



## **Baltic Rural Broadband Project**

# **Baseline Study**

**Åboland**

**2006**

## Questions:



<b>Chapter 1:</b>	<b>Facts about the region</b> .....	<b>3</b>
Question 1.1:	Demographic Information.....	3
Question 1.1.1:	Structure of population.....	3
Question 1.1.2:	Geography.....	3
Question 1.2:	Economy.....	3
Question 1.2.1:	Industry/Workforce .....	3
Question 1.2.2:	Economic power/ Financial strength.....	4
Question 1.2.3:	Employment/Unemployment .....	4
Question 1.2.4:	Important Enterprises .....	5
Question 1.2.5:	Costs of living.....	5
Question 1.3:	Infrastructure.....	5
Question 1.3.1:	Educational institution.....	5
Question 1.3.2:	Traffic & Transport.....	<b>Fehler! Textmarke nicht definiert.</b>
Question 1.3.3:	Situation of living .....	6
Question 1.4:	Cultural analysis.....	26
Question 1.4.1:	Skills tradition.....	26
Question 1.4.2:	Educational level.....	6
Question 1.5:	Political climate .....	7
Question 1.5.1:	Political mainstream.....	7
<b>Chapter 2:</b>	<b>Baseline situation ICT and broadband</b> .....	<b>8</b>
Question 2.1:	ICT access and use .....	8
Question 2.1.1:	The ICT-sector.....	32
Question 2.1.2:	ICT-use by population.....	8
Question 2.1.3:	ICT-use in schools .....	8
Question 2.1.4:	ICT-use by enterprises .....	9
Question 2.2:	Broadband access and use.....	9
Question 2.2.2:	Overview of broadband access providers .....	9
Question 2.2.3:	Overview of broadband users .....	10
Question 2.2.4:	Available Technologies .....	10
Question 2.2.5:	Applications .....	10
Question 2.2.8:	General conditions .....	11
<b>Chapter 3:</b>	<b>Broadband strategies</b> .....	<b>11</b>
Question 3.1:	Objectives .....	55
Question 3.2:	Measures.....	11

## Chapter 1: Facts about the region

### 1.1: Demographic Information

#### Question 1.1.1: Structure of Population

The Åboland area consists of 8 municipalities with a total number of 23,000 inhabitants. The population of Finland is 14.7 people per square kilometre. The population of Åboland is 14.5 people per square kilometre.

#### *Age structure in Åboland 2005 (%)*

Municipality	Age			
	0-6 years	7-14 years	15-64 years	65 - years
Åbo	5.1	4.3	66.4	24.1
Houtskär	7.4	7.0	61.1	24.5
Korpo	5.4	8.7	62.9	23.1
Nagu	5.4	9.6	65.2	19.8
Pargas	7.9	10.5	63.8	17.8
Kimito	6.6	9.8	60.4	23.3
Dragsfjärd	5.1	9.1	59.3	26.6
Västanfjärd	7.1	8.9	59.6	24.4

According to the Department of Statistics in 2001 the population of towns was 37% or

#### Question 1.1.2: Geography

The area of Åboland is 1571 square kilometres. Åboland with its 8 municipalities is situated in the southwest of Finland. The region is known for its extensive archipelago. The chain of islands and rocky islets extends towards the sea for 100 km southwest of Turku. The landscape varies from large islands and verdant islets to bald rock islets in the outer archipelago. It is the largest archipelago in the Baltic.

### 1.2: Economy

#### Question 1.2.1: Industry/Workforce

Economic growth in Finland has continued at a more rapid pace than most OECD countries. In investments, the pre-depression record level has not been regained in spite of rapid growth in recent years. The unemployment rate remains high, although it shows a falling trend. The inflation rate has remained below the OECD average.

### ***Inflation in Finland***

2006/03	0,90 %	2000	3,40 %	2003	0,90 %
2006/04	1,30 %	2001	2,60 %	2004	0,20 %
2006/05	1,70 %	2002	1,60 %	2005	0,90 %

#### **Industrial structure in Åboland 2003:**

- service 65.7 %
- industry 26.7 %
- agriculture and forestry 6.0 %

#### **In the whole country 2003:**

- service 68.7 %
- industry 25.2 %
- agriculture and forestry 4.2%

**There were 84,625 jobs in Åboland at the end of year 2004.**

### **Question 1.2.2: Economic power/Financial strength**

According to Statistics Finland's revised preliminary data, the volume of Finland's GDP grew by 2.9 per cent last year. **Last year's (2005) GDP was EUR 157 billion.** Operating businesses within the area are 1406 in 2004.

According to the Bureau of Statistics in Finland there were 232,305 companies in Finland at the end of year 2004. The amount of companies increased with 1.7 percent compared with the previous year. The companies employed 1,312,245, which was 0.3 percent more than the previous year. The total turnover for the companies was EUR 300 billion, an increment of 5.6 percent.

### **Question 1.2.3: Employment/Unemployment**

The number of workforce, unemployed and the rate of unemployed in year 2005:

	workforce	unemployed	rate of unemployment
Korpo	405	39	9.7
Dragsfjärd	1511	102	6.7
Houtskär	268	28	10.4
Pargas	5804	409	7.1
Iniö	118	4	3
Kimito	1421	89	6.2
Nagu	673	46	6.8
Västanfjärd	360	11	3

### Question 1.2.4: Important Enterprises

Main enterprises in Åboland are:

- **Nordkalk, Pargas:** Nordkalk is the leading producer of high quality limestone-based products in Northern Europe.
- **Paroc, Pargas:** Paroc is one of the leading mineral wool insulation manufacturers in Europe.
- **Ovako, Dalsbruk:** Ovako is a leading European long special steel products company.
- **Assa Abloy (Björdboda Lås), Dalsbruk:** Assa Abloy is the world's leading manufacturer and supplier of locking solutions.
- **Finnsementti, Pargas:** Finnsementti Oy is a Finnish cement manufacturer

### Question 1.2.5: Costs of living

The index of consumer prices has increased in general (year 2000=100). June 2006:

- Food and beverages: 110.6
- Accommodation and electricity 113.8
- Healthcare 116.3
- Traffic 109.6
- Telecommunication 74.4

## 1.3 Infrastructure

### Question 1.3.1: Educational institution

There are 34 schools in the Åboland region. Three of these schools are upper secondary schools. Furthermore there are 4 other schools that you can receive a degree from. The number of pupils vary from 4 to 300 and teachers vary from 1 to 40.

### Question 1.3.2: Traffic & Transport

The infrastructure is well developed in the Åboland region. Although the region consists of many islands there are ferries and boats, which takes you around the archipelago. Fine bridges, spacious ferries, and splendid vessels link the islands together. With WiMax wireless broadband you have the possibility to have access to Internet also in rural areas.

Road transport in Finland is the most popular method of transportation, particularly in rural areas where the railway network does not extend to, for instance in the Åboland region. There are around 78,000 km of public roads, most of which are paved. The main road network comprises over 13,000 km of road, mostly in the south of the country and along the

west coast. 63% of all traffic on public roads takes place on main roads, which are divided into class I (valtatie) and class II (kantatie) main roads.

### Question 1.3.3: Situation of living

In June 2006 the average income per month was EUR 2524. The average price for an apartment in Finland (Helsinki area excluded) February 2006 was EUR 1368 / m<sup>2</sup>. The average rent was in 2005 EUR 7.60 / m<sup>2</sup>.

## 1.4 Cultural analysis

### Question 1.4.1: Skills tradition

Cultural activity has always been a significant factor in Åboland. All over the region events and activities are being held around the year Cultural events not only attract the local people but also people around the whole world.

In the 1980s and 1990s the combining of traditional livelihoods with paid work somewhat countered the sharp falls in population, and this practice has continued to improve the opportunities for residents of the outer archipelago to earn a living.

A summer population on the islands came about in the 20th century, when prosperous town folk began seeking a counterbalance to their city lives. Their interest in the archipelago was fuelled by the nature-oriented romantic movement of the time, which emphasised the value of wild and untouched environments. At first, visitors made short daytrips by steamship from the town into the neighbouring archipelago, but gradually they began renting and building their own summer cottages on the islands. In those days mainly the more prosperous townspeople could afford a summer cottage. Summer living in the archipelago became a mass phenomenon after the war years, when people's standards of living improved and they had more free time; the idea captured the imagination of all sections of society. As well as summer residents, the archipelago started to attract visitors wishing to take short breaks on the islands in the 1960s. There were not many sailing boats on the islands in the 1970s but rising living standards, increasing leisure time and working lives spent in the city increased tourism into the archipelago. In the 1980s, guest piers and harbours were built in the archipelago at a rapid rate. In the future years, tourism will play an increasingly important part in the diverse character of the archipelago.

### Question 1.4.2: Educational level

Municipality 1.1.2006	Population aged 15 or over	Population with educational qualification of persons aged 15 or over	Upper secondary education, %	Tertiary education, %

Whole country	4,322,051	2,709,548	60.1	39.9
Dragsfjärd	2900	1360	63.9	36.1
Iniö	229	109	53.2	46.8
Houtskär	577	301	62.8	37.2
Kimito	2762	1551	67.6	32.4
Nagu	1227	728	62.4	37.6
Korpo	764	438	58.4	41.6
Pargas	9813	6065	55.1	44.9
Västanfjärd	682	376	64.6	35.4

## 1.5 Political climate

### Question 1.5.1: Political mainstream

In the municipal elections of 2004, the number of elected council members totalled 11,966. Changes in population and municipal mergers will result in a decrease in the number of councillors over the next few years. The municipal elections in 2000 saw the lowest voting turnout ever (55.9%). However, there was some improvement in this respect in the 2004 election, and 58.6% of eligible voters used their vote. The local authorities can organise the municipal administration relatively freely. Each municipality must have a municipal council, a municipal board, an auditing committee for auditing municipal administration and finance, and an election committee that is responsible for organising elections. A municipality must also have a municipal manager, elected by the municipal council. The municipal manager is not a member of the local council.

In the recent municipality elections 2004, Åboland voted:

SDP ( Social Democratic Party)	20.0 %
CENT (Centre Party)	7.2 %
SAML (The National Coalition Party)	6.7%
VF (Left Alliance)	5.9 %
Gröna (Green League)	3.2%
SFP (Swedish People Party)	57%

## Chapter 2: Baseline situation ICT and broadband

### 2.1: ICT access and use

#### Question 2.1.1: The ICT-sector/definition

The ICT-sector is defined as private sector companies who either provide or sell Information or Communications services or products.

Already in an early stage the municipalities put much interest in IT-development, in order to use IT to produce public services in a cost effective way. Due to the low number of inhabitants and a general lack of market no commercial ISP-services are available in some parts of the rural areas in the region. To cope with this problem the regional network has been put into broadband use with 100 Mbps internet connection and it is today serving companies and private households, primarily where no other broadband option from commercial ISP-operators are available.

Number of all ICT-companies in the region of Åboland are 15. Private sector ICT employment in Finland: 109,000 persons.

#### Question 2.1.2: ICT-use by population

##### *Households in Finland:*

GSM	96.4%
Computer	72.2%
Internet	67%
Broadband	56.5%
Fixed phone	47.9%
WAP/GPRS/3G	42.7%
VoIP	28.6%
Laptop	27 %

#### Question 2.1.3: ICT-use in schools

There are 34 schools in our region, 3 of them are upper secondary schools. The number of pupils varies from 4 to about 300, and teachers vary from 1 to about 30-40. Due to this fact and depending on the teachers interest in modern technique the use of ICT varies a lot. Most schools have computers and even access to the internet. But unfortunately the computers are often old and there are also not enough computers to satisfy the need of them.

In view of these circumstances our project has offered e-mail to all pupils and teachers and also the use of a communication and collaboration platform, which provides the ability to effectively communicate and share information. The lack of IT knowledge is evident so obviously the most important thing for us is to offer IT support and further education to all teachers. Development programs focus on upgrading Internet connections to faster broadband, adding more computers to classrooms and eLearning.

The Board of Education in Finland demands in the school curriculum that computer use in schools has to be integrated in education on every level. To achieve this teachers have been offered ICT further education and schools possibilities to obtain computers for educational use. Recommendations are 10 pupils/computer in forms 1-6 and 8 pupils/computer in forms 7-9, in secondary even less. Despite of these demands and possibilities computer use in schools varies a lot. In some schools computer use is daily but unfortunately most schools do not have computer use as a natural way of learning and communicating. The lack of computer use is obvious. Every school has broadband access but still many schools do not achieve the recommended amount of computers. It's a long process to establish ICT for educational use and the need for support is therefore of great importance.

#### Question 2.1.4: ICT-use by enterprises

95% of all businesses with over 5 employees uses the Internet.

All municipalities in the region have their own homepages. Approximately 30 % of the enterprises in the region have a webpage.

### 2.2: Broadband access and use

#### Question 2.2.1: Definition of broadband

Broadband is defined as a two way communications medium with a bandwidth of at least 256 kbps. Broadband access is an always on access technology where fees are not time based. Broadband is predominantly billed at a flat monthly rate.

#### Question 2.2.2: Overview of broadband access providers

##### **Availability**

In the eight municipalities of Åboland there are five broadband access providers. Of these providers two are local, Pargas Telefon (Pargas and Nagu) and Kimito Telefon (Kimito, Västanfjärd and Dragsfjärd), and three are regional, Skärgårdsnäten, TeliaSonera and Tietokartano. Of the five providers three are telephone companies, Pargas Telefon, Kimito Telefon and TeliaSonera, and they provide traditional wire line and GSM services. In addition Pargas Telefon offers Fixed Wireless Broadband in parts of Pargas and Nagu. Kimito Telefon also offers Wimax in parts of Dragsfjärd. Skärgårdsnäten offers broadband access in all eight municipalities. In Nagu, Korpo, Houtskär and Iniö Skärgårdsnäten offers fibre, Wimax, WLAN and ADSL access. In Pargas, Kimito, Västanfjärd and Dragsfjärd fibre and WLAN is offered. Skärgårdsnäten offers broadband access also in very remote areas and is building out coverage to all areas in the archipelago. Tietokartano offers satellite broadband services, both-one way and two-way, and is the only broadband access provider that can offer 100% coverage in the whole region. In addition Elisa has installed a single 3G base station in the harbour of Nagu. Other areas are provided with GSM/GPRS/EDGE connectivity only.

### ***Affordability of broadband access:***

3G: from EUR 10 per month  
ADSL: from EUR 15 per month  
Wimax/WLAN: from EUR 44 per month

Satellite One-way: from EUR 6.90 per month  
Satellite Two-way: from EUR 129 per month

All prices excluding installation and equipment. Satellite prices excluding traffic surcharges and return channel where applicable. VAT

### **Question 2.2.3: Overview of broadband users**

73% of businesses with five or more employees use broadband and 50% of private households use broadband. All schools in Åboland have broadband.

### **Question 2.2.4: Available Technologies**

In the eight municipalities of Åboland there are five broadband access providers. Of these providers two are local, Pargas Telefon (Pargas and Nagu) and Kimito Telefon (Kimito, Västanfjärd and Dragsfjärd), and three are regional, Skärgårdsnäten, TeliaSonera and Tietokartano.

Of the five providers three are telephone companies, Pargas Telefon, Kimito Telefon and TeliaSonera, and they provide traditional wire line and GSM services. In addition Pargas Telefon offers Fixed Wireless Broadband in parts of Pargas and Nagu. Kimito Telefon also offers Wimax in parts of Dragsfjärd.

Skärgårdsnäten offers broadband access in all eight municipalities. In Nagu, Korpo, Houtskär and Iniö Skärgårdsnäten offers fibre, Wimax, WLAN and ADSL access. In Pargas, Kimito, Västanfjärd and Dragsfjärd fibre and WLAN is offered. Skärgårdsnäten offers broadband access also in very remote areas and is building out coverage to all areas in the archipelago.

Tietokartano offers satellite broadband services, both-one way and two-way, and is the only broadband access provider that can offer 100% coverage in the whole region. In addition Elisa has installed a single 3G base station in the harbour of Nagu. Other areas are provided with GSM/GPRS/EDGE connectivity only.

### **Question 2.2.5: Applications**

As the rate of growth of broadband has peaked in Finland, development efforts focus on upgrading facilities, adding coverage and leveraging ICT in businesses, government and households.

### Question 2.2.6: General conditions/Legislation

As the rate of growth of broadband has peaked in Finland, development efforts focus on upgrading facilities, adding coverage and leveraging ICT in businesses, government and households.

## Chapter 3: Broadband strategies

### Question 3.1 Objectives

One of the next steps in Åboland is to extend the regional fiberoptic backbone infrastructure with advanced wireless backbones, to develop mobile services with regional roaming based on wimax/wlan, and to develop new applications and services that require broadband connections.

The achievements of the project (BRB) in Åboland so far consist mainly of initializing the project, administrative measures and participation in creating a network between different partners. Different technical solutions haven been tested for the pilot projects. The implementation work for some of our pilot projects is done and they will be running during the autumn.

### 3.2 Measures

Concerning the technical solutions for broadband backbones they tested and deployed hybrid broadband technologies: Wimax/ADSL, Wimax/WLAN and Wimax/satellite. They also tested Wimax in rural and remote areas. Furthermore (concerning implementation of web-based applications and services) they tried broadband access in areas without existing infrastructure. In 2006 they developed and installed a record system for home and residential care in most of Åboland municipalities. In two schools of the region a distance learning course were implemented, every student got an own e-mail address and they offered free e-mail and space for homepage for companies. They are also planning a Youth Forum on internet. In the range of local e-community activities they offered ICT-courses. They are planning further project activities.