and Forestry, Veterinary Medicine.

**37,244** students pursuing a degree (**63%** women)

**1,190** foreign degree students

**3,469** teachers and researchers

**2,383** other staff

**4,034** degrees granted

**362** doctoral degrees completed

#### **4.2.1 The Viikki Campus**

The Viikki Campus of the University of Helsinki, located nine kilometres from downtown Helsinki, is one of the largest centres of biosciences in Europe. Agricultural, food and environmental sciences together with consumer economics and nutrition have been in Viikki since the 1960s. Food sciences have benefited from this multi-disciplinary environment and will continue to do so when the campus grows further.

The site has experienced intense development during the past decade. Departments representing biochemistry, pharmacy, plant physiology, microbiology and others, including the Institute of Biotechnology moved to two modern buildings in the 1990s. The campus information centre including libraries was opened in 1999. A new building for the rest of the biological sciences and environmental sciences was completed in 2002.

Today the total number of university students on Viikki campus is more than 5000 and the total staff about 1100 including university departments, services. In addition the Viikki Campus houses bio-oriented enterprises.

Currently the university is reforming its faculty and administrative structure on the basis of campuses, the Viikki Campus being the one concentrating on biological and life sciences (excluding medicine).

#### ***A New Building***

A new building, which will be completed in late 2003, is currently being constructed for Food Technology and Nutrition. It will be situated close to the laboratories of Food Chemistry. The new building will have greater capacity for process research and will include a larger pilot plant. The Department of Food and Environmental Hygiene of the the Faculty of Veterinary Medicine is moving to the same building. This will further strengthen food safety research in Viikki. The rest of the Vet Faculty will later move into a new building nearby.

#### ***EFSA***

The location of the European Food Safety Authority is still under discussion in the EU. The Finnish government has applied for the establishment to be situated in Helsinki, on the Viikki Campus.

#### ***Viikki Food Science***

Viikki Food Science represents a collection of research groups from disciplines involved in food and nutritional sciences to form a virtual department. The food science programme in Viikki currently covers human nutrition, food chemistry, food technology (with the option to specialise in dairy, meat or cereal technology), food microbiology and food economics and marketing. There are also professorships in sensory food science, bio-processing and functional foods.

#### **4.3 Agropolis Ltd**

Agropolis Ltd is a development company operating in the agricultural and food sectors. The development of diverse businesses, as well as creation of new workplaces - thus maintaining the vitality of rural areas - are the main targets of the company.

Agropolis Ltd screens research results and combines them with the skills and know-how of enterprises and entrepreneurial networks in order to generate new, commercially utilisable ideas. These ideas are further refined into practical market-

based enterprises. The accelerating interaction enables feedback to the research institutes thus affecting the trends of research.

Agropolis Ltd organizes also training in entrepreneurial business and management, as well as arranges technical assistance for various purposes.

Agropolis Ltd carries out different kinds of national and international agrifood projects, at present appr. 30 projects. The strength of the company lies in planning, management and practical execution of the projects as well as in supply of expertise through wide contacts with the foremost research institutes, universities and industrial enterprises.

Agropolis Ltd is owned by the MTT Agrifood Research Finland, several Finnish municipalities and local organizations of agricultural producers.

Agropolis Ltd is situated in modern premises in Jokioinen, appr. 100 km from Helsinki. Agropolis Ltd has a light and flexible organization which strength lies in close and active cooperation with the foremost research institutes in the agricultural and food sectors in Finland, such as the MTT Agrifood Research Finland and other national research centers and universities, as well as with the whole food sector in Finland - from producers through industry up to the consumer.

#### 4.4 VTT

VTT Technical Research Centre of Finland is a contract research organisation involved in many international assignments. With its more than 3000 employees, VTT provides a wide range of technology and applied research services for its clients, private companies, institutions and the public sector.

Turnover is about 200 million euros. We serve annually over 5000 domestic and foreign customers.

VTT carries out three types of activities: commercial activities, joint projects and self-financed projects. Commercial activities are performed according to direct demand from customers. Joint projects are initiated on the basis of need and typically jointly funded by VTT, companies, research financiers and other research parties. Self-financed research consists of technology-based strategic research projects aimed at developing competitiveness and acquiring knowledge and expertise to meet the future needs of customers.

#### 4.5 Work Efficiency Institution

TTS-Institute (Work Efficiency Institute) is a non-profit research, development and adult education institute serving agriculture, forestry and home economics and other fields. TTS was established in 1924.

TTS-Institute conducts research, develops, trains and provides information services with a staff of 160 people. Our head office is located in Helsinki, our research and education centre in Rajamäki 45 km north of Helsinki and TTS Institute Lönnrot Vocational School in Sammatti, 80 km west of Helsinki.

The work done at the TTS-Institute serves those engaged in agriculture and forestry, private and institutional households, enterprises, in providing institutional households, enterprises, in providing advisory services and government authorities and institutions providing research and educational services. TTS-Institute's membership includes private individuals, associations and business enterprises. Four fifths of our budget is

obtained from research and development projects, education, publications and membership fees. One fifth is funded by the government.

## 5. Financial Institutions

### 5.1 Sitra Today

Sitra, the Finnish National Fund for Research and Development, is an independent public foundation under the supervision of the Finnish Parliament. The Fund aims to promote Finland's economic prosperity by encouraging research, backing innovative projects, organising training programmes and providing venture capital.

The Fund was set up in conjunction with the Bank of Finland in 1967 in honour of the 50th anniversary of Finnish independence. The Fund was transferred to the Finnish Parliament in 1991.

#### **Sitra aims to further economic prosperity in Finland**

- by developing new and successful business operations
- by financing the commercial exploitation of expertise
- by promoting international competitiveness and co-operation

#### **Sitra an autonomous pioneer**

- enjoying economic independence
- with courage and initiative
- initiating operations designed to break new ground

#### **Sitra an impartial opinion-shaper**

- providing new research information
- anticipating and identifying future challenges
- developing new solutions

Sitra is a creative and flexible pioneer that endeavours to ensure that the ordinary Finn enjoys a better future than at present.

### 5.2 TEKES

Tekes, the National Technology Agency is the main financing organisation for R&D in Finland. Tekes provides funding and expert services for R&D projects and promotes national and international networking. Foreign companies conducting R&D activities in Finland are also welcome to Tekes' customers.

Tekes headquarters is located in Helsinki, and overseas offices in four cities: Brussels, Tokyo, San Jose and Washington, D.C. In Finland Tekes services are also available via the wide network of Employment and Economic Development Centres, known as the TE Centres.

#### **Mission statement**

Tekes' primary objective is to promote the competitiveness of Finnish industry and the service sector by technological means. Activities aim to diversify production structures, increase production and exports, and create a foundation for employment and social well-being.

## **Vision**

Versatile use of technology and expertise is the foundation of Finnish prosperity. Tekes contributes to the world's best innovative environment, giving industry the tools for international success, steady growth and sustainable development.

### *Society and environment*

Finland has spearheaded the creation and application of knowledge and expertise in many different ways. Finland unites well-being, sustainable development and the capacity for infinite renewal. Finland offers an innovative business environment with international appeal.

### *Business and industry*

Finnish industry is sustained by strong clusters:

- ICT
- forest industry
- metal and engineering

### *Rising areas*

- bioindustry
- knowhow-intensive services

All sectors and areas can boast internationally competitive companies.

### *Customers*

Tekes customers all over Finland succeed internationally. Their competitiveness is founded on knowledge and competence and on the varied application of different technologies in their business operations. Finnish R&D is of top world class.

## **5.2 FINNVERA**

**Finnvera plc is a specialised financing company** offering financing services to promote the domestic operations of Finnish businesses and to further exports and internationalisation of enterprises. Finnvera is owned by the Finnish state.

### **Finnvera in brief**

- specialised financing company owned entirely by the Finnish state
- share capital 188.2 million euro
- balance sheet total 1 497.9 million euro
- Finnvera plc's outstanding commitments 30.6.2002
  - export credit guarantees and special guarantees 2 808.6 million euro
  - credits 1 213.6 million euro
  - guarantees 572.2 million euro
- around 26 400 clients
- 16 regional offices
- 399 employees

### **Creation**

Finnvera was created through the merger of Kera Corporation and the Finnish Guarantee Board on 1 January 1999.

The personnel (386 at 1 January 1999) of both Kera and the Finnish Guarantee Board retained all their previous benefits when they were transferred to the new company.

Kera Corporation and the Finnish Guarantee Board were merged to make the state's specialised financing operations more effective and to be able to offer all Finnish companies financing services to further the domestic operations, exports and internationalisation activities from one organisation.

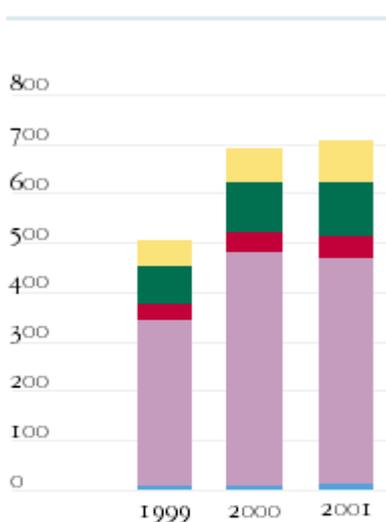
### Responsibilities and services

Finnvera offers loans, guarantees and export credit guarantees. Our product development work aims at providing financing solutions to suit the various stages of a company's business:

- o setting up a company, beginning business operations
- o financing and guarantees for growing and internationalising enterprises to strengthen equity and working capital, and for investments
- o export credit guarantees for export companies and their lenders to solve the need to protect against political and commercial risks of export financing and international investment.

#### DOMESTIC OPERATIONS

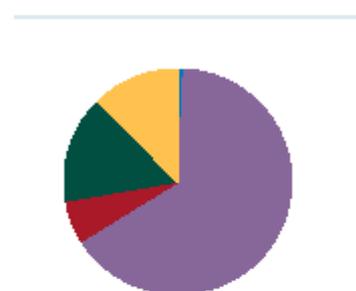
FINANCING GRANTED  
BY SECTOR, MEUR



- RURAL TRADES
- INDUSTRY
- TOURISM
- SERVICES FOR BUSINESS
- TRADE AND CONSUMER SERVICES

#### DOMESTIC OPERATIONS FINANCING GRANTED BY SECTOR

1 JAN - 31 DEC 2001  
TOTAL EUR 708.3 MILLION



- RURAL TRADES 0.8%
- INDUSTRY 65.3%
- TOURISM 6.1%
- SERVICES FOR BUSINESS 15.3%
- TRADE AND CONSUMER SERVICES 12.5%

Finnvera acts as an intermediary between the European Union's financing programmes and Finnish SMEs.

## 6. Local agro(bio)industrial entrepreneurs

### 6.1. CAMELINA

#### *Background*

From 1995 to 1998 the Department of Plant Production of the University of Helsinki, Finland, participated in an European Union (EU) project in which the adaptation and crop management of Camelina sativa oilseed plant to different agroecologies in the EU area was studied.

Based on the knowledge and innovations generated during the study Camelina Ltd. was founded in 1998. The company began contract farming of Camelina in 1999. Camelina Ltd. has product family containing Camelina virgin oil, dressing, relish, Camelina seeds and crushed oilseed cake.

## Questionnaire

### For local agro(bio) industrial entrepreneurs

#### **Name of company: Camelina Ltd.**

Address: Viikinkaari 6, 00710 Helsinki, FINLAND

E-mail: karita.alen@camelina.fi

Telephone: + 358 9 191 58920

Fax: + 358 9 191 58924

#### **Key data:**

Production:

- Start up date: August, 1998
- Raw-material: Camelina sativa seed
- End products: Camelina Golden Pleasure Product family

Number of employees: \_\_\_\_\_ 0-1   X   2-4 \_\_\_\_\_ 5-10 \_\_\_\_\_ >10

Annual turnover: 98.000 euros (2001)

Expected growth: \_\_\_\_\_ 0-9 % \_\_\_\_\_ 10-20 %   X   > 20 %

#### Upstart phase

Did the company receive external capital:   X   yes \_\_\_\_\_ no

If yes, who was the financier:

- Bank
- Investment fund
- Venture capital company X**
- Business angels (private investors)

Which incentive is most important (1 = most important, 5 =no importance)

	<u>  1  </u>	<u>  2  </u>	<u>  3  </u>	<u>  4  </u>	<u>  5  </u>
<u>Access to risk capital</u>	<u>  X  </u>				
<u>Access to financial advice</u>		<u>  X  </u>			

<u>Access to technical advice and knowledge</u>				<u>X</u>	
<u>Access to marketing knowledge and network</u>	<u>X</u>				
<u>Access to knowledge centres</u>		<u>X</u>			

Others

### Barriers

Which barriers have been the most serious obstacles

	1	2	3	4	5
<u>Rules and regulations</u>				X	
<b>Lack of risk capital</b>				X	
<b>Lack of skilled labour</b>					X
<b>Limited or no access to technical advice</b>				X	
<b>Limited or no access to business advice</b>					X

**Others**

## 6.2 Flaxlin

### Name of company: Flaxlin Ltd

Address: Valssaamontie, 10410 Äminnefors, Finland

E-mail: [marketing@flaxlin.fi](mailto:marketing@flaxlin.fi) or [jukka.nikkanen@flaxlin.fi](mailto:jukka.nikkanen@flaxlin.fi)

Telephone: +358-19-238 660

Fax: +358-19-238 662

### Key data:

Production: 330.000 m<sup>3</sup> of insulation sheets

- Start up date: August 1999, production April 2000
- Raw-material: Linen/flax & binding fiber & fire retardant
- End products: Insulation sheets and loosefil insulation and insulation for log houses.

Number of employees: \_\_\_\_\_ 0-1 \_\_\_\_\_ 2-4 \_\_\_\_\_ 5-10 XX >10

Annual turnover: 2003 over 2MEUR

Expected growth: \_\_\_\_\_ 0-9 % \_\_\_\_\_ 10-20 % XX > 20 %

### Upstart phase

Did the company receive external capital: XX yes \_\_\_\_\_ no

If yes, who was the financier:

- Bank XX
- Investment fund - FINNVERA
- Venture capital company
- Business angels (private investors) XX

## Access to incentives

### **Which incentive is most important (1 = most important, 5 =no importance)**

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
<u>Access to risk capital</u>		<u>x</u>			
<u>Access to financial advice</u>					<u>x</u>
<u>Access to technical advice and knowledge</u>			<u>x</u>		
<u>Access to marketing knowledge and network</u>	<u>x</u>				
<u>Access to knowledge centres</u>				<u>x</u>	

### **Barriers**

Which barriers have been the most serious obstacles

	1	2	3	4	5
<u>Rules and regulations</u>				x	
<b>Lack of risk capital</b>	x				
<b>Lack of skilled labour</b>			x		
<b>Limited or no access to technical advice</b>				x	
<b>Limited or no access to business advice</b>		x			

## 6.3 Gårdskulla farm

### *Agriculture*

Gårdskulla is modern agricultural enterprise where the new technology is adapted to the traditional grain farming. The cultivated area is 320 hectares and the main crops are malt barley and milling wheat. The farm has experimental cultivation in collaboration with the Helsinki University and the agricultural advisory organisation. The manor organises farm presentation and training seminars in co-operation with agricultural enterprises.

### *Forestry*

The cultivated forest area is 1000 hectares. The forestry is mainly taken care of in co-operation with the association of forest owners. The cultivation of Christmas trees make a valuable addition to the forestry and tourism services. In December, the manor organises a traditional Christmas tree safari where people can participate and cut their own Christmas trees. Guided wild life tours are organised on request.

### *Café and conference services*

In the tractor garage located beside the museum there is a café for 60 persons. There you can enjoy home baked fresh pastry and savoury snacks. The audio-visually equipped conference room which is decorated with items connected to tractors and cars is designed for 50 persons. The calm rural environment offers excellent possibilities for relaxed and efficient work. In 1998 a sauna for business purposes was introduced at the lake Fårträsk.

### *Museum*

The private agricultural museum founded in 1982 is one of the largest agricultural collections in the Nordic countries. The new museum building was finished in 1988 and today it holds more than 10 000 items. About 100 old tractors from the years 1924 – 1960 form the body of collection. Here you can find the whole history from the last hundred years from steam engines to diesel tractors, and chain saws, a few radios and outboard engines. In addition, there are lots of agricultural machines and equipment and horse drawn vehicles, steam engines, vintage cars, engines for power sources, domestic and peasant items. A fully equipped blacksmith shop has been built in the museum as well as an old time drug store. The major organises special events and exhibitions every year.