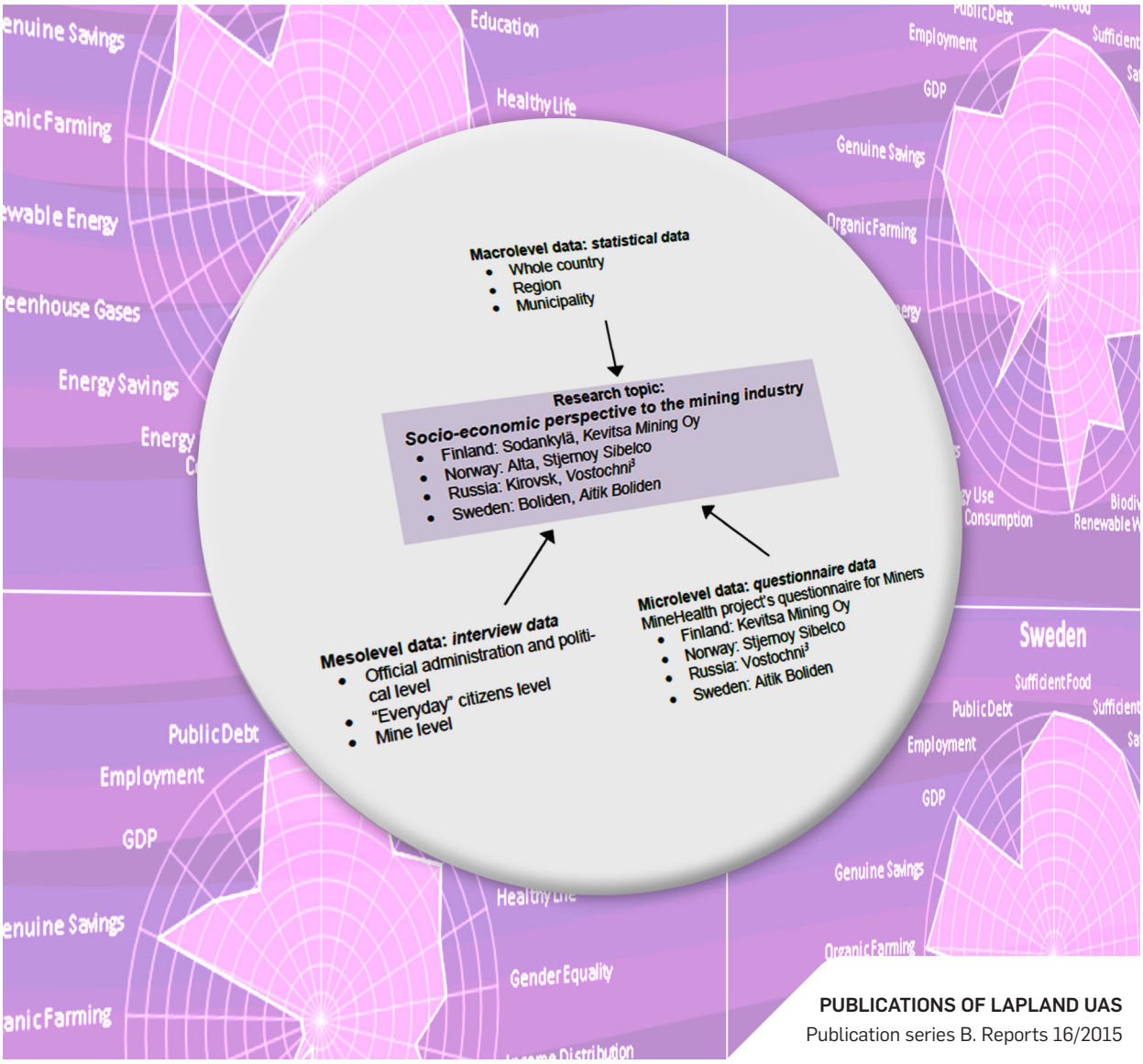
Leena Viinamäki (ed.)

B

Socio-economic Challenges in the Mining Industry

– Four Cases from the Barents Region



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Socio-economic Challenges in the Mining Industry – Four Cases from the Barents Region

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ACKNOWLEDGEMENTS

This is the final report from the MineHealth project's (2012–2014) Work package 4's socio-economic study. This final report is more non-academic than academic. In separate and later publishing articles, we will emphasize a more academic dimension concerning the new role of mining industry in local communities in the Barents region. We hope that this report is a useful review for the administrators, politicians and citizens from the Mining Industry's socio-economic impacts in local communities in the Barents Region.

It was not taken for granted to have socio-economic research in the Minehealth project context. We wish to thank in particular the manager of the project, Mr *Lage Burström*, as well as other responsible persons of the work packages Mr *Hannu Rintamäki*, Mr *Victor Shilov*, Mr *Ingemar Rodin* and the initiator and the architect of the project, Mr *Morten Skandfer* for the opportunity offered to us. We would like to thank Mr *Thor Nilsson* for his encouraging and constructive attitude towards the completion of the research section that assessed Work Package 4's socio-economic impact.

We thank MineHealth project's socio-economic research team: *Vigdis Nygaard*, *Anita Pettersson-Strömbäck*, *Ljudmila Talykova* and *Seppo Kilpiäinen*.

It has been wonderful to be able to call on *Tarja Pernu's* expertise in Excel whenever we have needed advice. *Laura Juopperi* has functioned as the project secretary and performed the preliminary translations of Finnish text sections into English. Also *Arild Vaktskjölds* work pooling the questionnaire database was valuable. *Elsa Laiti-Hedemäki* from The SámiSoster society provided expertise for the research team concerning the Sami people research theme. *Vuokko Tyni* from FQM Kevitsa Mining Oy provided expertise for the research team concerning mining research theme.

We would like to give special thanks to the respondents of the MineHealth survey and those who participated in the interviews at the mines and municipalities within the research. Without their positive attitude towards the research team's requests for input for the study, it would have been impossible to create the publication in accordance with the triangulation research design.

In Kemi, on Equality Day 19.3.2015

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1 INTRODUCTION[1] *Martti Ainonen & Leena Viinamäki & Seppo Kilpiäinen*

MineHealth project (2012–2014) is funded partly by European Social Fund (*Kolarctic ENPI CBC*) and partly nationally. The mines within the research are *FQM Kevitsa Mining Oy* in Finland, *Stjernoy Sibelco* in Norway, *Aitik Boliden* in Sweden and *Vostochni*[2] in Russia. Project partners are Umeå University, Northwest Public Health Research Center Kirovsk, Finnish Institute of Occupational Health Oulu, University Hospital of North Norway Tromso, Lapland University of Applied Sciences (LUAS), Norut Alta as Tromso and Sintef Nord as Tromso. (MineHealth … 2011, 8–9.)

In the Minehealth project the focus is on increasing the work ability, social and health well-being among the mine workers with the help of the research material. The focus is also in controlled structural change during the whole life cycle of the mine, including start-up, actions and closing. The increasing mining industry in Northern Finland and the Barents region has pulled up questions concerning the well-being of workers, the possibilities of welfare promotion as well as the reshaping the mine area's living conditions. The areas of inspection are cold and vibration exposures and its significance to the miners' well-being, miners' own experiences of their own and their family's well-being as well as the mine area's possibilities to produce welfare services to meet the needs. (MineHealth … 2011, 8–9.)

Socio-economic study gives possibilities to compare different mines, regions and countries and show the possibilities to implement a good socio-economic practice in the local community. In the Minehealth project the focus is on increasing the work ability, social and health well-being among the mine workers with the help of the research material. The focus is also in controlled structural change during the whole life cycle of the mine, including start-up, actions and closing. According Projectplan. (MineHealth … 2011, 8–9.) In this project socio-economical interest will be focused under the theme two, the Research of multilevel impacts of mining industry, and topics which are:

1. Social changes in realized mining activity
2. Realized social impacts that has caused by social changes. In relation to social impacts that has been expected in the planning phase of a mine
3. Relation with social changes and social impacts

The socio-economic study is carried out through statistics, questionnaires and interviews.

The project is divided into five work packages, three primarily technical, one for personal growth and regional development and one focused on administrative management (MineHealth … 2011, 8–9; 23–24; Figure 1.).

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1 **N.B.** The MineHealth project's Finnish-language publication, Viinamäki, Leena (toim.) 2015. *Kaivosteollisuuden sosiaalis-taloudelliset haasteet Barentsin alueella – tapausesimerkkinä Sodankylän kaivosbuumi*. (*Socio-economic challenges in the Mining Industry in the Barents region – Case example: Sodankylä mining boom*), contains the following identical sections with this publication: Chapters 1, 2, 3.2, 4.1, 4.2, 4.3, parts of Chapter 5 and Appendix table 1.

2 **JSC** "Phosagro-Apatit" is the new name of the company in the fall of 2013.

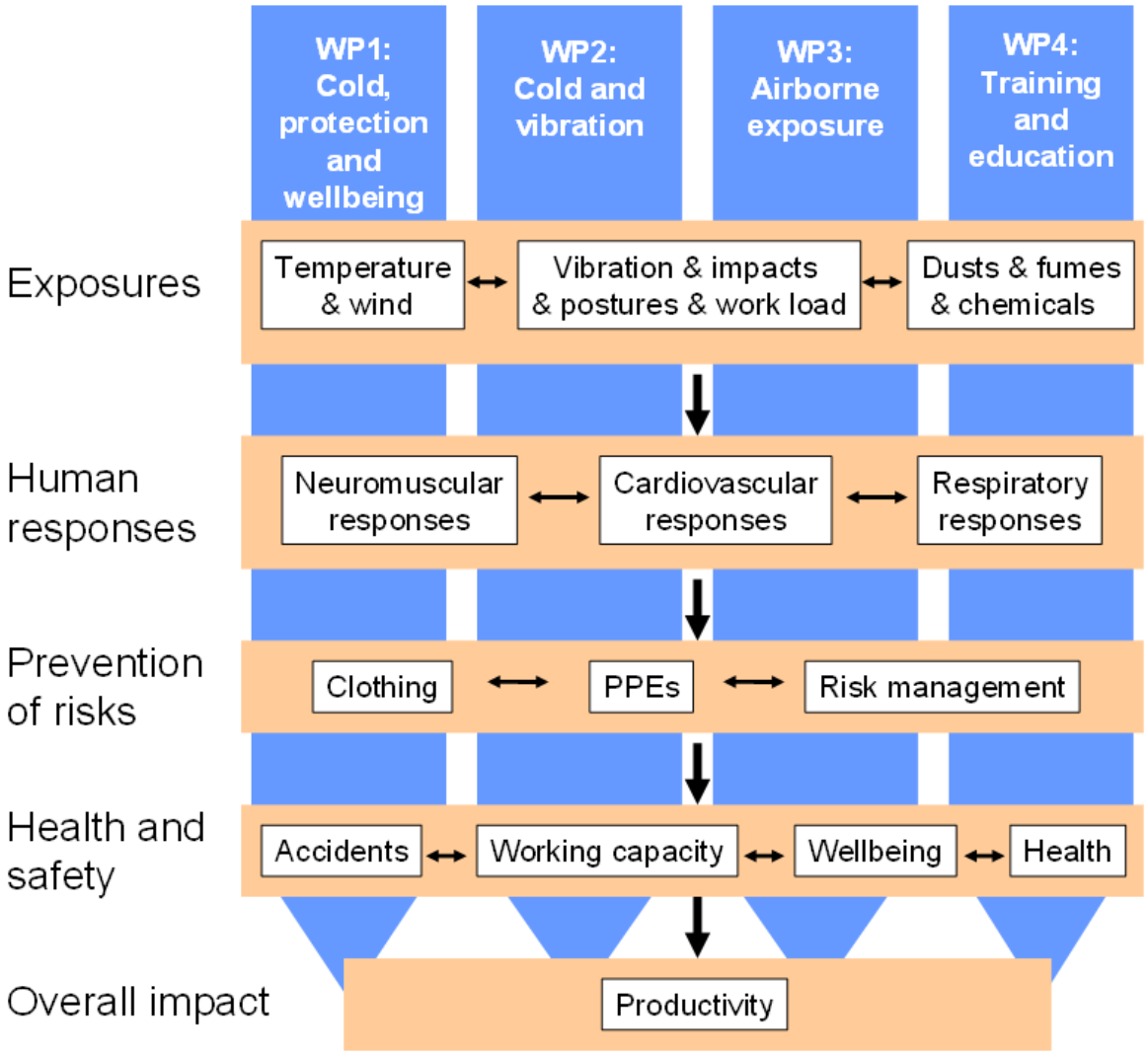


Figure 1. Overview of the MineHealth project.

Work package 1 to 4 will all include the following activities: *Development of common methods, Data collection, Analysis, Preventive measures and Integration into practice*. Work packages 1–3, will cover sustaining wellbeing, working capacity and health during mining due to exposure to cold and vibration as well as airborne exposures. Work package 4, will cover development of learning material and courses based on the outcome of the other work packages (Paloste & Rönkkö 2014). In this work package also investigation of socio-economic and gender issues will be carried out. (MineHealth … 2011, 8–9.)

Socio-economic impact means for example effects of the mining sector, in addition to traditional economically quantifiable factors, on factors which are not easily measured but important such as: *Health and safety issues, environmental effects, regional distribution of value added, employment and other benefits arising out of the industry*. Especially to local and indigenous peoples point of view it is important to pay attention to possible negative effects of mining activity like waste, pollution, noise and attitudes of the local society showing towards pollutants connected to mining activity (HSE issues), and the response of mining management and regulating authorities to these attitudes. Companies' recruitment strategies, work time arrangements and different working conditions are one element in the socio-economic study and incorporated in the health part. Other research shows that long hours and shift work over time affects the health of the workers. These

questions will be studied also in light of one's gender and answers can be given if there will rise some problems or risks. It is possible to study recruitment of competent workforce and how this affects the migration to the municipality/rotation, composition of population (*youngsters, children, female*) and municipal service needed for population growth (*housing, schools, and kindergartens*) as well as value added activity in the society and how the company and their subcontractors contribute. (MineHealth … 2011, 8–9.)

In this context it is well arguable that different kinds of actions dealing with occupational safety and competence improving activities are in the future of up-coming importance. To ensure success in different kind of actions research and information of good practices are needed. Arctic circumstances will set these actions special demands. Mining branch has been until now very male dominant field in education and sector of the labor market. Developing working conditions suitable for females and males and equal distribution of working duties will contribute to less work strain and everybody will get benefit from this. More equal distribution of work strain will reduce sickness absences and improve working capacity. Creating equal atmosphere means that everyone's effort will be valued and everyone's possibilities will be taken into consideration what has preventive influence on phenomena like burn-out and frustration. (MineHealth … 2011, 6–9.)

Socio-economic study gives possibilities to compare different mines, regions and countries and show the possibilities to implement a good socio-economic practice in the local community. (MineHealth … 2011, 6–9.)

2 METHODOLOGICAL BACKGROUND FOR THE SOCIO-ECONOMIC PART OF THE MINE RESEARCH *Leena Viinamäki & Seppo Kilpiäinen*

The socio-economic impacts of the mines can be divided into predicted and realisable positive and negative impacts from the viewpoint of single citizens (*income level and working possibilities*) as well as mine localities (*changes in economic structure with altered collected taxes*). Mining companies are implementing periodic local industrialisation politics and the operating time is defined by the ore body and the world market price of ore. Even if there were ore bodies but the world market price was too low for the mining company, the company can close operations as unprofitable (see Alajärvi et al. 1990; Kunnari et al. 2008).

Actions of mining companies and mine start-ups at some locality reconstruct the community both indirectly and directly – both permanently and temporarily as a change in the demand and supply of welfare services, as an increase in the working possibilities, and as a change in nature (*especially open pit mines*). There will also be changes in the population structure because of mine worker's age- and occupational and educational factors. Especially in the North of Finland as well as in the Barents Region, socio-economic and ecological questions are essential, because many localities have a competing and even contradictory mining and tourism industry (see Keefe 2003; Neth 2008; Tennberg et al. 2012; Walter 2012; Valkonen 2013; Jartti et al. 2014).

The Socio-Economic Part of The Mine Research Work Package 4. is based on a Triangulation and Case Study Research Design (Figure 2.). Triangulation involves the conscious combination of quantitative and qualitative methodologies as a powerful solution to strengthen a research design where the logic is based on the fact that a single method can never adequately solve the problem of rival causal factors (Denzin 1978; Layder 1993; Punch 2005). By following a multi-method research approach (*triangulation*), a more complete, holistic and contextual portrayal can be captured of the units under study.

Restructuring process of mine municipalities' social and economic matters (*Norway, Sweden, Finland, and Russia*) is surveyed with the help of both quantitative and qualitative data. The Triangulation research design consists of marcolevel data (*statistical data*), mesolevel data (*interview data*) and microlevel data (*questionnaire data*). The reserarch team has been collecting statistical data key economic and social indicators, interviewed key informants and has conducted a questionnaire for the Miners according to the same data collecting plan (MineHealth … 2011, 6–9). The reserarch team has especially utilised the report "Murmansk county and Northern Norway: An analysis of key economic and social indicators" (Aanesen 2008; see also MINING SECTOR PERFORMANCE … 2013) while planning this research study and research design.

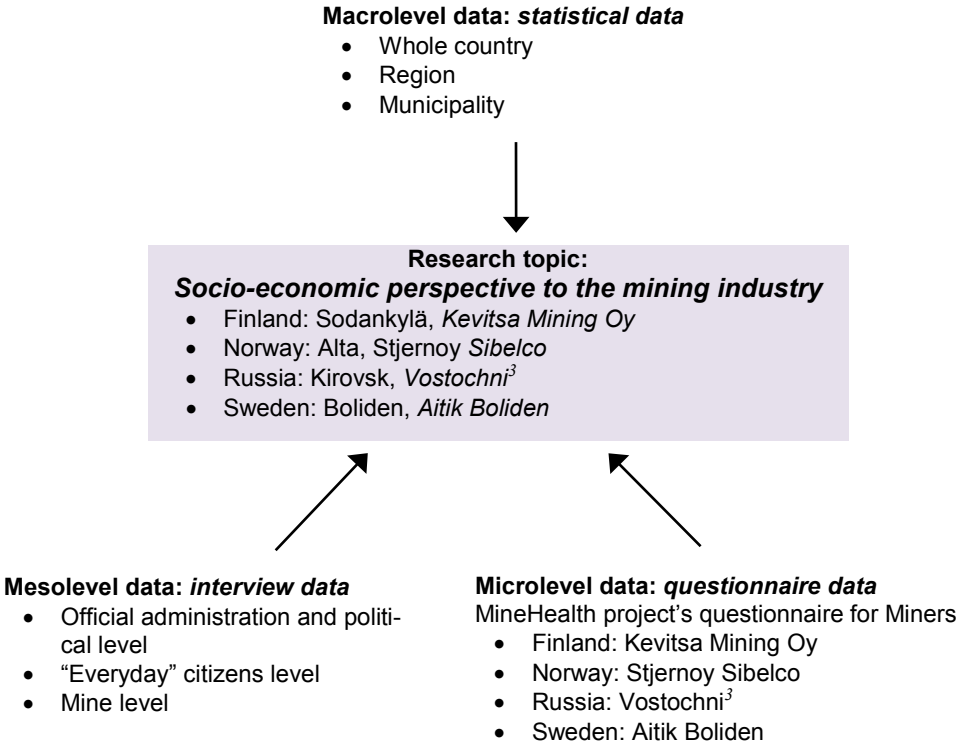


Figure 2. Triangulation research design in the Socio-Economic Part of The Mine Research Work Package 4.

Triangulation research design is based on the case study idea. Case Study means, that one case or a small number of cases will be studied in detail, using whatever methods seem appropriate. The general objective is to develop as full an understanding of that case as possible. The case aims to understand the case in depth, and in its natural setting (*in this study by statistical data.*), recognising its complexity and its context (*in this study by interview and questionnaire data.*). It also has a holistic focus, aiming to preserve and understand the wholeness and unity of the case. (Punch 2005, 142–148; see also Stake 1995, xi–12.) A case can be an individual, an organisation, an institution, an event or a geographical area (David & Suhtton 2004, 135). In this study, the cases are the Mines in local municipalities in Finland Sodankylä, *Kevitsa Mining Oy*, in Norway Alta, *Stjernoy Sibelco*, in Russia Kirovsk, *Phosagro-Apatit*[3]and in Sweden Boliden, *Aitik Boliden*. The research team has described short mine profiles to context mines as actors in local municipalities.

[3] **JSC** "Phosagro-Apatit" is the new name of the company in the fall of 2013.

3 MINE SPECIFIC PROFILE DESCRIPTION *Seppo Kilpiäinen*

3.1 Finland, Kevitsa mine[4], *Seppo Kilpiäinen & Vuokko Tyni*

The Kevitsa mine is located in the Municipality of Sodankylä, approximately 35 kilometres north and north-east of Sodankylä. The region has a sub-arctic climate, and typical terrain types are large spruce and pine forests and surrounding bogs. The mine is owned by the Canadian mining company First Quantum Minerals Ltd (FQM). In 2014, the group had seven mines in operation and several new mines under construction in different parts of the world, including Zambia and Panama.

The Kevitsa ore is used to produce nickel, copper, gold, platinum-group metals and cobalt. At the beginning of 2014, the ore reserves totalled approximately 150 million tonnes, with average contents of 0.27% nickel and 0.4% copper. In 2014, the mine was issued a new environmental permit that makes it possible to increase ore production. The designed ore quarrying volume for the near future is 7–8.5 million tonnes per year. The average ore to waste rock ratio is 1:3. As such, an average three tonnes of waste rocks must be mined for each tonne of ore. The waste rock is deposited at the designated deposition areas north of the open-pit mine. According to the current plans, the known ore reserves will last until the 2030s. However, ore prospecting at the mine site will continue with the aim of finding new ore reserves and thus extending the mine's operating time.

The mine's production plan specifies its shape and quarrying order so that all ore can be quarried as cost-efficiently and, above all, as safely as possible. The drilling and charging of shot holes is planned in detail using modern positioning systems, such as satellite positioning. After blasting, the ore is moved by mining trucks either straight to the concentrating mill's crushing plant or the adjacent intermediate storage area. At the concentrating mill, the ore is first crushed and ground, and froth flotation is used to separate the valuable minerals from the resulting sludge into nickel and copper concentrate. FQM is also involved in projects of the Finnish Funding Agency for Technology and Innovation (Tekes) that aim to develop as environmentally-friendly processes as possible for ore exploitation.

The machines and equipment are maintained by the Kevitsa mine mobile equipment maintenance unit. The mine has also signed a service agreement with the most important equipment suppliers in order to guarantee safe and uninterrupted production.

In all operations, the Kevitsa mine strives to use the safest and best procedures in terms of occupational health and safety. The mine's occupational health station plays a major role; they know the individual work tasks and conditions of all employees. This way, occupational health care can preventively perform high-quality occupational health care work for the benefit of the employees. For example, protection against the cold is important because the conditions in certain work tasks at the mine can be very harsh in the winter. The mine also has a rescue team comprising members of different departments who train regularly to create and maintain the necessary competence for the rescue tasks needed in case of various accidents.

Protecting the environment is extremely important in all mining operations, and Kevitsa is no exception. That is why the surroundings of the mine are monitored according to a monitoring programme specified by the authorities. Water samples are taken in the waterways within and below the mining patent. Dust, noise and vibration are measured regularly in the mine and the surrounding area. The nature around the mine is also monitored constantly. Annual biological monitoring

[4] FQM Kevitsa Mining Oy's introductory materials, which are available at the mine, have been used in the writing of this text. (see Kevitsa n.d.).

entails monitoring the vegetation, fish and birds. The results of the monitoring are reported to the regulatory authority on a monthly basis, which enables the monitoring of short-term and long-term changes in the nature around the mine.

The Kevitsa mine is a very important operator in the region. FQM employs approximately 350 people, and the mine's contractors are also important employers in the region. In addition, the services required by the mine, contractors and employees create new jobs in the surrounding area. Most of the mine workers are from Sodankylä or the neighbouring municipalities, which means that the mine has a very significant socio-economic impact on the entire region's economy.

The Kevitsa mine constantly seeks new employees for various positions. Professionals from many different fields work at the mine, including drillers and truck drivers, repair, process and storage workers, geologists and mining and enrichment engineers. The mine constantly trains its workers and offers the opportunity to learn and work in a multicultural work community in Kevitsa and at the group's other mines. The mine also offers plenty of summer jobs for the region's students.

3.2 Norway, Sibelco, Stjernøya mine, Alta *Vigdis Nygaard*

Extraction of nepheline syenite has taken place from the mine at Stjernøya since 1961. The product is used in glass production, paint industries and ceramics. 100 % of the production is exported, and the demand is relatively stable due to only a handful other global producers. The annual production is 300.000–340.000 tons of nepheline syenite, and the product is shipped out to the global marked by ap-proximately 100 shiploads a year.

The mine is located on a relatively isolated mountainous island, Stjernøya, located in Alta municipality, Northern Norway, and without road access. The mining takes place in and on the Nabbern mountain with an altitude of 700 meters. The plant is located at the seaside with the following production steps; crushing, drying, milling, sieving, magnetic separation and air classification. Up to 2001 the mine was solely an underground mine were the ore was mined in vertical stops, upwards. Demand for better quality ore enforced the company to consider other production methods, and started an open mine pit on the top of the mountain. The site is reached by an underground spiral tunnel to the top. Ore is now stock-piled in the stope from the earlier underground mine. Excavation in the open mine pit is restricted to certain periods of the year due to reindeer husbandry in the region and harsh climatic conditions. Production takes place from late June (*after calving season*) till September, followed by a 3 week stop (*mating season*), then continuing up to Christmas when the cold and weather conditions makes it impossible to work on the top of the mountain. The plant produces on stockpiled ore in the period of closed open mine pit.

The mine has ha history of different ownership models, from Norwegian Industrial Corporation to global. The mine is now run by a Belgium family owned company, Sibelco Group, with production sites in 41 countries and 100.000 employees. Stjernøya mine is organized as a part of Sibelco Nordic.

Workers, mainly living in Alta municipality and neighboring municipalities, commute on a daily basis with a passenger boat. The work is organized in different shift, day-, evening- and nightshifts. The isolated location requires facilities for catering and lodging on site. Weather conditions can cause the shift to be stranded on the island for days during winter. The work force is considered to be reasonably stable and mainly recruited locally. Nevertheless, the company struggle to fill positions requiring specific competence. A minor part of the workforce comes from other Norwegian plants in Sibelco Nordic. Currently, the Stjernøya plant employs 105 workers. There are no plans to increase production and employment as expansion is relatively difficult due to topographic conditions with the plant and other facilities squeezed between the high mountains

and the sea. The reserves in Nabbern mountain will last for 80 more years of mining with the same annual production as today.

The mining activity at Stjernøya has a limited effect on local community as there is no permanent settlement on this part of the island. 75 inhabitants live on the opposite side with no road access. Reindeer herders bring their flocks to the island during summer season and use the pasture extensively, also near the open mine pit. All industrial activity influences their herding. The mining company was in conflict with the herders prior to the opening of the open mine pit, and the case was settled during a long lawsuit. Tail production of the ore is dumped in a sea deposit below the production plant. It is considered to have minimal environmental effects as there are no chemicals added to the process. The company provides important employment to workers from Alta and the neighboring municipalities directly and indirectly by using subcontractors from the region. The mine is one of very few industrial enterprises left in Alta municipality, now dominated by public administration and commerce. Alta municipality has 20.000 inhabitants.

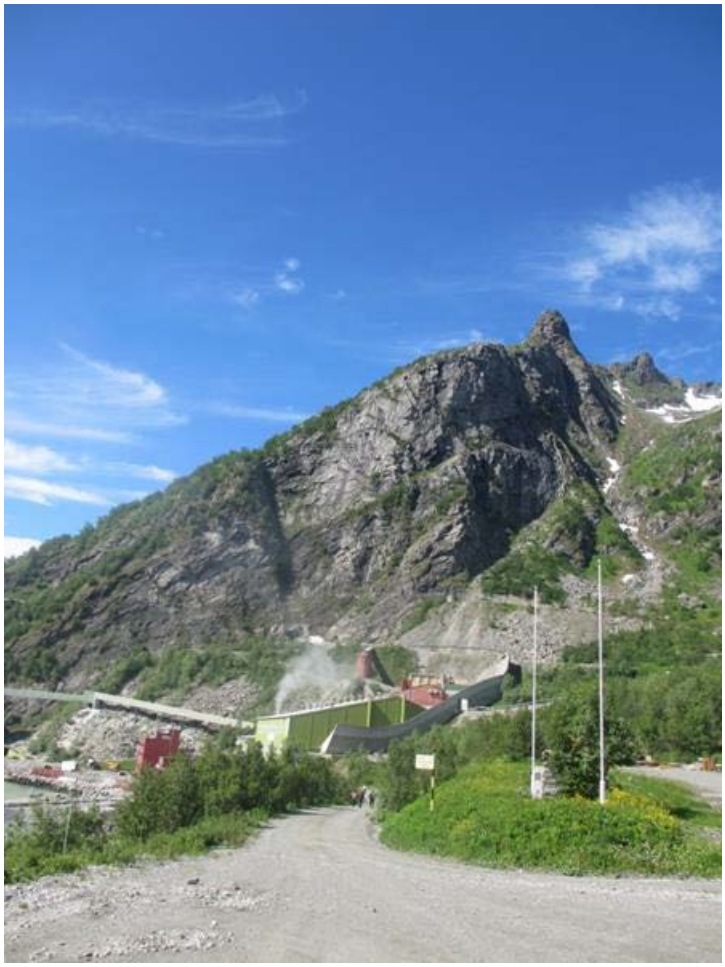


Foto 1. Sibelco, Stjernøya mine, Alta, Norway.

3.3 Russia, Vostochni mine, *Ljudmila Talykova*

Table 1. *Vostochni mine profile.*

RESEARCH TOPICS	Russia. SC “Apatit” mines
Locating area	The Central part of the Kola Peninsula, Khibiny mountain range
Historical perspective of the Mine	On 01.01.2011, the balance reserves of apatite-nepheline ores of the exploited deposits amounted to 2,085,040 tons. Given the optimal level of production of apatite concentrate, JSC "Apatite" has resources for more than 75 years
Mine customer(s)	
private ownership	In 1996-1997, the company was first incorporated, and then passed the procedure of privatization,
state ownership	From 13.11.1929 till 1996 year
Mine type	
open-pit mine	Vostochny, Zentralny
not open-pit mine	Kirovsky, Razvumcorrsky
Minerals	
mine minerals	apatite, nepheline
sub minerals	sphene, feldspar, clinopyroxene, titanomagnetite
Product/ore and degree of processing	annual production 26 000 000 tons apatite-nepheline ores, more than 70% of apatite and 100% of nepheline concentrates in Russia
Internationality and trade	1. UNESCO and the Company signed an Agreement on partnership and establish a program of grants to support promising projects proposed by young scientists in the framework of the joint project "Green chemistry for life". Total funding for the company "FosAgro" project "Green chemistry for life", designed for 5 years with possibility of further extension, will be 1 400 000 USD 2. OJSC "PhosAgro" and the Belgian company "Prayon" signed a Memorandum on cooperation. It provides for PhosAgro access to the technology of extraction of rare earth elements contained in the phosphogypsum produced during the production of phosphoric acid from Apatite concentrates 3. Group PhosAgro has signed a three-year contract for the delivery to India of diammonium phosphate (DAP) with a total value of $1.5 billion, and became the first company in the world, signed an annual contract with India for the supply of complex fertilizers (NPK)
Mine recruitment area for mineworkers	Kirovsk. Apatity. Murmansk region
Mine´s relation to employment of areas	JSC Apatit is the city-forming enterprise Kirovsk and Apatity
Mine´s relation to regional development	Tax revenues of JSC Apatit and JSC Kola Mining and Metallurgical Company (nickel production) make the main part of the budget of Murmansk region
New technology and it´s challenges	Construction of the Main trunk No. 2 on Kirovski mine for increase in volume of underground production apatite - nepheline ore. Cost of production of ore in underground mine is lower in comparison with working off of fields in the open way

3.4 Sweden, The Boliden Aitik mine, *Anita Pettersson-Strömbäck*

The Boliden Aitik is Sweden's largest copper mine, situated outside the town of Gällivare in the very north of Sweden. The mine was established in 1968, although the deposit was discovered at the beginning of the 1930's. The deposit consists of chalcopyrite and pyrite yielding copper, gold and silver. Due to modern mining equipment and technology, vast quantities of rock are mined and transported around the clock every day at Aitik's open pit. The open pit is 3 km long, 1.1 km wide and 450 meters deep – so far. The mining capacity is now gradually tuned up since the large Aitik Expansion in 2010, to reach a record level of 36 Mtonnes ore per year from 2014 and on. Large amounts of waste rock must be removed in order to produce the ore. Much of this waste rock may ultimately become a commercial product, used in the construction of roads and as ballast material in cement.

Boliden has submitted an application for increased production and future sand deposition to the Land and Environmental court. The court has sent out request for comment from relevant authorities and others. The actors are to submit their possible observations on the application in mid-March 2014 to be processed further. In August 2010 the a new processing plant was inaugurated, which is a modern processing plant with new infrastructure and logistics solution.

The mine has had the same owner since the start, Boliden Inc, who was founded in 1931 out of the two companies Västerbottens Gruvaktiebolag and Skellefteå Gruvaktiebolag.

Aitik employs approx. 700 people and is the largest private employer in the municipality of Gällivare. Boliden has adopted a Diversity Policy that states that "*Always see to the person's competence, and disregard aspects such as gender, ethnicity, age, disability, sexual orientation or other circumstances" and that Boliden shall "Support employees in their ambition to achieve a healthy balance between working life and private life*" (New Boliden n.d.).

Besides Boliden Aitik, there is another big mine in Gällivare, LKAB who spalls iron ore. Gällivare municipality has about 19 000 inhabitants, and the municipality is growing, mainly due to the activity of the big mines. This results in a lack of housing, both apartments and houses. Further, as the big mines need a lot of personnel with the right qualifications, Boliden Aitik has in cooperation with the high school started a high school program with a mining profile.

Boliden Aitik has severe environmental effects as it is an open pit mine with a low rate of mineralization in the ground. Extracting and refining metals results in varying degrees of discharges and emissions into the surrounding environment, both to water and air.

Foto 2. The Boliden Aitik mine, situated in Gällivare, Sweden.

4 MINING INDUSTRY AS A PRIMUS MOTOR FOR THE SOCIO-ECONOMIC RESTRUCTURING PROCESS IN MINE MUNICIPALITIES Leena Viinamäki

As a part of the MineHealth project, the socio-economic study evaluates the impacts of the opening mine to the local communities in Finland, Norway, Russia and Sweden. The research team has been analysed the socio-economic development in Sodankylä, Alta, Kirovsk and Boliden mine municipalities.

According to the socio-economic study's research design statistical analysis gives context to the national, regional and municipal level with the mine's social and economic role to its municipality. Statistics differ from one another depending from the statistical collection. When drawing official statistics, it needs to be taken care of that those correlate with the reality of the societal structure, its situations and its changes. Statistical standards are based on the international recommendations and contracts. (Tilastokeskus 2007, 42; see also European Statistics Code of Practice 2011.)

In Finland the data is gathered from The SOTKAnet Indicator Bank. The SOTKAnet Indicator Bank is an information service provided by the National Institute for Health and Welfare (THL) that offers key population welfare and health data from 1990 onwards for all Finnish municipalities, based on the current administrative division into municipalities. It allows the user to search for indicator data concerning different geographical areas in absolute numbers and percentages, for instance. Indicator descriptions provide information on data content, interpretations, sources, years covered, and possible restrictions. (About SOTKAnet 2015.)

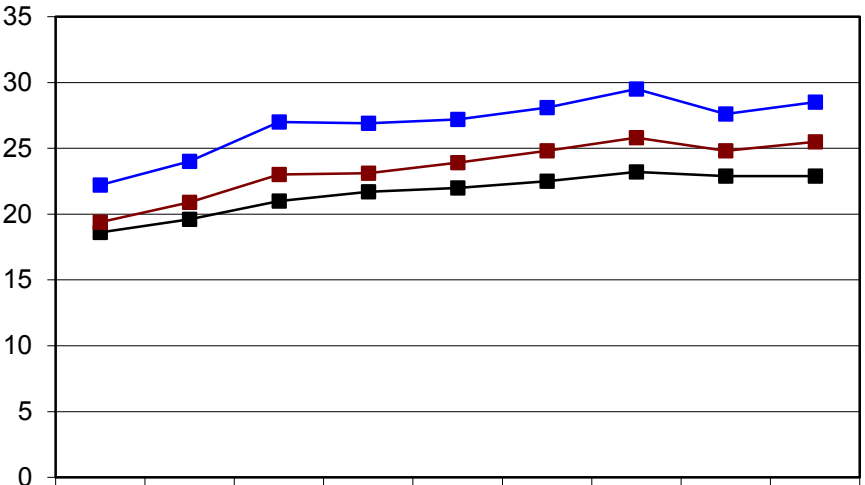
In Norway, the data is gathered from the Statistics Norway public data bases by the project personnel. Statistics Norway is the administrative agency with responsibility for official statistics in Norway.

In Sweden, the data is gathered though the help of Statistics Sweden, the administrative agency in charge of producing and communicating national statistical data (*for data about Gini coefficient, industrial structure as % employed in mining and quarrying, population structure, employment, inter municipal net migration pr 1000 habitants and education level of population*) and by Arbetsförmedlingens online data base (*unemployment data*). The reason for letting Statistics Sweden carry out the collection of data was that in the public data bases, data on municipality level was not available.

In Russia the data is gathered from The official Statistical data base.

Statistical data consist of the Gini coefficient, population, migration, educational level, employment structure and livelihood structure. However, there are some variations among Finland, Norway, Russia and Sweden statistical data analysis partly because of country specific official statistical data system (see also Haley et al. 2011).

4.1 Finland, Sodankylä muncipality, *Leena Viinamäki*

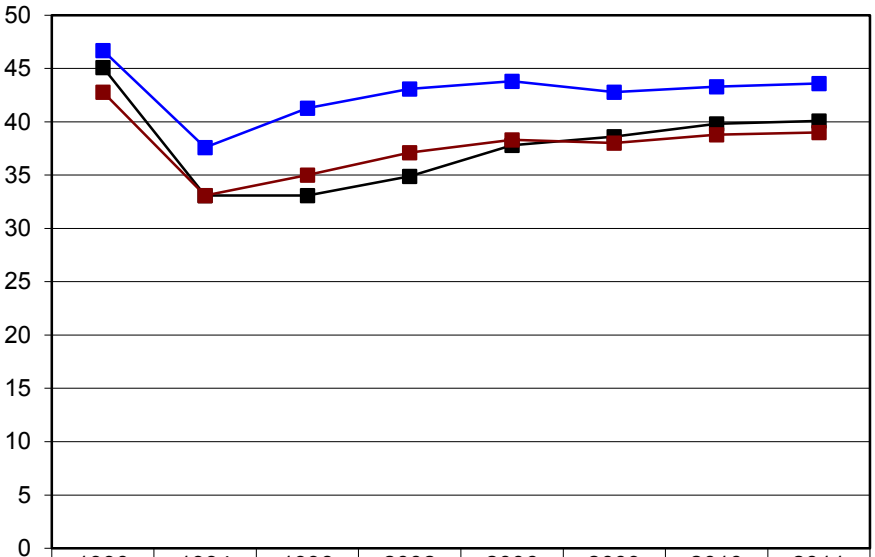


	1995	1997	1999	2001	2003	2005	2007	2009	2011
Sodankylä	18,6	19,6	21	21,7	22	22,5	23,2	22,9	22,9
Region of Lapland	19,4	20,9	23	23,1	23,9	24,8	25,8	24,8	25,5
Whole country	22,2	24	27	26,9	27,2	28,1	29,5	27,6	28,5

Figure 3. Gini coefficient, disposable income[5], combined.

From 1995 to 2011, the Gini coefficient has risen 4,3 percentage points in Sodankylä and 6,1 percentage points in the region of Lapland and 6,3 percentage points in the whole country.

5 **(id: 3126)** The indicator gives the distribution of disposable income in the household-dwelling units in the region under examination. In calculating the Gini coefficient, the disposable income of a household-dwelling unit is divided by the consumption unit for the household-dwelling unit. The disposable income of a household-dwelling unit is calculated, first, by adding up the household members' total wages and salaries, entrepreneurial income and property income as well as the current transfers received by them and, then, by subtracting the current transfers paid out by the members. The size of the consumption unit represented by a household-dwelling unit is the sum of the weights of its members: the first adult receives the weight 1, others aged over 13 receive the weight 0.5 and children aged 0–13 receive the weight 0.3. Disposable income divided by the consumption unit is commonly called equivalent disposable money income, which is applied to all members of a household-dwelling unit when calculating the Gini coefficient. The Gini coefficient is one of the most frequently used indicators for income inequality. It gives the level of income inequalities in one numerical value from 0 to 1. Gini coefficient can also be multiplied by 100, and then the maximum value is 100. The greater the value, the more unequally income is distributed. Employment and unemployment are the most significant factors behind income inequalities. Very great income inequalities are considered to deteriorate social cohesion, trust and mobility, and that has negative impact on the population welfare and the economy. Source: SOTKAnet website www.sotkanet.fi [Referred 18.11.2013].

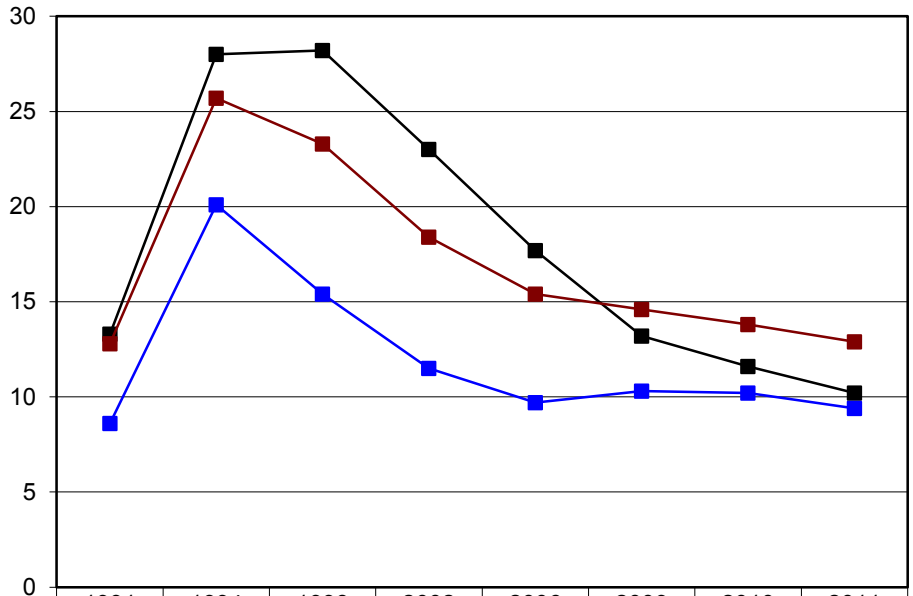


	1990	1994	1998	2002	2006	2009	2010	2011
Sodankylä	45,1	33,1	33,1	34,9	37,8	38,6	39,8	40,1
Region of Lapland	42,8	33,1	35	37,1	38,3	38	38,8	39
Whole country	46,7	37,6	41,3	43,1	43,8	42,8	43,3	43,6

Figure 4. Employed, as % of total population[6], combined.

From 1990 to 2011, the percentage of employed from the total population has decreased -5 percentage points in Sodankylä, -3,8 percentage points in the region of Lapland and -3,1 percentage points in the whole country.

[6] **(id:2328)** The indicator gives the percentage of the employed in the total population. Employed persons are persons aged 15 to 74 who during the survey week from 25 to 31 December were gainfully employed for at least one day, or who have been temporarily absent from work. Employment data are based on data derived from the authorities responsible for employment-based pensions and the taxation authorities. However, those who, according to the job seeker register of the Ministry of Labour, have been unemployed on the last working day of the year have been defined as unemployed irrespective of their other activities during that week. This number of employed people is also referred to as the active labour force. **Source:** SOTKAnet website www.sotkanet.fi [Referred 12.12.2013].

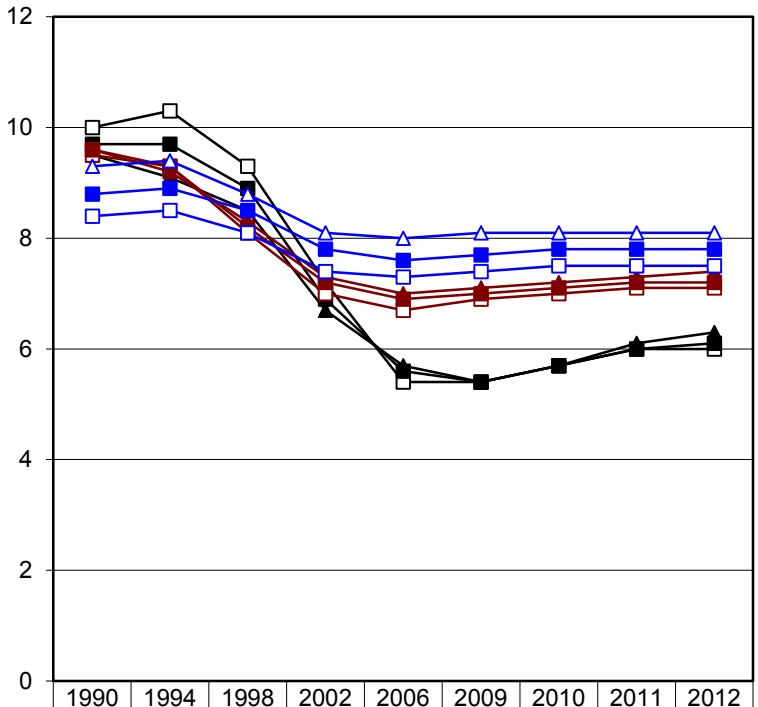


	1991	1994	1998	2002	2006	2009	2010	2011
Sodankylä	13,3	28	28,2	23	17,7	13,2	11,6	10,2
Region of Lapland	12,8	25,7	23,3	18,4	15,4	14,6	13,8	12,9
Whole country	8,6	20,1	15,4	11,5	9,7	10,3	10,2	9,4

Figure 5. Unemployed people, as % of labour force[7], combined.

From 1991 to 2011, as percentage of the labour force, the percentage of unemployed people has decreased -3,1 percentage points in Sodankylä, but has risen 0,1 percentage points in the region of Lapland and 0,8 percentage points in the whole country.

[7] **(id:181)** The indicator gives the unemployed as a percentage of the total labour force. The unemployed labour force consists of the unemployed aged 15 to 74. An unemployed job seeker is an individual without employment who is available for full-time employment or who is waiting for an employment relationship to begin. Those laid off are also counted as unemployed. Unemployment pensioners are not included. The total average number of the unemployed during the year is usually given as an average calculated on the number of the unemployed (job seekers and the unemployed whose work application is active on the day of calculation) on the last day of each month. The data are reported each month by employment district and occupation. People are counted as employed if, during the research period, they have worked for pay or profit for at least one day or have worked as an assisting family member for at least a third of the work hours regarded as normal in the field or were temporary absent from work. The labour force consists of those aged 15 to 74 who were employed or unemployed during the research period. **Source:** SOTKAnet website www.sotkanet.fi [Referred 18.11.2013].



	1990	1994	1998	2002	2006	2009	2010	2011	2012
Sodankylä female	10	10,3	9,3	7,2	5,4	5,4	5,7	6	6
Sodankylä male	9,5	9,1	8,5	6,7	5,7	5,4	5,7	6,1	6,3
Sodankylä combined	9,7	9,7	8,9	6,9	5,6	5,4	5,7	6	6,1
Region of Lapland female	9,5	9,3	8,1	7	6,7	6,9	7	7,1	7,1
Region of Lapland male	9,6	9,2	8,3	7,3	7	7,1	7,2	7,3	7,4
Region of Lapland combined	9,6	9,3	8,2	7,2	6,9	7	7,1	7,2	7,2
Whole country female	8,4	8,5	8,1	7,4	7,3	7,4	7,5	7,5	7,5
Whole country male	9,3	9,4	8,8	8,1	8	8,1	8,1	8,1	8,1
Whole country combined	8,8	8,9	8,5	7,8	7,6	7,7	7,8	7,8	7,8

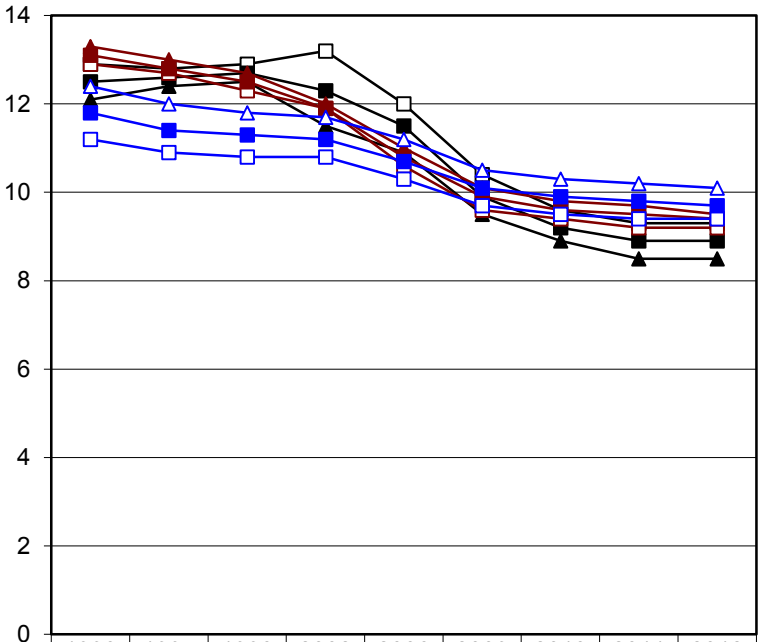
Figure 6. Population aged 0–6 as % of total population[8].

From 1990 to 2012, as percentage of total population, the population aged 0–6 has decreased -3,6 percentage points in Sodankylä, decrease being -4 percentage points among women and -3,2 percentage points among men.

The population aged 0–6 has decreased -2,4 percentage points in the region of Lapland, decrease being -2,4 percentage points among women and -2,2 percentage points among men.

The population aged 0–6 has has decreased -1 percentage points in the whole country, decrease being -0,9 percentage points among women and -1,2 percentage points among men.

[8] **(id: 7)** The indicator gives the permanent resident population in the age group as a percentage of the total permanent resident population by gender (males and females separately and combined) on the last day of the year. **Source:** SOTKAnet website www.sotkanet.fi [Referred 12.12.2013].



	1990	1994	1998	2002	2006	2009	2010	2011	2012
Sodankylä female	12,9	12,8	12,9	13,2	12	10,4	9,6	9,3	9,3
Sodankylä male	12,1	12,4	12,5	11,5	10,9	9,5	8,9	8,5	8,5
Sodankylä combined	12,5	12,6	12,7	12,3	11,5	9,9	9,2	8,9	8,9
Region of Lapland female	12,9	12,7	12,3	11,9	10,6	9,6	9,4	9,2	9,2
Region of Lapland male	13,3	13	12,7	12	11	10,1	9,8	9,7	9,5
Region of Lapland combined	13,1	12,8	12,5	11,9	10,8	9,9	9,6	9,5	9,4
Whole country female	11,2	10,9	10,8	10,8	10,3	9,7	9,5	9,4	9,4
Whole country male	12,4	12	11,8	11,7	11,2	10,5	10,3	10,2	10,1
Whole country combined	11,8	11,4	11,3	11,2	10,7	10,1	9,9	9,8	9,7

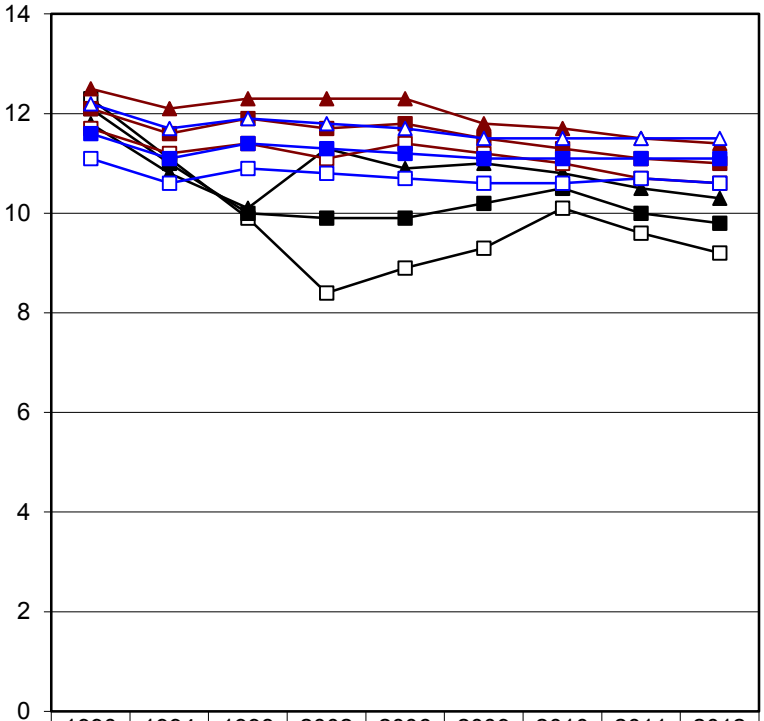
Figure 7. Population aged 7–15 as % of total population[9].

From 1990 to 2012, as percentage of total population, the population aged 7–15 has decreased -3,6 percentage points in Sodankylä, decrease being -3,6 percentage points among women and -3,6 percentage points among men.

The population aged 7–15 has decreased -3,7 percentage points in the region of Lapland, decrease being -3,7 percentage points among women and -3,8 percentage points among men.

The population aged 7–15 has decreased -2,1 percentage points in the whole country, decrease being -1,8 percentage points among women and -2,3 percentage points among men.

[9] **(id: 673)** The indicator gives the permanent resident population in the age group as a percentage of the total permanent resident population by gender (males and females separately and combined) on the last day of the year. **Source:** SOTKAnet website www.sotkanet.fi [Referred 12.12.2013].



	1990	1994	1998	2002	2006	2009	2010	2011	2012
Sodankylä female	12,3	11,1	9,9	8,4	8,9	9,3	10,1	9,6	9,2
Sodankylä male	11,8	10,8	10,1	11,3	10,9	11	10,8	10,5	10,3
Sodankylä combined	12,1	11	10	9,9	9,9	10,2	10,5	10	9,8
Region of Lapland female	11,7	11,2	11,4	11,1	11,4	11,2	11	10,7	10,6
Region of Lapland male	12,5	12,1	12,3	12,3	12,3	11,8	11,7	11,5	11,4
Region of Lapland combined	12,1	11,6	11,9	11,7	11,8	11,5	11,3	11,1	11
Whole country female	11,1	10,6	10,9	10,8	10,7	10,6	10,6	10,7	10,6
Whole country male	12,2	11,7	11,9	11,8	11,7	11,5	11,5	11,5	11,5
Whole country combined	11,6	11,1	11,4	11,3	11,2	11,1	11,1	11,1	11,1

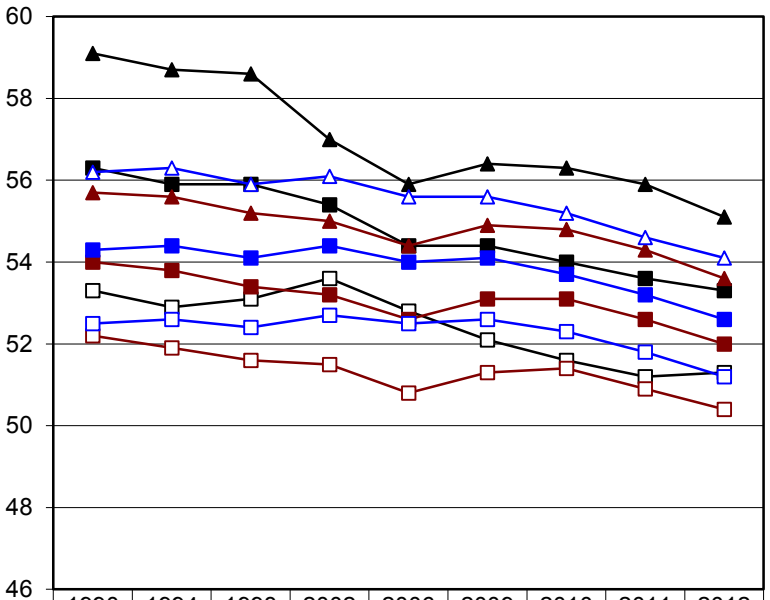
Figure 8. Population aged 16–24 as % of total population[10].

From 1990 to 2012, as percentage of total population, the population aged 16–24 has decreased -2,3 percentage points in Sodankylä, decrease being -3,1 percentage points among women and -1,5 percentage points among men.

The population aged 16–24 has decreased -1,1 percentage points in the region of Lapland, decrease being -1,1 percentage points among women and -1,1 percentage points among men.

The population aged 16–24 has has decreased -0,5 percentage points in the whole country, decrease being -0,5 percentage points among women and -0,7 percentage points among men.

[10] **(id: 168)** The indicator gives the permanent resident population in the age group as a percentage of the total permanent resident population by gender (males and females separately and combined) on the last day of the year. **Source:** SOTKAnet website www.sotkanet.fi [Referred 12.12.2013].



	1990	1994	1998	2002	2006	2009	2010	2011	2012
Sodankylä female	53,3	52,9	53,1	53,6	52,8	52,1	51,6	51,2	51,3
Sodankylä male	59,1	58,7	58,6	57	55,9	56,4	56,3	55,9	55,1
Sodankylä combined	56,3	55,9	55,9	55,4	54,4	54,4	54	53,6	53,3
Region of Lapland female	52,2	51,9	51,6	51,5	50,8	51,3	51,4	50,9	50,4
Region of Lapland male	55,7	55,6	55,2	55	54,4	54,9	54,8	54,3	53,6
Region of Lapland combined	54	53,8	53,4	53,2	52,6	53,1	53,1	52,6	52
Whole country female	52,5	52,6	52,4	52,7	52,5	52,6	52,3	51,8	51,2
Whole country male	56,2	56,3	55,9	56,1	55,6	55,6	55,2	54,6	54,1
Whole country combined	54,3	54,4	54,1	54,4	54	54,1	53,7	53,2	52,6

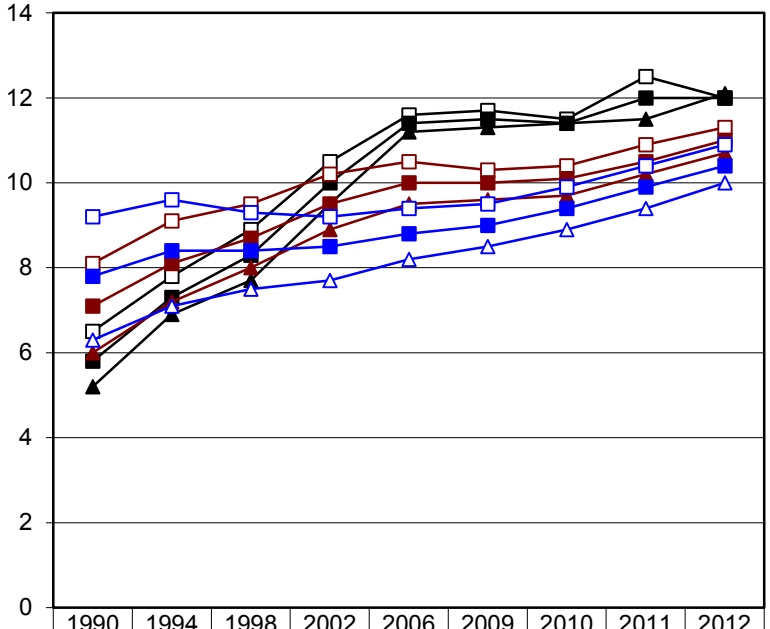
Figure 9. Population aged 25–64 as % of total population.[11].

From 1990 to 2012, as percentage of total population, the population aged 25–64 has decreased -3 percentage points in Sodankylä, decrease being -2 percentage points among women and -4 percentage points among men.

The population aged 25–64 has decreased -2 percentage points in the region of Lapland, decrease being -1,8 percentage points among women and -2,1 percentage points among men.

The population aged 25–64 has has decreased -1,7 percentage points in the whole country, decrease being -1,3 percentage points among women and -2,1 percentage points among men.

[11] **(id: 169)** The indicator gives the permanent resident population in the age group as a percentage of the total permanent resident population by gender (males and females separately and combined) on the last day of the year. **Source:** SOTKAnet website www.sotkanet.fi [Referred 12.12.2013].



	1990	1994	1998	2002	2006	2009	2010	2011	2012
Sodankylä female	6,5	7,8	8,9	10,5	11,6	11,7	11,5	12,5	12
Sodankylä male	5,2	6,9	7,7	9,5	11,2	11,3	11,4	11,5	12,1
Sodankylä combined	5,8	7,3	8,3	10	11,4	11,5	11,4	12	12
Region of Lapland female	8,1	9,1	9,5	10,2	10,5	10,3	10,4	10,9	11,3
Region of Lapland male	6	7,2	8	8,9	9,5	9,6	9,7	10,2	10,7
Region of Lapland combined	7,1	8,1	8,7	9,5	10	10	10,1	10,5	11
Whole country female	9,2	9,6	9,3	9,2	9,4	9,5	9,9	10,4	10,9
Whole country male	6,3	7,1	7,5	7,7	8,2	8,5	8,9	9,4	10
Whole country combined	7,8	8,4	8,4	8,5	8,8	9	9,4	9,9	10,4

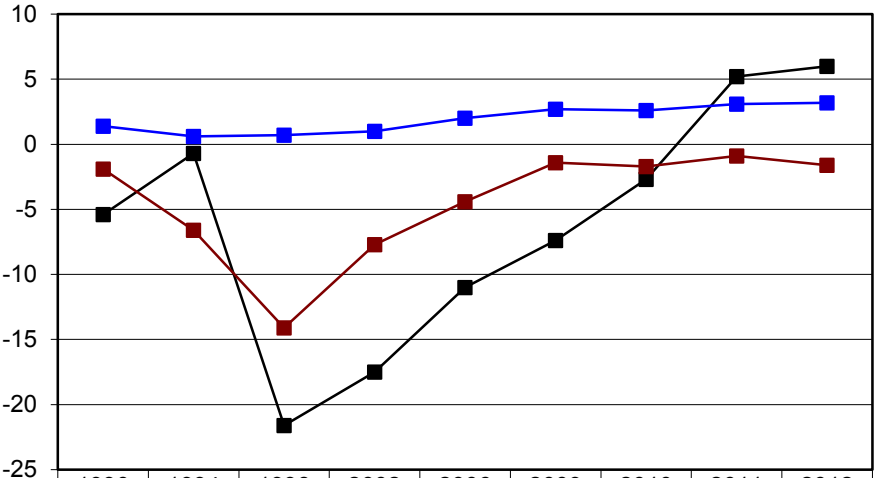
Figure 10. Population aged 65–74 as % of total population.[12.]

From 1990 to 2012, as percentage of total population, the population aged 65–74 has increased 6,2 percentage points in Sodankylä, increase being 5,5 percentage points among women and 6,9 percentage points among men.

The population aged 65–74 has increased 3,9 percentage points in the region of Lapland, increase being 3,2 percentage points among women and 4,7 percentage points among men.

The population aged 65–74 has increased 2,6 percentage points in the whole country, increase being 1,7 percentage points among women and 3,7 percentage points among men.

[12] **(id: 170)** The indicator gives the permanent resident population in the age group as a percentage of the total permanent resident population by gender (males and females separately and combined) on the last day of the year. **Source:** SOTKAnet website www.sotkanet.fi [Referred 12.12.2013].



	1990	1994	1998	2002	2006	2009	2010	2011	2012
Sodankylä	-5,4	-0,7	-21,6	-17,5	-11	-7,4	-2,7	5,2	6
Region of Lapland	-1,9	-6,6	-14,1	-7,7	-4,4	-1,4	-1,7	-0,9	-1,6
Whole country	1,4	0,6	0,7	1	2	2,7	2,6	3,1	3,2

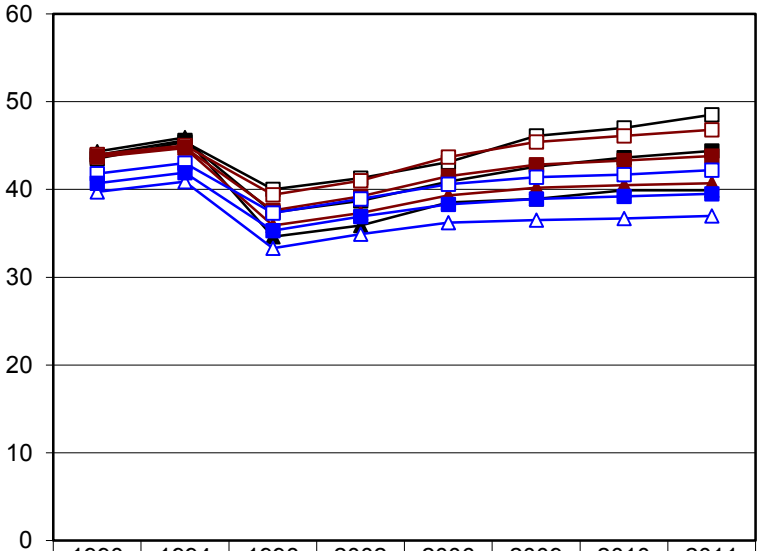
Figure 11. Intermunicipal net migration 1000 inhabitants[13], combined (men and women).

From 1990 to 2012, the intermunicipal net migration/1000 inhabitants of the inspection areas has been positive, the whole country has a migration profit of 1,8 points.

From 1990 to 2010, the intermunicipal net migration/1000 inhabitants of the inspection areas has been negative in Sodankylä, but the intermunicipal net migration/1000 inhabitants has turned to positive, being 5,2 points in 2011 and 6 points in 2012.

From 1990 to 2012, the intermunicipal net migration/1000 inhabitants deficit decreased 0,3 points in the region of Lapland.

[13] **(id:178)** The indicator gives intermunicipal net migration per thousand inhabitants. Population figures refer to mean population. Net migration is obtained by subtracting those leaving the region (out-migrants) from those moving to the region (in-migrants). Accordingly, net migration is positive if more people have moved to the region than left it. Migration between municipalities has been adjusted throughout the time series so that it correspond with the most recent regional divisions, i.e., migration between municipalities that have since merged has been eliminated from the figures. **Source:** SOTKAnet website www.sotkanet.fi [Referred 12.12.2013].



	1990	1994	1998	2002	2006	2009	2010	2011
Sodankylä male	43,5	45,4	40	41,3	43,1	46,1	47	48,5
Sodankylä female	44,3	45,9	34,6	35,9	38,5	38,9	39,9	39,9
Sodankylä combined	43,9	45,6	37,4	38,7	40,9	42,6	43,6	44,4
Region of Lapland male	44	45	39,4	41	43,7	45,4	46,1	46,8
Region of Lapland female	43,7	44,7	35,9	37,3	39,3	40,2	40,5	40,7
Region of Lapland combined	43,8	44,8	37,6	39,2	41,5	42,8	43,3	43,8
Whole country male	41,8	43	37,3	38,9	40,6	41,4	41,7	42,2
Whole country female	39,7	40,9	33,3	34,9	36,2	36,5	36,7	37
Whole country combined	40,7	41,9	35,3	36,9	38,3	38,9	39,2	39,5

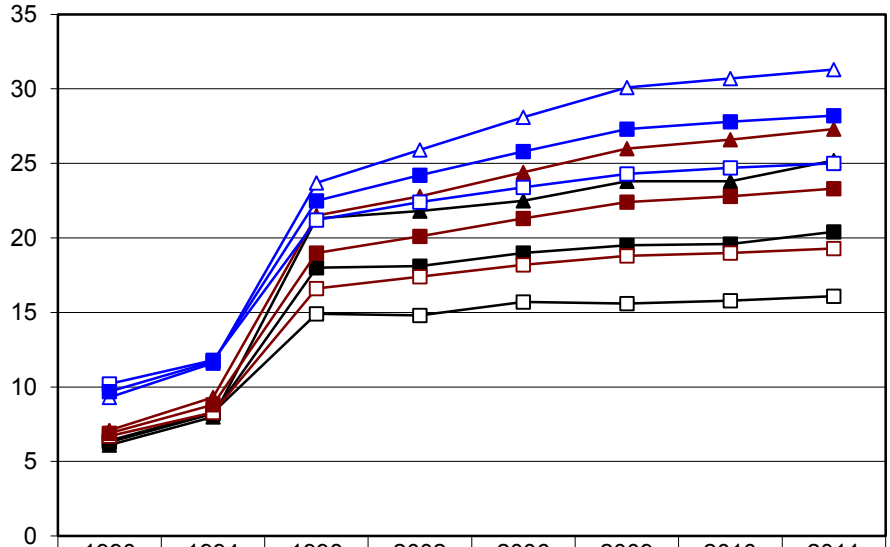
Figure 12. Persons with upper secondary education, aged 15 and over, as % of total population of same age.[14.]

From 1990 to 2011, the percentage of people aged 15 or older with upper secondary education has increased 0,5 percentage points in Sodankylä, decreased -4,4 percentage points among women and increased 5 percentage points among men.

The percentage of people aged 15 or older with upper secondary education has remained the same in the region of Lapland, decreased -3 percentage points among women and increased 2,8 percentage points among men.

The percentage of people aged 15 or older with upper secondary education has decreased -1,2 percentage points in the whole country, decreased -2,7 percentage points among women and increased 0,4 percentage points among men.

[14] **(id: 3193)** The indicator gives the percentage of people aged 15 and over who have upper secondary education in the total population of the same age. Upper secondary education refers to those who have passed the matriculation examination or have completed, in a vocational institution, studies of no more than 3 years and leading to a vocational qualification. **Source:** SOTKAnet website www.sotkanet.fi [Referred 12.12.2013].



	1990	1994	1998	2002	2006	2009	2010	2011
Sodankylä male	6,4	8,3	14,9	14,8	15,7	15,6	15,8	16,1
Sodankylä female	6,1	8	21,3	21,8	22,5	23,8	23,8	25,2
Sodankylä combined	6,3	8,2	18	18,1	19	19,5	19,6	20,4
Region of Lapland male	6,7	8,3	16,6	17,4	18,2	18,8	19	19,3
Region of Lapland female	7,1	9,3	21,5	22,8	24,4	26	26,6	27,3
Region of Lapland combined	6,9	8,8	19	20,1	21,3	22,4	22,8	23,3
Whole country male	10,2	11,8	21,2	22,4	23,4	24,3	24,7	25
Whole country female	9,3	11,6	23,7	25,9	28,1	30,1	30,7	31,3
Whole country combined	9,7	11,7	22,5	24,2	25,8	27,3	27,8	28,2

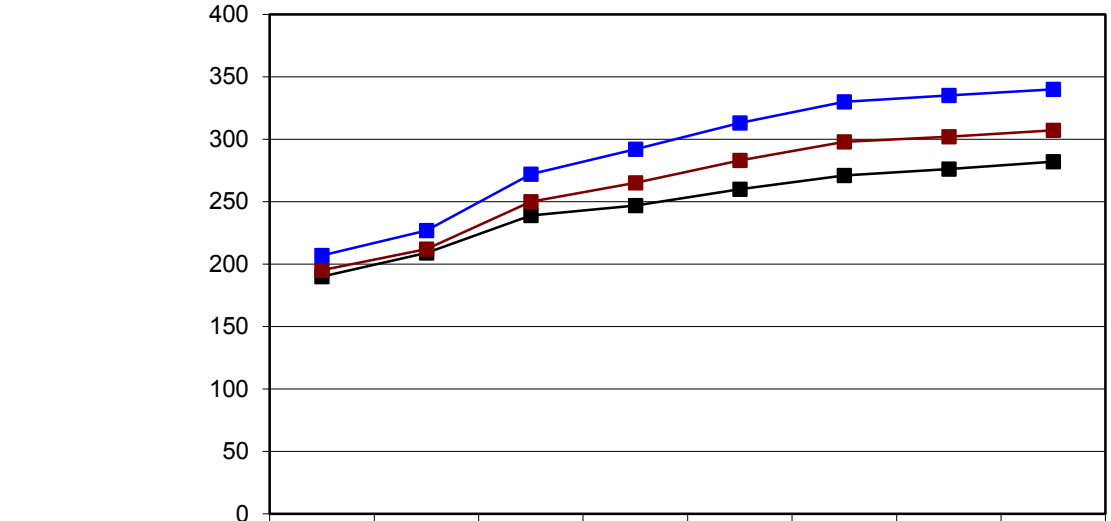
Figure 13. Persons with higher education qualifications, aged 15 and over, as % of total population of same age.[15.]

From 1990 to 2011, the percentage of people aged 15 or older with higher education qualifications has increased 14,1 percentage points in Sodankylä, increased 19,1 percentage points among women and increased 9,7 percentage points among men.

The percentage of people aged 15 or older with higher education qualifications has increased 16,4 percentage points in the region of Lapland, increased 20,2 percentage points among women and 12,6 percentage points among men.

The percentage of people aged 15 or older with higher education qualifications has increased 18,5 percentage points in the whole country, increased 22 percentage points among women and 14,8 percentage points among men.

15 **(id: 3195)** The indicator gives persons aged 15 and over with a higher education qualification as a percentage of the population aged 15 to 64. The population data refer to year-end data. Persons with a higher education qualification refer to those who have completed, in a vocational institution, studies of more than 3 years and leading to a vocational qualification or who have completed a polytechnic or university degree. **Source:** SOTKAnet website www.sotkanet.fi [Referred 12.12.2013].



	1990	1994	1998	2002	2006	2009	2010	2011
Sodankylä	190	209	239	247	260	271	276	282
Region of Lapland	195	212	250	265	283	298	302	307
Whole country	207	227	272	292	313	330	335	340

Figure 14. Measure of educational level[16], combined.

From 1990 to 2011, the measure of educational level has risen 92 points in Sodankylä, 112 points on the region of Lapland and 133 points in the whole country.

[16] **(id: 180)** The indicator represents the level of education in the population, giving the average length of education and training required for each person's highest educational qualification or degree after basic education. The measure of educational level describes the educational level of a population group by length of education per person. For example, the value 246 shows that the theoretical length of education per person is 2.5 years after completing basic education. The measure usually covers the population aged 20 and over because most under-20s are still in school, so they have not yet been able to attain a qualification or degree. Population having completed a qualification or degree refers to completers of general upper secondary schools, vocational educational establishments, polytechnics and universities, as well as attainers of initial, further and specialist vocational qualifications through competence tests. Those who have only completed basic education are not included. Qualifications and degrees are classified according to each person's highest, most recent vocational qualification or degree. **Source:** SOTKAnet website www.sotkanet.fi [Referred 12.12.2013].

Table 2. *Industrial structure, in Sodankylä, Region of Lapland and Region of Lapland from 2007 to 2011.*[17]

Industrial structure, % employed	2007	2008	2009	2010	2011	2007-2011
1. **Mining…** (id: 3865)						
• Sodankylä	3,4	3,7	4,3	4,8	6	**2,6**
• Region of Lapland	2,1	2,4	2,6	2,7	2,9	**0,8**
• Whole country	1,2	1,2	1,2	1,2	1,2	**0**
2. **Professional…** (id: 3860)						
• Sodankylä	12,4	12,7	13,3	12,4	13,8	**1,4**
• Region of Lapland	10,5	10,5	10,4	10,5	10,6	**0,1**
• Whole country	11,1	11,3	11,4	11,7	12	**0,9**
3. **Agriculture…** (id: 3859)						
• Sodankylä	11,1	11	10,4	10,8	10	**-1,1**
• Region of Lapland	5,8	5,5	5,4	5,4	5,2	**-0,6**
• Whole country	4	3,8	3,7	3,7	3,5	**-0,5**
4. **Construction…** (id: 3864)						
• Sodankylä	8,2	8,4	7,3	7,8	6,9	**-1,3**
• Region of Lapland	7,4	6,9	6,6	6,9	6,9	**-0,5**
• Whole country	6,8	6,6	6,4	6,5	6,6	**-0,2**
5. **Public administration…** (id: 3861)						
• Sodankylä	32,1	31,9	32	31,7	31,8	**-0,3**
• Region of Lapland	31,9	32,1	33,2	32,3	32,4	**0,5**
• Whole country	27,3	27,6	28,9	28,3	28,3	**1**
6. **Real estate…** (id: 3858)						
• Sodankylä	1,6	1,6	1,2	1,2	1,4	**-0,2**
• Region of Lapland	1,1	1	1,1	1	1	**-0,1**
• Whole country	0,9	0,9	0,9	0,9	0,9	**0**
7. **Wholesale…** (id: 3855)						
• Sodankylä	18,3	18,8	19,8	19	18	**-0,3**
• Region of Lapland	21,2	21,7	21,6	21	20,8	**-0,4**
• Whole country	21,7	21,9	21,9	21,6	21,5	**-0,2**
8. **Financial…** (id: 3857)						
• Sodankylä	0,9	0,8	0,9	0,8	0,6	**-0,3**
• Region of Lapland	1,1	1,1	1,1	1	1	**-0,1**
• Whole country	2	2	2,1	2	2	**0**
9. **Manufacturing…** (id: 3862)						
• Sodankylä	5,7	5,3	4,8	4,6	4,8	**-0,9**
• Region of Lapland	12,4	11,9	11,1	10,8	11	**-1,4**
• Whole country	17	16,3	14,9	14,4	14,2	**-2,8**
10. **Information… (**id: 3856)						
• Sodankylä	1	1	0,8	0,8	0,8	**-0,2**
• Region of Lapland	1,7	1,8	1,8	1,7	1,7	**0**
• Whole country	3,7	3,7	3,8	3,7	3,7	**0**
11. **Other…** (id: 3863)						
• Sodankylä	5,4	5,1	5,1	4,7	4,5	**-0,9**
• Region of Lapland	4,8	5,1	5,1	4,8	4,6	**-0,2**
• Whole country	4,4	4,6	4,8	4,7	4,7	**0,3**

[17] See Appendix table 1.

From 2007 to 2011, *Mining and quarrying, Electricity, gas, steam and air conditioning supply, Water supply; sewerage, waste management and remediation activities*, % of total active labour force has increased 2,6 percentage points in Sodankylä, 0,8 percentage points in the region of Lapland, has been stabile (1,2 percent of employed) of the whole country.

Professional, scientific and technical activities, Administrative and support service activities, % of total active labour force has increased 1,4 percentage points In Sodankylä, 0,1 percentage points in the region of Lapland, 0,9 percentage points in the whole country.

Agriculture, forestry and fishing, % of total active labour force has decreased -1,1 percentage points in Sodankylä, -0,6 percentage points in the region of Lapland, -0,5 percentage points in the whole country.

Construction, % of total active labour force has decreased -1,3 percentage points in Sodankylä, -0,5 percentage points in the region of Lapland, -0,2 percentage points in the whole country.

Public administration and defence; compulsory social security, Education, Human health and social work activities, % of total active labour force has decreased -0,3 percentage points in Sodankylä, but has increased 0,5 percentage points in the region of Lapland and 1 percentage points in the whole country.

Real estate activities, % of total active labour force has decreased -0,2 percentage points in Sodankylä, -0,1 percentage points in the region of Lapland, has been stabile (0,9 percent of employed) in the whole country.

Wholesale and retail trade; Transportation and storage; Accommodation and food service activities, % of total active labour force has decreased -0,3 percentage points in Sodankylä, -0,4 percentage points in the region of Lapland, -0,2 percentage points in the whole country.

Financial and insurance activities, % of total active labour force has decreased -0,3 percentage in Sodankylä, -0,1 percentage points in the region of Lapland, has been stabile (2 percent of employed) in the whole country.

Manufacturing, % of total active labour force has decreased -0,9 percentage points in Sodankylä, -1,4 percentage points in the region of Lapland, -2,8 percentage points in the whole country.

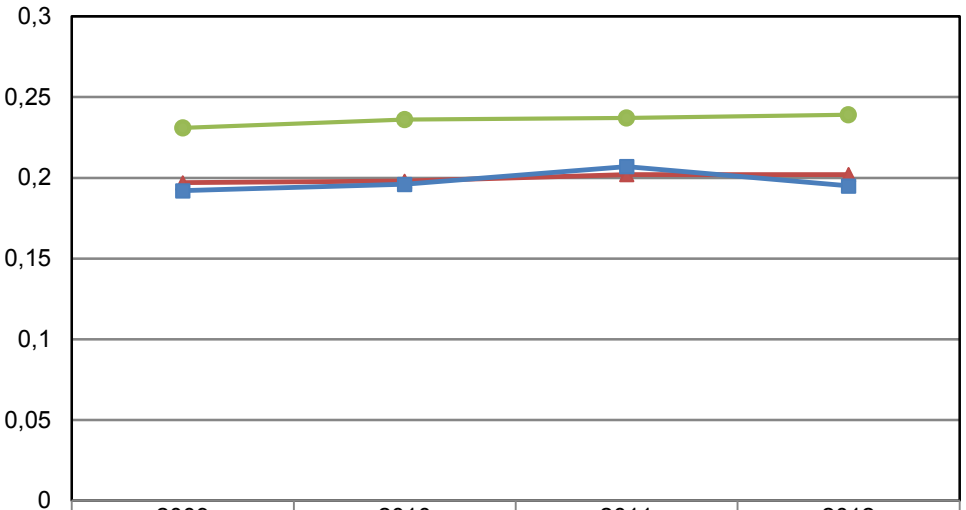
Information and communication, % of total active labour force has decreased -0,2 percentage points in Sodankylä, has been stabile (1,7−1,8 percent of employed) in the region of Lapland, has been stabile (3,7−3,8 percent) in the whole country.

Other service activities, % of total active labour force has decreased -0,9 percentage points in Sodankylä, -0,2 percentage points in the region of Lapland, has increased 0,3 percentage points in the whole country.

4.2 Norway, Alta muncilpality, *Vigdis Nygaard*

Data on the socioeconomic variables (gini coefficient, industrial structure as % employed in mining and quarrying, population structure, employment, unemployment, inter municipal net migration pr 1000 habitants and education level of population) was collected for both Norway and Sweden during spring 2014.[18]

In Norway, the data was gathered from the Statistics Norway public data bases by the project personnel. Statistics Norway is the administrative agency with responsibility for official statistics in Norway.



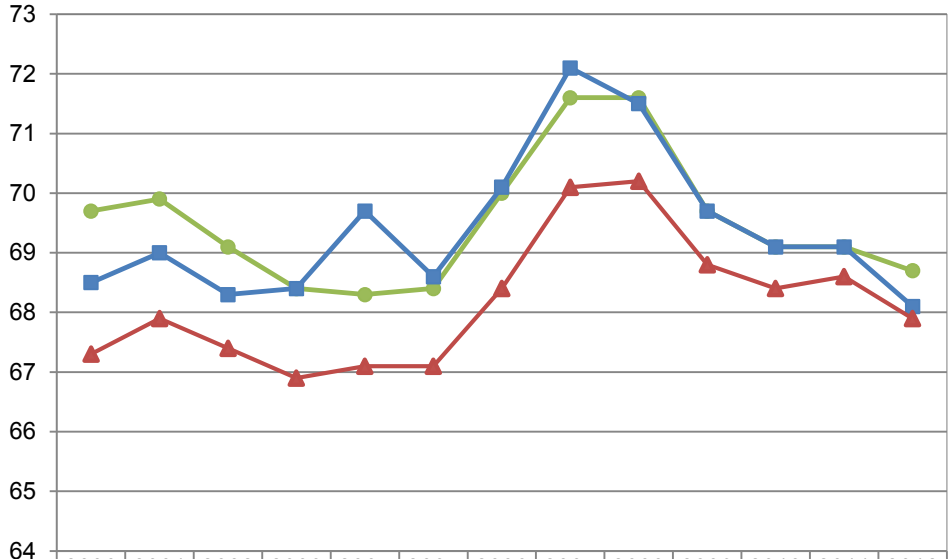
	2009	2010	2011	2012
Norway	0,231	0,236	0,237	0,239
Finnmark	0,197	0,198	0,202	0,202
Alta	0,192	0,196	0,207	0,195

Figure 15. Gini coeffecient, disposable income. [19]

Figure explains that income inequality in Norway is moderate and stable over the period 2009–2012 on 0,23. The Gini coefficient is slightly lower; 0,20 in Finnmark region and Alta, indicating that income dispersion is even lower than the national level in this Northern region and Alta municipality.

[18] The definitions of the different socioeconomic variables are listed through the explanations given by Statistics Norway and Statistics Sweden. See Appendix table 2.

[19] Measures of income dispersion. Household equivalent income (EU-scale) between persons (M), by region, time and contents. Gini coeffecient.
Source: Statistics Norway, Household income.
Notes:
- No gini coefficient data before 2009.
- Households with students are not included.
- Figures have been corrected.
- The Gini coefficient is a number between 0 and 1 that measures the degree of inequality in the distribution of income, where 0 corresponds with perfect equality and 1 corresponds with perfect inequality.

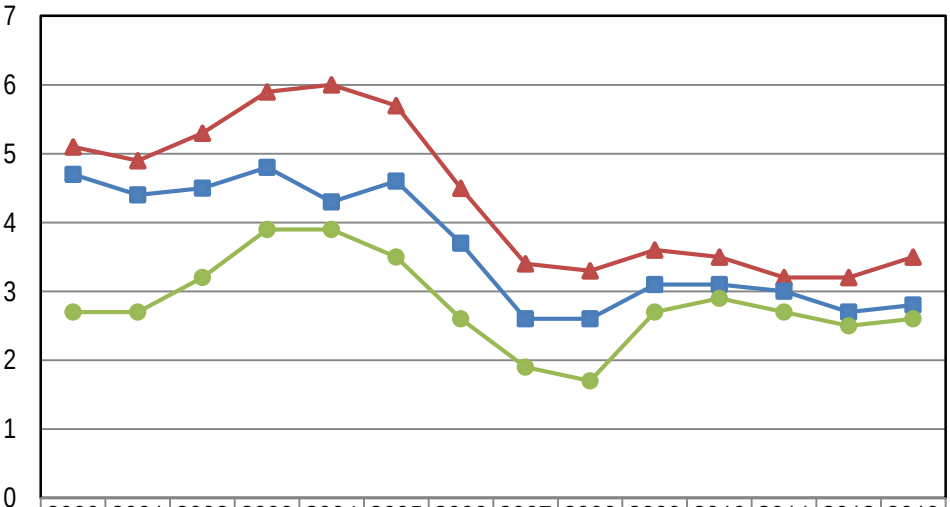


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Norway	69,7	69,9	69,1	68,4	68,3	68,4	70	71,6	71,6	69,7	69,1	69,1	68,7
Alta	68,5	69,0	68,3	68,4	69,7	68,6	70,1	72,1	71,5	69,7	69,1	69,1	68,1
Finnmark	67,3	67,9	67,4	66,9	67,1	67,1	68,4	70,1	70,2	68,8	68,4	68,6	67,9

Figure 16. Employment, as % of population 15–74 years.[20]

The employment rate in Norway, Finnmark and Alta follows a relatively similar curve with a drop in 2003/3, and increase from 2005 to 2007, followed by a new drop. Employment level has always been lower in Finnmark, but the gap between Finnmark and National level/Alta municipality has diminished in the last period.

[20] **Source**: Statistics Norway, register-based employment statistics by place of residence (RegSyss).
Notes:
- Data for period 2000–05 of people 16–74 years, adjusted to 15–74 years as for period 2005–12.
- Data for 4. Quarter of 2013 will be published during June 2014. Unemployment data (see point 2) and Statistics Norways Labour force survey suggests that the percentage of employed of people 15–74 years have dropped further during 2013.

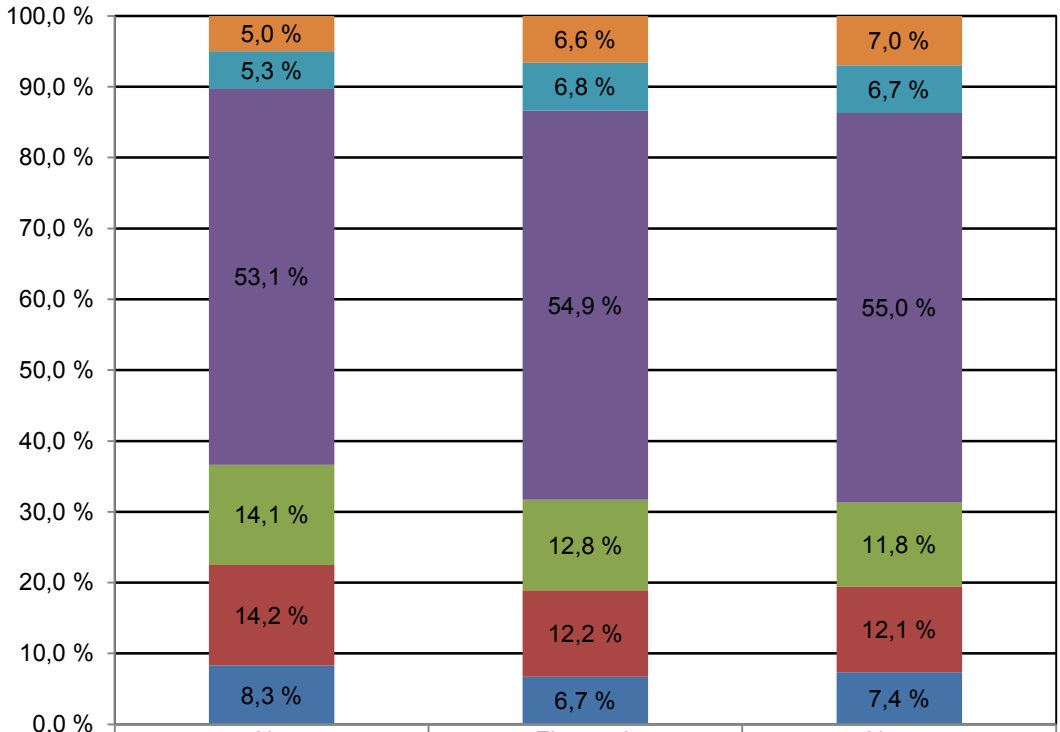


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Finnmark	5,1	4,9	5,3	5,9	6	5,7	4,5	3,4	3,3	3,6	3,5	3,2	3,2	3,5
Alta	4,7	4,4	4,5	4,8	4,3	4,6	3,7	2,6	2,6	3,1	3,1	3	2,7	2,8
Norway	2,7	2,7	3,2	3,9	3,9	3,5	2,6	1,9	1,7	2,7	2,9	2,7	2,5	2,6

Figure 17. Unemployed as % of labour force.[21]

The unemployment level in Norway, Finnmark region and Alta follow the same cyclic level with an increase in the period 2003/4 and sharp drop in 2006/7. The unemployment rate during the whole period 2000-2013 is higher in Finnmark region compared to Alta municipality, and the national level. These differences have nevertheless decreased from 2009.

[21] **Source**: Statistics Norway and NAV (The Norwegian Labour and Welfare Administration).
Notes:
- Unemployed as registered at the employment office (NAV).
- The Labour force is the sum of employed and unemployed by place of residence.

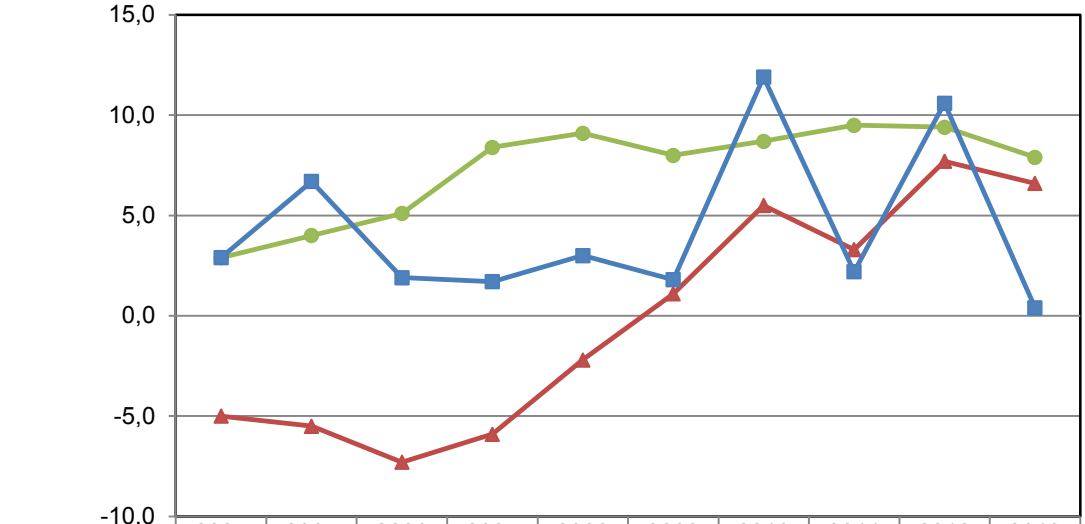


	Alta	Finnmark	Norge
75+ år	5,0 %	6,6 %	7,0 %
67-74 år	5,3 %	6,8 %	6,7 %
25-66 år	53,1 %	54,9 %	55,0 %
16-24 år	14,1 %	12,8 %	11,8 %
6-15 år	14,2 %	12,2 %	12,1 %
0-5 år	8,3 %	6,7 %	7,4 %

Figure 18. Population aged 0–5, 6–15, 16–24, 25–66, 67–74 as % of total population. [22]

The age structure of Finnmark in 2014 is relatively similar to the National level. The age structure of Alta differs as it has a young population. The age groups of 0–5, 6–15 and 16–24 years are relatively bigger compared to Norway and Finnmark. On the other hand, the groups of seniors are smaller in Alta.

[22] **Source**: Statistics Norway.
Notes:
- Age groups slightly different due to school age and retirement age.
- Time series data also available.

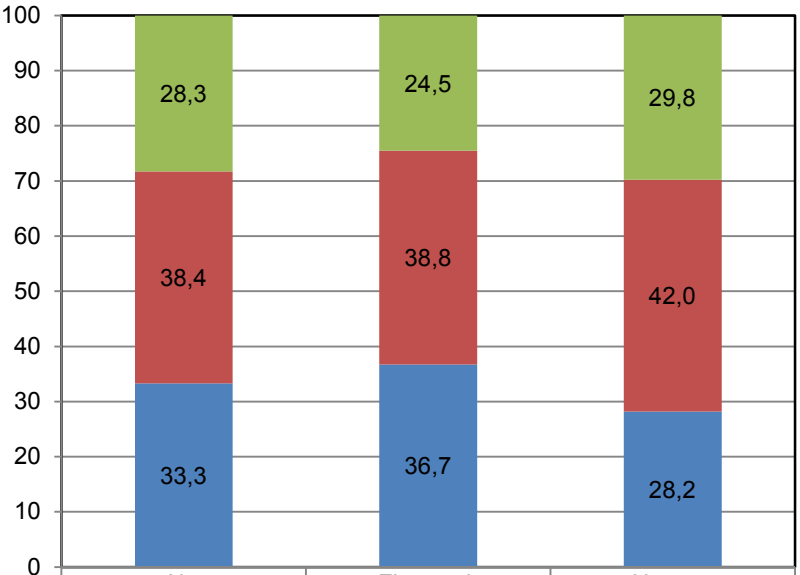


	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Norway	2,9	4,0	5,1	8,4	9,1	8,0	8,7	9,5	9,4	7,9
Finnmark	-5,0	-5,5	-7,3	-5,9	-2,2	1,1	5,5	3,3	7,7	6,6
Alta	2,9	6,7	1,9	1,7	3,0	1,8	11,9	2,2	10,6	0,4

Figure 19. Intermunicipal net migration pr. 1000 inhabitants.[23]

Inter municipal net migration in Norway has increased from 2005 till 2012 from 3 to 9 per 1000. The increase is even bigger in Finnmark, but here from a negative net migration in the beginning of the period (more people left than moving to the region), to a positive from 2009. The net migration peak was in 2012 with 7,7 per 1000. Alta municipality has a more complex net migration pattern with large cyclic differences from year to year in the second half of the period. Immigration plays an important role.

[23] **Source**: Statistics Norway.
Notes:
- Can for Alta and Finnmark also be split on immigration (positive) and domestic migration (mainly negative).

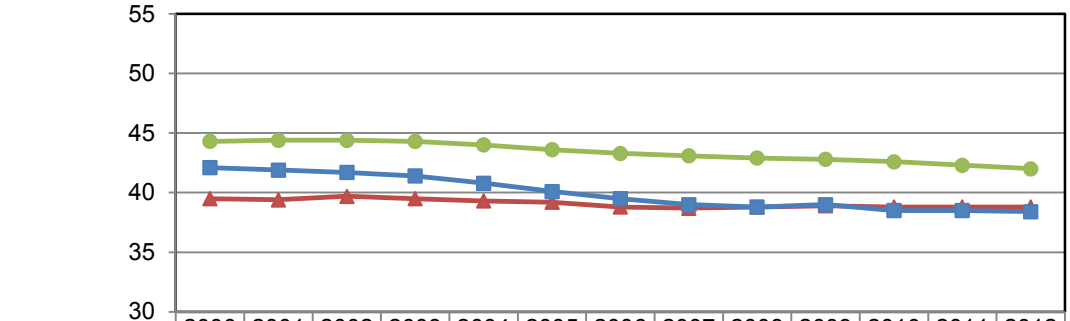


	Alta	Finnmark	Norway
Tertiary education	28,3	24,5	29,8
Upper secondary education	38,4	38,8	42,0
Basic school level	33,3	36,7	28,2

Figure 20. Educational level of population aged 16 and over. [24]

The educational level in Finnmark is considerably lower than the National level, and on the bottom of all 19 Norwegian regions. The educational level of Alta municipality lays in between the two, probably due to good access to upper secondary and tertiary education institutions.

[24] **Source**: Statistics Norway, Educational level statistics.

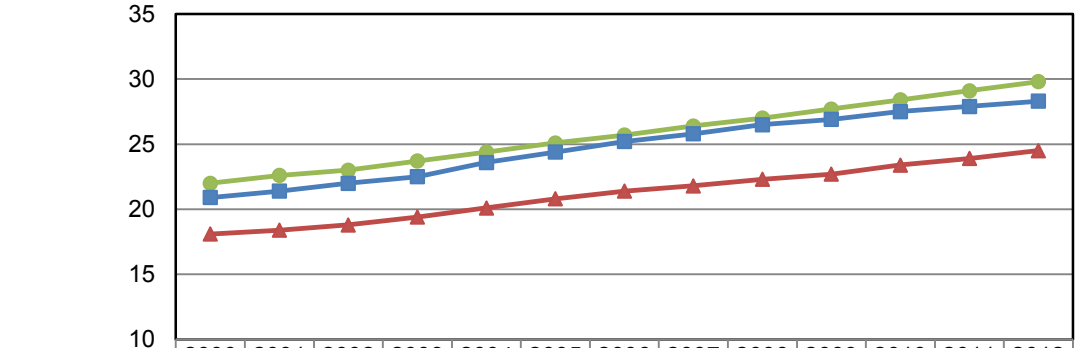


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Norway	44,3	44,4	44,4	44,3	44	43,6	43,3	43,1	42,9	42,8	42,6	42,3	42
Finnmark	39,5	39,4	39,7	39,5	39,3	39,2	38,8	38,7	38,8	38,9	38,8	38,8	38,8
Alta	42,1	41,9	41,7	41,4	40,8	40,1	39,5	39	38,8	39	38,5	38,5	38,4

Figure 21. Persons 16 years and over with upper secondary education, per cent. [25]

Persons with upper secondary education as their highest educational level has decreased in Norway and Alta during the period 2000-2012. The decrease is more moderate for Finnmark region.

[25] **Source**: Statistics Norway, Educational level statistics.

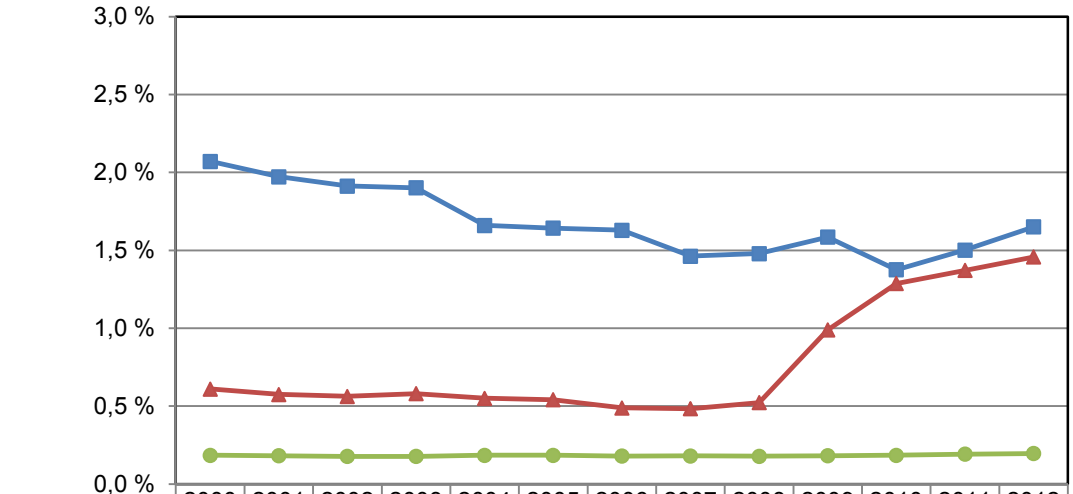


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Norway	22	22,6	23	23,7	24,4	25,1	25,7	26,4	27	27,7	28,4	29,1	29,8
Alta	20,9	21,4	22	22,5	23,6	24,4	25,2	25,8	26,5	26,9	27,5	27,9	28,3
Finnmark	18,1	18,4	18,8	19,4	20,1	20,8	21,4	21,8	22,3	22,7	23,4	23,9	24,5

Figure 22. Persons 16 years and over with tertiary education, per cent.[26]

Persons with tertiary education as the highest educational level has increased substantial in the period 2000–2012 in all three categories. The increase is linear. The increase in higher education in Alta municipality is closed to the development on the National level, while the increase in Finnmark region is about 4–5 % lower. There are no clear signs of Finnmark region approaching the National and Alta level.

[26] **Source**: Statistics Norway, Educational level statistics.
Notes:
- Upper secondary education: Includes intermediate level courses based on completed upper secondary level, but which are not accredited as tertiary education.



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Alta	2,1 %	2,0 %	1,9 %	1,9 %	1,7 %	1,6 %	1,6 %	1,5 %	1,5 %	1,6 %	1,4 %	1,5 %	1,7 %
Finnmark	0,6 %	0,6 %	0,6 %	0,6 %	0,6 %	0,5 %	0,5 %	0,5 %	0,5 %	1,0 %	1,3 %	1,4 %	1,5 %
Norway	0,2 %	0,2 %	0,2 %	0,2 %	0,2 %	0,2 %	0,2 %	0,2 %	0,2 %	0,2 %	0,2 %	0,2 %	0,2 %

Figure 23. Industrial structure, percentage employed in mining and quarrying. [27]

The position of mining and quarrying in the National industrial structure is minimal with only 0,2 percent of the employment. The industry in more important in Finnmark region with 0,6 percent of employment up to 2009 when a huge increase started with the reopening of the Sydvaranger mine in Kirkenes, ending with 1,5 percent of the industrial employment in 2012. Alta municipality has the highest amount of mining and quarrying employment from 2,1 percent in the beginning of the period. The slightly decrease during the period in Alta can be explained by a stable employment in mining and quarrying industry, but a substantial increase in employment in other industries.

[27] **Source**: Statistics Norway, register-based employment statistics by place of work (RegSyss).
Notes:
- Mining and quarrying restricted to the following SIC-codes (SIC2007):
  - 05 Mining of coal and lignite
  - 07 Mining of metal ores
  - 08 Other mining and quarrying.
- Data for 4. Quarter of 2013 will be published during June 2014.
- Data about other industries and sectors are also available.

4.3 Russia, Zentralny muncilpality, *Ljudmila Talykova*

Foto 3. Подпись иллюстрации: Фото с сайта http://vmnews.ru

The current demographic situation in the Russian Federation remains difficult though to call adverse it is impossible. Since 2009 the increase in number of residents of Russia is observed, for 2009–2012 it made more than 600 thousand people. The gain of population develops both at the expense of significantly the decreasing natural losses, and as a result of a migratory gain. Birth rate level in 2012 made 1,7 children on the woman of reproductive age (*15–49 years*), it corresponds to Central European level. The indicator of average life expectancy of the population though we still strongly lag behind on it other developed countries of the world grows.

Murmansk region was among fifty subjects of the Russian Federation where the demographic situation is officially recognized demanding immediate reaction.

Since 1990 population of the region decreased by 411,1 thousand people, and by the beginning of 2013 in area only 780,4 thousand inhabitants were. The main reason for reduction of population in Murmansk region – a migratory decrease which makes more than 90 percent of the general decline in population. For 23 years (from 1990 to 2013) migratory outflow reached 382,7 thousand people. In 2012 the number left area exceeded number arrived to permanent residence on 7,9 thousand. The greatest migratory mobility young people with high labor activity possess.

Long time according to the adverse scenario in the region also processes of natural reproduction of the population developed. Since 1990 in Murmansk region on average more than 10 thousand people annually died, and about 9 thousand people were born.

The expected life expectancy of the population in the region, below, than on average across the Russian Federation. In 2011 this indicator in Murmansk region made 68,9 years, including men 63 years, women 74,6 years, in the Russian Federation – respectively 69,8, 64,0 and 75,6 years.

Below the average Russian level at us and total coefficient of birth rate, in 2011 it made 1,49 births on one woman at the age of 15–49 years. Infant mortality in 2012 in the region was 6,6 dead aged till 1 year on 1000 been born. That is below, than on average across the Russian Federation (*8,6 per milles*).

Implementation of measures of population policy and the regional programs directed on improvement of a demographic situation led to positive changes in the course of reproduction of the population in the region: birth rate grew, mortality including infantile decreased, the expected life expectancy increased.

Since 2006, since the beginning of implementation of national projects, the steady growth of number of the born children, including repeated births is observed. In 2006 8445 kids were born in areas, and in 2012 9240 little northerners were born.

However, the total coefficient of birth rate for this period grew at us by 18,7 percent, and in the country in general – for 21,2 percent, here so far we lag behind. But we can be proud of that in 2012 for the first time for the last two decades in the region birth rate exceeded mortality, the natural increase of the population made 387 people. Life expectancy in our region for 2007–2011 increased for 3,7 years, in Russia – for 3,1 years, that is rates of decline in mortality at us are higher. By an assessment, the number of resident population of Murmansk region for June 1, 2013 made 778 thousand people and decreased since the beginning of year by 2,4 thousand people. In January-May of the current year in comparison with the similar period of last year birth rate grew (*from 11,1 to 11,5 been born on 1000 population*) and at the same time mortality increased (*with 11,1 to 11,6 dead by 1000 population*).

Following the results of All-Union population census of 1979 population of Murmansk region (*MR*) was 978,0 thousand people. To the next All-Union population census of 1989 number the population of Murmansk region reached

1 146,6 thousand people. The average annual gain of population for this period made 1,9 %. In the next years dynamics of population was characterized by the indicators presented in Table 3.

Table 3. *Population of MR in 1990–1999.*

Population (Thous.people)	**Years**									
	1990	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**
	1154,8	1158,7	1164,6	1117,2	1091,7	1067	1048	1033	1017	1001

As appears from the presented data, up to 1992 the tendency to population growth remained, and with 1993 the return process with increase of rates of annual decrease in population to (-2,7) % in 1993 began. This tendency remained in the 2000th years (Table 4.).

Table 4. *Population of MR in 2000–2009.*

Population (Thous.people))	**Years**									
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
	946,0	922,9	905,7	889,8	880,0	872,8	864,8	857,0	850,9	842,5

According to preliminary data of "Murmanskstat" population of Murmansk region by 01.01. 2014 was 771.0 thousand people. It means that since 1992 (*the maximum population – 1164.6 thousand people*) there was a decrease in number by 33.8 %. As a result, at the moment time population of Murmansk region is 3.5 % lower than a similar indicator of 1970 (798.8 thousand people).

Decline in population in the main industrial cities of area, most often with the only city-forming enterprise (Table 5.) is even more significant.

Table 5. *Population of some cities of MR in the years of carrying out population censuses and in 2014.*

Cities	**Years of carrying out population censuses**					
	1979	**1989**	**2002**	**2010**	**2014***	**2014/1989**
JSC Kola Mining and Metallurgical Company (production of nickel)						
Monchegorsk	52509	70856	48635	44869	43480	61.4%
JSC "Apatit"						
Kirovsk	40721	43526	31593	29844	27686	63,6%
Apatity	61998	88066	64500	61268	57905	65,8%

Decrease in population in the listed cities made from 38,6 % (Monchegorsk) to 34,2 % (Apatity).

Besides direct decrease in population, there were changes in its structure due to decrease in birth rate, growth of mortality and migratory losses of able-bodied part of the population. In total cumulative contribution of migration to decrease in population made in different years from 75 % to 90 %.

Results of the comparative analysis of gender and age structure of the population of Murmansk region in 1989 and 1999 are given in Table 6.

Table 6. *The gender and age structure population of MR in 1989 and 1999 years.*[28]

Age (years)	Male			Female			Total		
	1989	1999	Changes	1989	1999	Changes	1989	1999	Changes
0–14	**26.5**	**18.9**	**-28.7%**	**25.0**	**17.1**	**-31.6%**	**25.8**	**18.0**	**-30.2%**
15–19	6.9	8.7	+26.1%	5.6	7.8	+39.3%	6.3	8.2	+30.1%
20–29	**20.1**	**17.2**	**-14.4%**	**15.7**	**13.9**	**-11.5%**	**17.9**	**15.4**	**-14.0%**
30–39	**21.7**	**19.0**	**-12.4%**	**20.6**	**16.1**	**-27.8%**	**21.2**	**17.5**	**-17.5%**
40–49	12.0	19.2	+60.0%	12.6	19.4	+54.8%	12.3	19.3	+56.9%
50–59	8.9	9.4	+5.6%	10.9	11.1	+1.8%	9.9	10.3	+4.0%
60–>	3.8	7.7	+102.6%	9.5	14.6	+53.7%	6.6	11.2	+69.7%

The presented tendency remained in the 2000th years too. Negative dynamics in age groups 20–29 and 30–39 of years is in our opinion caused by the maximum migratory activity of ablebodied population in these age groups that led to a considerable disproportion in the ratio of groups of able-bodied population. It was expressed in significant increase in a share of persons of 40–49 years, both among men, and among women and finally in increase in average age of the working population. Changes in age group of 60 years are even more significant and are more senior. Among men the share of this age grew in 2, among women by 1,5 times. The changes which are marked out in age group of 0–14 years (*children*) are reflection on the one hand of decrease in level of birth rate since 1990, and on the other hand result of active migration of able-bodied population at the age of 20–29 and 30–39 years which leaves Murmansk region together with children. The increase in a share of persons of 15–19 years is in turn connected with the high level of birth rate till 1990 and especially during 1984–1989 and low migratory activity of their parents (*age group of 40–49 years*). In general the specified changes in gender and age structure testify to increase in population of old age groups and decrease in a share of children in the general structure of the population by 30.2 %.

Table 7. *Passport of The Complex Investment-Development-Plan (Cdp) Of The Monotown Of Kirovsk.*

Name	City of Kirovsk municipality the city district Kirovsk with the subordinated territory of Murmansk region (MR)
CDP main developers	City administration of Kirovsk; JSC “Apatit”.
Aim and tasks of CDP	**Aim:** Growth of quality of life of the population of the city of Kirovsk on the basis of its steady, social, economic and ecologically balanced development. **Task 1.** Diversification of a city economy and creation of conditions of development of small and medium business: o Construction of new all-weather tourist complexes; o Modernization and development of the existing infrastructure of tourist services. **Task 2.** Development of social and engineering infrastructure of the city: o repair of housing stock of the city; o modernization and repair of engineering infrastructure of the city; o modernization of fixed assets of health system, education and cultural institutions **Task 3.** Improvement of system of transport connection: o construction of a traffic intersection on entry into the city; o reconstruction of a street road network.

[28] It is quoted on: http://www.murman.ru/ecology/comitet/report99/part2_1.html

	Task 4. Increase of level of ecological safety: o transfer of metalfoundry production for city boundaries; o preservation of four black oil boiler rooms operating in the territory of the city.			
Strategic directions of CDP	o achievement of high level of diversification of economy, ensuring appeal of the city as modern tourist center, active development of small and average business; o increase of financial independence of the enterprises of small and medium business of internal factors of development of economy; o ensuring all categories of consumers of the city settlement with reliable and qualitative social and engineering infrastructure, creation of the comfortable conditions of accommodation for the population considering specifics of Far North; o ensuring decrease in unemployment to natural level.			
Terms and stages of realization of CDP	2010-2020 years. 1 stage – 2010–2011 years. 2 stage – 2012–2015 years 3 stage– 2016–2020 years.			
Main actions, key investment projects CDP	o Construction of two all-weather tourist complexes; o Development of the sphere of tourist services; o Modernization and development of the existing infrastructure of sporting venues; o Reconstruction of treatment facilities; o Construction of the heat highway from the Apatity combined heat and power plant.			
Main target indicators of CDP	**Name of an indicator**	**Unit of measure**	**2015**	**2020**
	Share of working at the city-forming enterprise from population of working-age in MR	%	28,8	24,0
	Share of working in small business from population of working-age in MR	%	18,1	26,3
	Level of the registered unemployment in MR	%	2,9	2,5
	Total of in addition created temporary workplaces during implementation of projects (the saved-up result)	people	1416	1682
	Total of in addition created constant workplaces during operation of projects (the saved-up result)	people	417	597
	Average monthly salary of employees of large and medium-sized enterprises of MR	rubles	52964	76900
	The volume of the shipped goods, the performed works and services of own production of traditional branches	mill. rubl	47192,0	57342,3
	The volume of the shipped goods, the performed works and services of own production of the organizations of traditional branches in the city volume of the shipped goods, the performed works and services of own production	mill. rubl	2421,8	3135,3
	Share of the shipped goods, the performed works and services of own production of the organizations of traditional branches in the city volume of the shipped goods, the performed works and services of own production	%	5,1	5,5
	The volume of the shipped goods, the performed works and services of own production by the city-forming enterprises	mill. rubl	4770,2	54207,0
	Share of the city-forming enterprises in city volume of the shipped goods, the performed works and services of own production	%	94,9	94,5

	Number of small enterprises in MR	-	113	131
	The average number of the workers occupied at small enterprises	people	2180	3370
	Number of individual entrepreneurs in MR	people	836	926
	The average number of the workers occupied on from individual entrepreneurs	people	890	1655
	The volume of the attracted off-budget investments (the saved-up result)	mill. rubl.	3629,6	4134,6
	Volume of own income of the budget of MR	mill. rubl	1088,6	1640,9
	Share of own income of the budget of MR in total income of MR	%	85,8	100,0
Mechanism of management of realization CDP	For ensuring interaction of interested parties in the course of realization of actions of the Complex investment development plan of the city of Kirovsk: o to create coordination council on implementation of the Complex investment development plan of the city of Kirovsk at the Head of municipality from among representatives of governing bodies, the city-forming enterprise, all interested parties of actions for coordination of actions; o to offer the conclusion of the relevant agreements between public authorities of Murmansk region, local governments, the city-forming enterprise and initiators of actions for implementation of the Complex investment development plan of the city. o to assign operational management of implementation of the Complex investment development plan to the Head of municipality the city of Kirovsk. For organizational maintenance of concrete actions possibly creation of the working groups which part representatives of the investor, administrations, other participants and interested parties on action will be.			
Sources and amounts of financing of CDP	Total amount: 6660,8 million rubles, including: o 2662,2 million rubles – the federal budget o 304,3 million rubles – the regional budget o 99,4 million rubles – the municipal budget o 1607,4 million rubles – own means o 1995,0 million rubles – the credits of commercial banks			

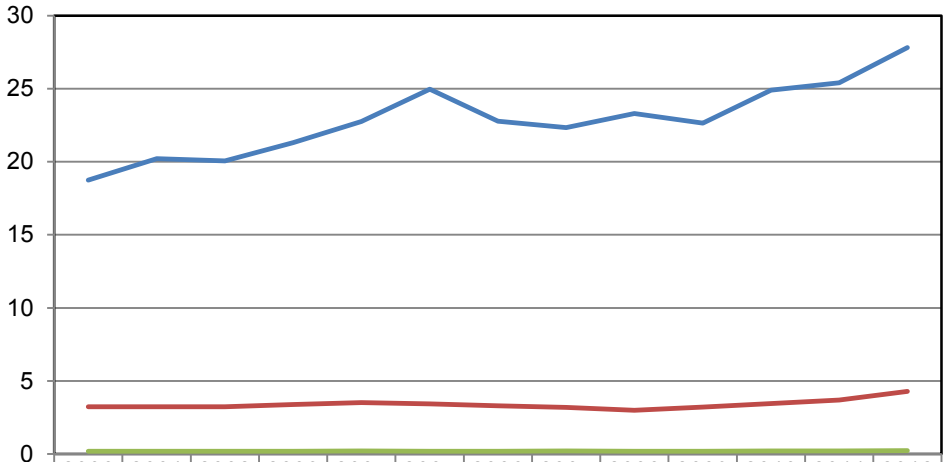
4.4 Sweden, Gällivare muncilpality, *Anita Pettersson-Strömbäck*

Data on the socioeconomic variables gini coefficient, industrial structure as % employed in mining and quarrying, population structure, employment, unemployment, inter municipal net migration pr 1000 habitants and education level of population was collected for both Norway and Sweden during spring 2014.

In Sweden, the data was gathered though the help of Statistics Sweden, the administrative agency in charge of producing and communicating national statistical data (*for data about gini coefficient, industrial structure as % employed in mining and quarrying, population structure, employment, inter municipal net migration pr 1000 habitants and education level of population*) and by Arbetsförmedlingens online data base (*unemployment data*). The reason for letting Statistics Sweden carry out the collection of data was that in the public data bases, data on municipality level was not available.

Industrial structure, % of the population employed in mining and quarrying industry for Sweden

In Appendix table 3. and Figure 24. it can be seen that there is an increase in percent of the population working in the mining and quarrying industry in both Gällivare municipality between the years 2000 to 2012 (from 19 % to 28 % of the population). The increase for the County of Norrbotten is less, from 3 % to 4 % of the population. In national figures, the percent of the population is quite stable, 2 %.

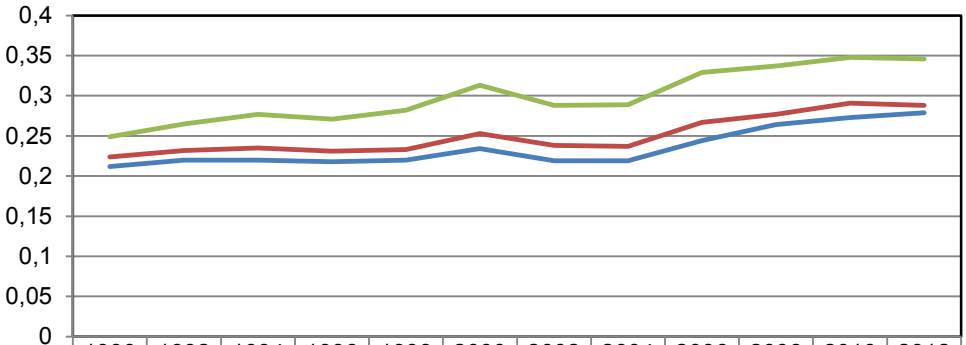


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Gällivare	18,75	20,21	20,07	21,30	22,76	24,96	22,78	22,34	23,30	22,64	24,90	25,40	27,82
Norrbotten	3,22	3,22	3,24	3,38	3,52	3,43	3,30	3,18	2,98	3,20	3,45	3,69	4,28
Sweden	0,18	0,19	0,19	0,18	0,19	0,19	0,19	0,20	0,19	0,19	0,20	0,20	0,22

Figure 24. Percent of the population working in the mining and quarrying industry between the years 2000 to 2012 in Gällivare, Norrbotten and Sweden based on the definitions of SNI-codes 1992, 2002 and 2007.

Gini coefficient the population in Sweden

In Sweden, the Gini coefficient is lower for the population of Gällivare municipality and the County of Norrbotten, and the difference increase over time. Also, the Gini coefficient increases over time for all region. For example, in 2006, the Gini coefficient was 0.244 for Sweden, and in 2004 it was 0.346, an increase of ten percentage points. For Gällivare municipality, the change in Gini coefficient between the years 2006 to 2012 was from 0.244 to 0.279 (Appendix table 4.; Figure 25.).

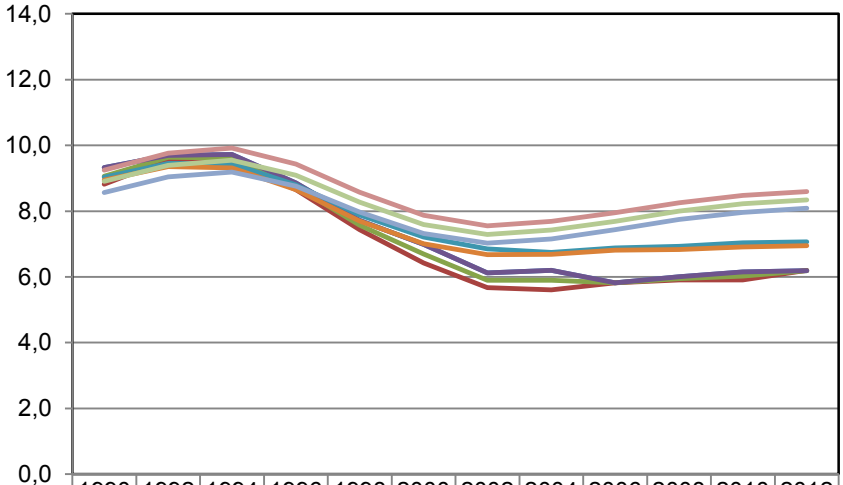


	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Gällivare	0,212	0,22	0,22	0,218	0,22	0,234	0,219	0,219	0,244	0,264	0,273	0,279
Norrbotten	0,224	0,232	0,235	0,231	0,233	0,253	0,238	0,237	0,267	0,277	0,291	0,288
Sweden	0,249	0,265	0,277	0,271	0,282	0,313	0,288	0,289	0,329	0,337	0,348	0,346

Figure 25. The Gini coefficient for the population of Sweden, the County of Norrbotten and Gällivare municipality from 1990 to 2012, where the line indicates the change in the definition of disposable income.

Population structure, age groups in Sweden

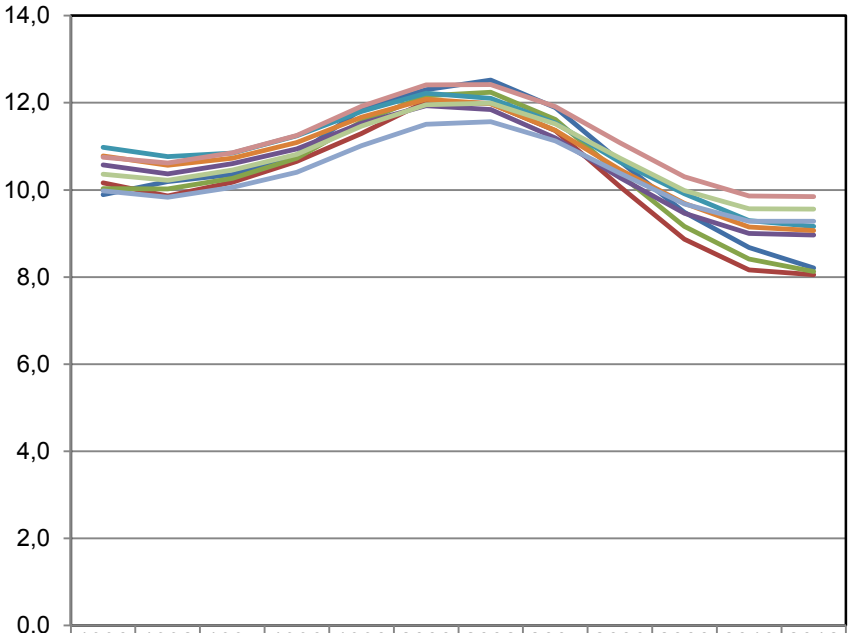
For Sweden, the proportion of children in the ages between 0–6 decreases in the population between 1994 to 2004 both the municipality, county and country level (Appendix table 5.; Figure 26.).



	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Gällivare, female	9,3	9,7	9,7	8,9	7,7	7,0	6,1	6,2	5,8	6,0	6,1	6,2
Gällivare,male	8,8	9,6	9,5	8,7	7,4	6,4	5,7	5,6	5,8	5,9	5,9	6,2
Gällivare, combined	9,1	9,6	9,6	8,8	7,6	6,7	5,9	5,9	5,8	6,0	6,0	6,2
Norrbotten, female	9,3	9,7	9,7	8,9	7,7	7,0	6,1	6,2	5,8	6,0	6,1	6,2
Norrbotten, male	9,0	9,5	9,4	8,8	7,9	7,2	6,9	6,7	6,9	6,9	7,0	7,1
Norrbotten, combined	8,9	9,4	9,3	8,7	7,7	7,0	6,7	6,7	6,8	6,8	6,9	7,0
Sweden, female	8,6	9,0	9,2	8,8	8,0	7,3	7,0	7,2	7,4	7,7	8,0	8,1
Sweden, male	9,3	9,8	9,9	9,4	8,6	7,9	7,6	7,7	8,0	8,3	8,5	8,6
Sweden, combined	8,9	9,4	9,6	9,1	8,3	7,6	7,3	7,4	7,7	8,0	8,2	8,3

Figure 26. Population of Sweden, 0–6 years, split by time, region, and gender, in percent of the total population in Sweden.

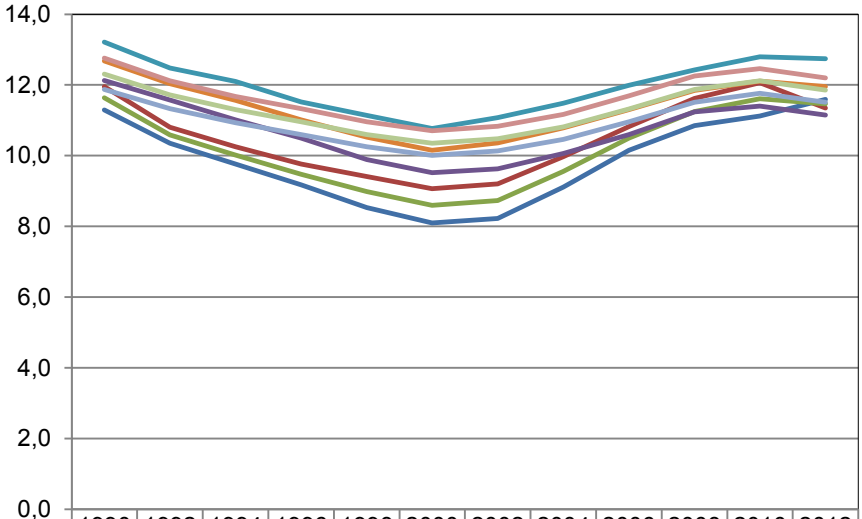
In Appendix table 6.; Figure 27., it can be seen that the proportion of children between 7−15 in the population decreases from 1990 to 2012, for all regions.



	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Gällivare, female	9,9	10,2	10,4	10,8	11,9	12,3	12,5	11,9	10,7	9,5	8,7	8,2
Gällivare, male	10,2	9,9	10,2	10,7	11,3	12,0	12,0	11,4	10,1	8,9	8,2	8,1
Gällivare, combined	10,0	10,0	10,3	10,7	11,6	12,2	12,2	11,6	10,4	9,2	8,4	8,1
Norrbotten, female	10,6	10,4	10,6	10,9	11,5	11,9	11,8	11,2	10,3	9,5	9,0	9,0
Norrbotten, male	11,0	10,8	10,8	11,2	11,8	12,2	12,1	11,5	10,6	9,9	9,3	9,2
Norrbotten, combined	10,8	10,6	10,7	11,1	11,7	12,1	12,0	11,4	10,5	9,7	9,2	9,1
Sweden, female	10,0	9,8	10,1	10,4	11,0	11,5	11,6	11,1	10,4	9,7	9,3	9,3
Sweden, male	10,7	10,6	10,9	11,2	11,9	12,4	12,4	11,9	11,1	10,3	9,9	9,8
Sweden, combined	10,4	10,2	10,5	10,8	11,5	12,0	12,0	11,5	10,7	10,0	9,6	9,6

Figure 27. Population of Sweden, 7−15 years, split by time, region, and gender, in percent , in percent of the total population in Sweden.

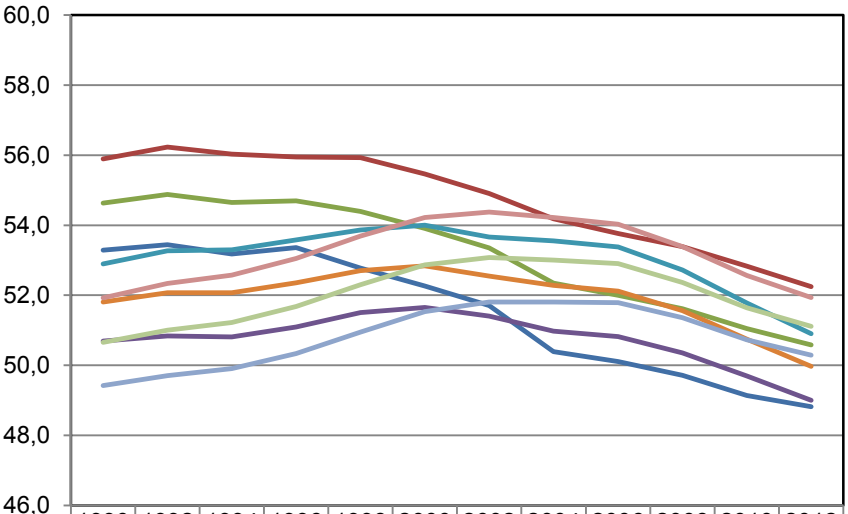
The proportion of individuals between 16–24 years in relation to the total Swedish population was lowest during the years 2000 to 2002 (Appendix table 7.; Figure 28.).



	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Gällivare, female	11,3	10,3	9,8	9,2	8,5	8,1	8,2	9,1	10,2	10,8	11,1	11,6
Gällivare,male	12,0	10,8	10,3	9,8	9,4	9,1	9,2	10,0	10,8	11,6	12,1	11,3
Gällivare, combined	11,6	10,6	10,0	9,5	9,0	8,6	8,7	9,6	10,5	11,2	11,6	11,5
Norrbotten, female	12,1	11,6	11,0	10,5	9,9	9,5	9,6	10,1	10,6	11,2	11,4	11,1
Norrbotten, male	13,2	12,5	12,1	11,5	11,1	10,8	11,1	11,5	12,0	12,4	12,8	12,7
Norrbotten, combined	12,7	12,0	11,6	11,0	10,5	10,2	10,4	10,8	11,3	11,8	12,1	12,0
Sweden, female	11,9	11,3	10,9	10,6	10,2	10,0	10,1	10,5	11,0	11,5	11,8	11,5
Sweden, male	12,8	12,1	11,7	11,3	11,0	10,7	10,8	11,2	11,7	12,3	12,5	12,2
Sweden, combined	12,3	11,7	11,3	11,0	10,6	10,4	10,5	10,8	11,3	11,9	12,1	11,9

Figure 28. Population of Sweden, 16–24 years, split by time, region, and gender, in percent , in percent of the total population in Sweden.

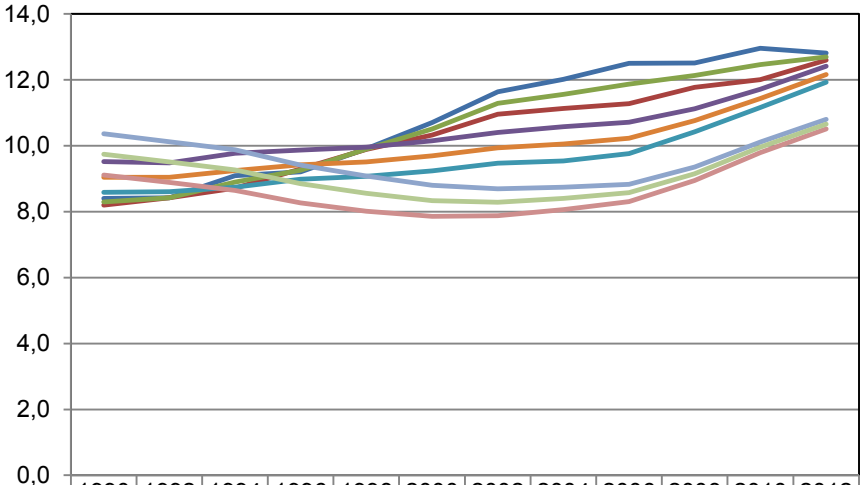
In Appendix table 8.; Figure 29. it can be seen that the proportion of individuals in the ages between 25–64 years is decreasing from the year 1990 to the year 2012.



	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Gällivare, female	53,3	53,4	53,2	53,4	52,8	52,3	51,7	50,4	50,1	49,7	49,1	48,8
Gällivare,male	55,9	56,2	56,0	55,9	55,9	55,5	54,9	54,2	53,8	53,4	52,8	52,2
Gällivare, combined	54,6	54,9	54,6	54,7	54,4	53,9	53,4	52,3	52,0	51,6	51,1	50,6
Norrbotten, female	50,7	50,8	50,8	51,1	51,5	51,7	51,4	51,0	50,8	50,4	49,7	49,0
Norrbotten, male	52,9	53,3	53,3	53,6	53,9	54,0	53,7	53,6	53,4	52,7	51,8	50,9
Norrbotten, combined	51,8	52,1	52,1	52,4	52,7	52,8	52,6	52,3	52,1	51,6	50,8	50,0
Sweden, female	49,4	49,7	49,9	50,3	50,9	51,5	51,8	51,8	51,8	51,4	50,7	50,3
Sweden, male	51,9	52,3	52,6	53,1	53,7	54,2	54,4	54,2	54,0	53,4	52,6	51,9
Sweden, combined	50,7	51,0	51,2	51,7	52,3	52,9	53,1	53,0	52,9	52,4	51,6	51,1

Figure 29. Population of Sweden, 25–64 years, split by time, region, and gender, in percent of the total population in Sweden.

The proportion of the age group 65 to 75 years increase in Swedish population, both on municipality, county and national level (Appendix table 9.; Figure 30.).

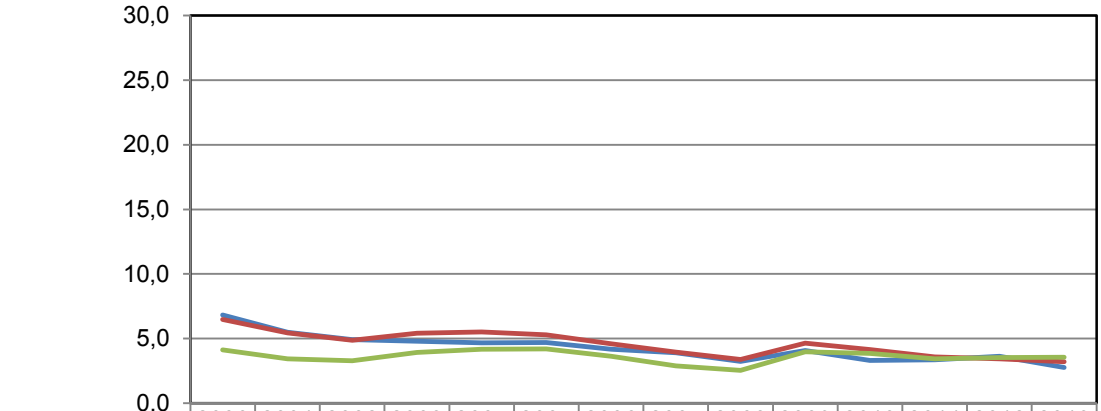


	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Gällivare, female	8,4	8,4	9,1	9,2	9,9	10,7	11,6	12,0	12,5	12,5	13,0	12,8
Gällivare,male	8,2	8,4	8,7	9,3	9,9	10,3	11,0	11,1	11,3	11,8	12,0	12,6
Gällivare, combined	8,3	8,4	8,9	9,3	9,9	10,5	11,3	11,6	11,9	12,1	12,5	12,7
Norrbotten, female	9,5	9,5	9,8	9,9	10,0	10,2	10,4	10,6	10,7	11,1	11,7	12,4
Norrbotten, male	8,6	8,6	8,7	9,0	9,1	9,2	9,5	9,5	9,8	10,4	11,2	11,9
Norrbotten, combined	9,0	9,0	9,2	9,4	9,5	9,7	9,9	10,1	10,2	10,8	11,4	12,2
Sweden, female	10,4	10,1	9,9	9,4	9,1	8,8	8,7	8,7	8,8	9,4	10,1	10,8
Sweden, male	9,1	8,9	8,6	8,3	8,0	7,9	7,9	8,1	8,3	8,9	9,8	10,5
Sweden, combined	9,7	9,5	9,3	8,8	8,6	8,3	8,3	8,4	8,6	9,1	10,0	10,7

Figure 30. Population of Sweden, 65–75, split by time, region, and gender in percent of the total population in Sweden.

Unemployed people, as % of labour force

Appendix table 10. and Figure 31. indicate that the percent unemployed in the labour force has decreased from the year 2000 to 2013, and that the percent unemployed is least in Gällivare municipality in comparison to Norrbotten county and Sweden.

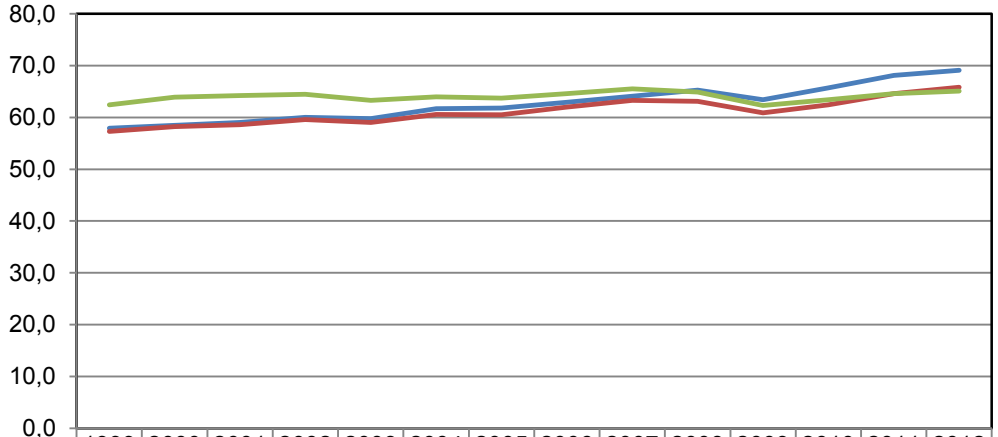


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Gällivare	6,8	5,5	4,9	4,8	4,7	4,7	4,2	3,9	3,2	4,1	3,3	3,4	3,6	2,8
Norrbotten	6,5	5,434	4,9	5,4	5,5	5,3	4,6	4,0	3,4	4,6	4,1	3,6	3,4	3,2
Sweden	4,1	3,4	3,3	3,9	4,2	4,2	3,6	2,9	2,5	4,0	3,9	3,4	3,5	3,6

Figure 31. Unemployed persons (percent), split by region and time.

Employment, as % of the work force

Appendix table 11. and Figure 32. shows that the employment rate increased about 11 percent points for Gällivare municipality from the year 1999 to 2012, and 2,7 percent points for the whole country.

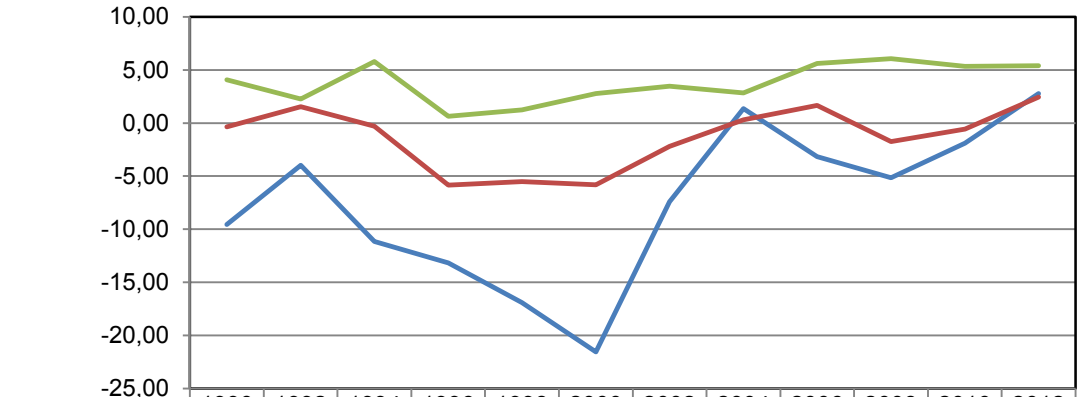


	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Gällivare	57,9	58,5	59,0	60,0	59,8	61,7	61,8	62,9	64,1	65,3	63,4	65,7	68,1	69,1
Norrbotten	57,3	58,2	58,6	59,6	59,0	60,6	60,5	62,0	63,3	63,1	60,9	62,4	64,6	65,8
Sweden	62,4	63,9	64,2	64,5	63,3	64,0	63,7	64,6	65,5	64,9	62,3	63,4	64,6	65,1

Figure 32. Employed persons.

Inter municipal net migration pr 1000 habitants

In both Gällivare municipality and the county of Norrbotten, the net migration has varied between the year 2004 to 2012, and has ended in a positive direction (Appendix table 12.; Figure 33.).

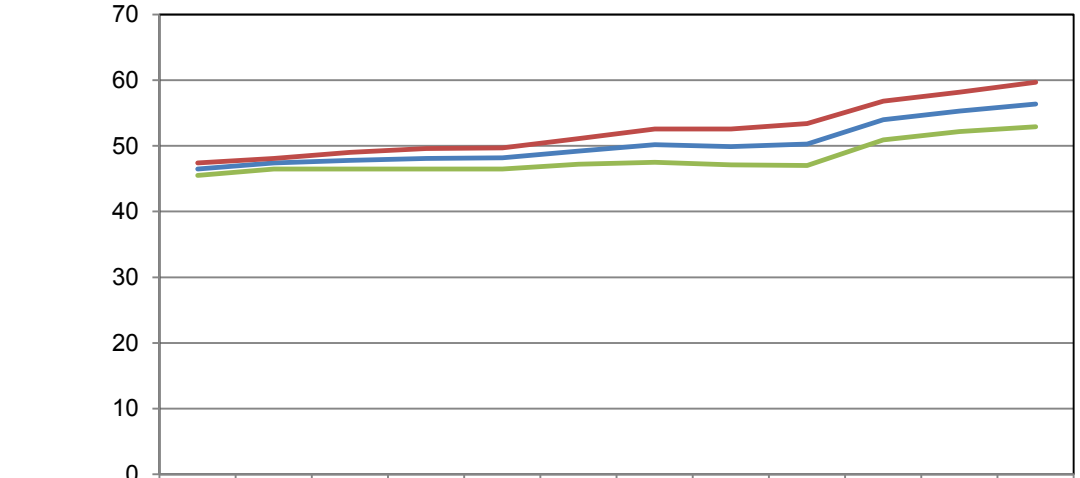


	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Gällivare	-9,56	-3,98	-11,15	-13,17	-16,90	-21,56	-7,42	1,35	-3,15	-5,16	-1,89	2,78
Norrbotten	-0,35	1,54	-0,29	-5,83	-5,52	-5,81	-2,20	0,29	1,66	-1,74	-0,57	2,43
Sweden	4,07	2,26	5,77	0,64	1,23	2,77	3,48	2,83	5,60	6,06	5,33	5,39

Figure 33. Inter municipal net migration pr 1000 habitants.

Education level of population

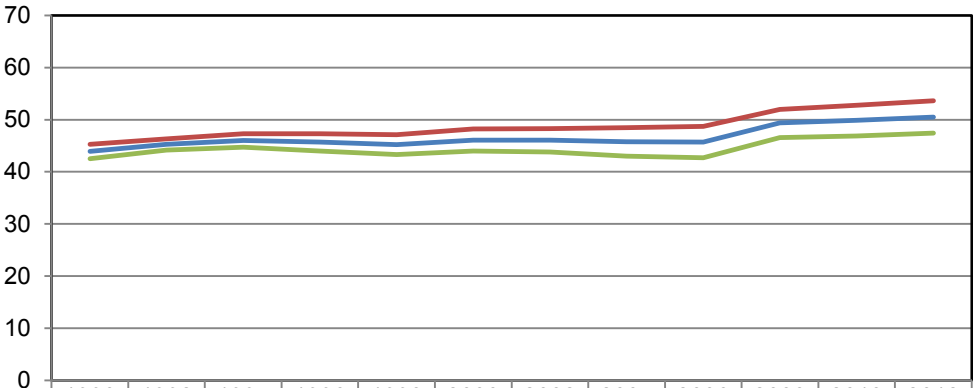
As can be seen in Appendix table 13. and Figure 34., the percent of the population in Gällivare municipality with upper secondary education increase over time, and there are more men than women with that education.



	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Total	46,5	47,4	47,8	48,1	48,2	49,2	50,2	49,9	50,3	54	55,3	56,4
Men	47,4	48,1	49	49,6	49,7	51,1	52,6	52,6	53,4	56,8	58,2	59,7
Women	45,5	46,5	46,5	46,5	46,5	47,2	47,5	47,1	47	50,9	52,2	52,9

Figure 34. Persons 16 years and over in Gällivare municipality with upper secondary education, by region, level, time and contents, per cent.

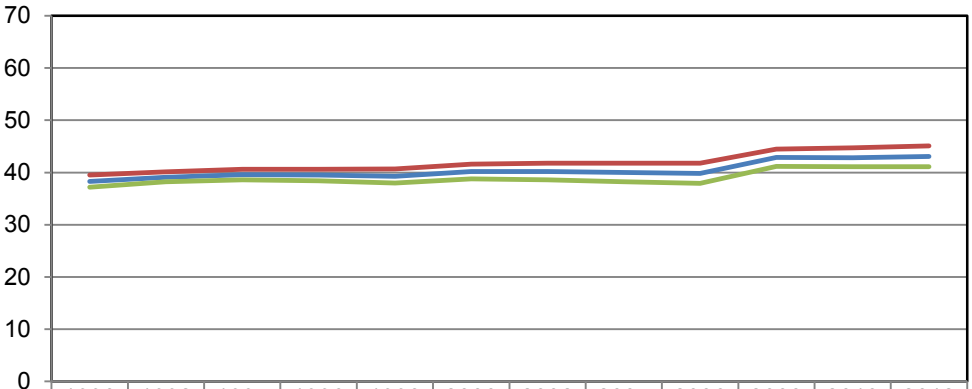
Appendix table 14. and Figure 35. shows that in the county of Norrbotten, there are more men than women with upper secondary education and the incidence increase over time.



	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Total	43,9	45,3	46	45,7	45,2	46,1	46,1	45,8	45,7	49,4	49,9	50,5
Men	45,3	46,3	47,3	47,3	47,1	48,2	48,3	48,5	48,7	52	52,8	53,6
Women	42,5	44,2	44,7	44	43,3	44	43,8	43	42,7	46,6	46,9	47,4

Figure 35. Persons 16 years and over in the county of Norrbotten with upper secondary education, by region, level, time and contents, per cent.

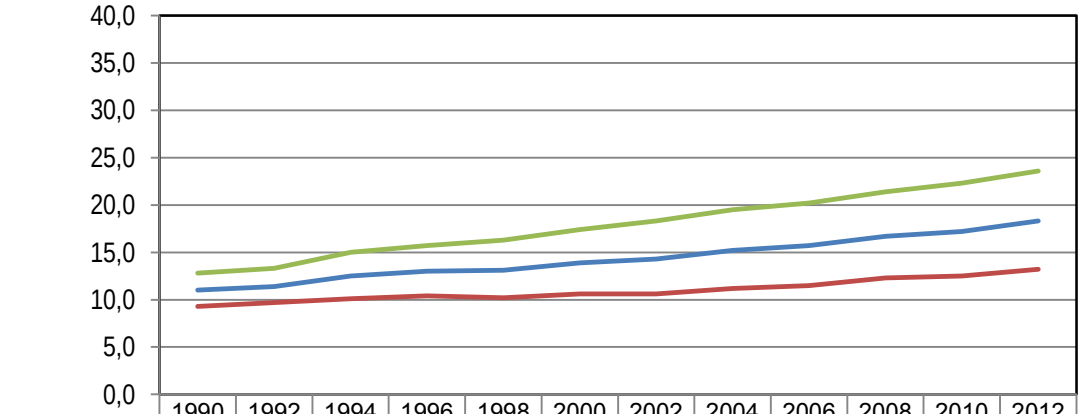
There are more men than women with upper secondary education in Sweden, and the incidence is around 45 % the last six years (Appendix table 15.; Figure 36.).



	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Total	38,3	39,1	39,6	39,5	39,3	40,2	40,2	40	39,8	42,9	42,8	43,1
Men	39,5	40,1	40,6	40,6	40,7	41,6	41,8	41,8	41,8	44,5	44,7	45,1
Women	37,2	38,2	38,6	38,4	38	38,8	38,6	38,2	37,9	41,2	41,1	41,1

Figure 36. Persons 16 years and over with upper secondary education, by region, level, time and contents, per cent.

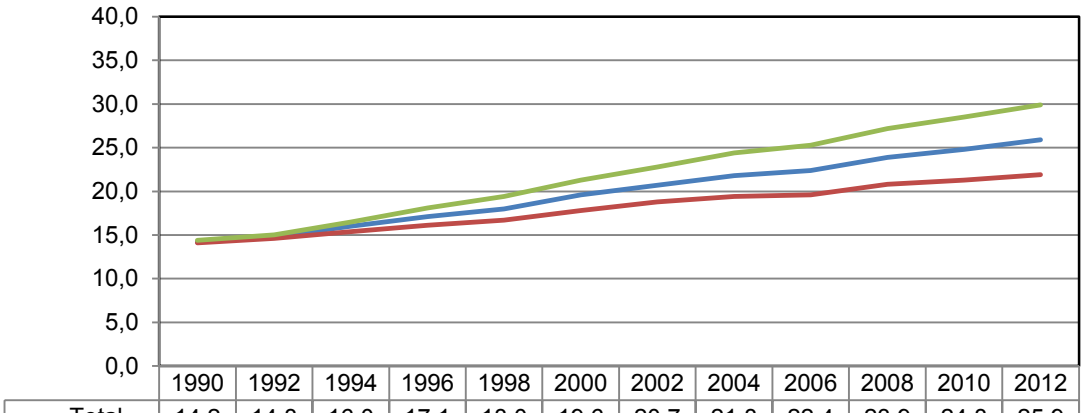
When it comes to tertiary education, there are more women than men in Gällivare municipality with that education (Appendix table 16.; Figure 37.).



	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Total	11,0	11,4	12,5	13,0	13,1	13,9	14,3	15,2	15,7	16,7	17,2	18,3
Men	9,3	9,7	10,1	10,4	10,2	10,6	10,6	11,2	11,5	12,3	12,5	13,2
Women	12,8	13,3	15,0	15,7	16,3	17,4	18,3	19,5	20,2	21,4	22,3	23,6

Figure 37. Persons 16 years and over in Gällivare municipality with upper tertiary education, by region, level, time and contents, per cent.

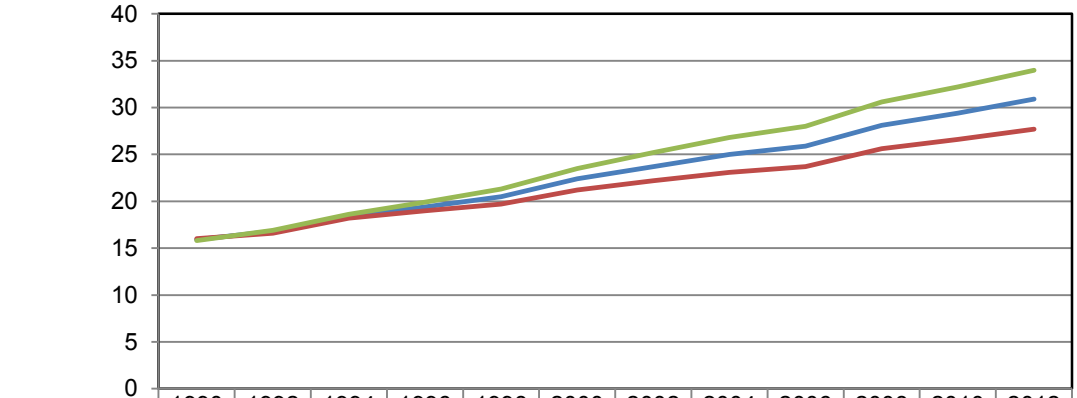
Appendix table 17. and Figure 38. shows an increase in the percent of the population with tertiary education in the county of Norrbotten from the year 1990 to 2012, and the incidence is higher among women.



	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Total	14,2	14,8	16,0	17,1	18,0	19,6	20,7	21,8	22,4	23,9	24,8	25,9
Men	14,1	14,6	15,4	16,1	16,7	17,8	18,8	19,4	19,6	20,8	21,3	21,9
Women	14,4	15,0	16,5	18,1	19,4	21,3	22,8	24,4	25,3	27,2	28,5	29,9

Figure 38. Persons 16 years and over in the county of Norrbotten with upper tertiary education, by region, level, time and contents, per cent.

Appendix table 18. and Figure 39. shows an almost doubling in the percent of the population with tertiary education in Sweden from the year 1990 to 2012, and the incidence is higher among women.



	1990	1992	1994	1996	1998	2000	2002	2004	2006	2008	2010	2012
Total	15,9	16,8	18,4	19,4	20,5	22,4	23,7	25	25,9	28,1	29,4	30,9
Men	16	16,6	18,2	19	19,7	21,2	22,2	23,1	23,7	25,6	26,6	27,7
Women	15,8	16,9	18,6	19,9	21,3	23,5	25,2	26,8	28	30,6	32,2	34

Figure 39. Persons 16 years and over in Sweden with upper tertiary education, by region, level, time and contents, per cent.

5 MINING INDUSTRY IN THE LOCAL COMMUNITY FROM THE POINT OF LOCAL AUTHORITIES AND CITIZENS *Leena Viinamäki*

By interviewing local authorities, citizens and mine workers it is aimed to widen and deepen the understanding the impact of the Mine to the Municipality's socio-economical restructuration process. The key informant's interviews helps also to interpret and analyse both statistical data and survey data such as it is the idea of the triangulation research design in MineHealth's project's Socio-economic study (*see the main chapters 1. and 2.).*

Interviews are primarily done individually or in some cases as a group interviews. Phone interviews were also possible, if needed. The location of the mines varies from the island (*Stjernoy Sibelco*) to the desert (*Kevitsa Mining Oy*). Statistical and Questionnaire data were sent beforehand for the key informants at manager level both in Municipality and in the Mine. In that way, they had the opportunity to read up on the preliminary research results before the interview appointment and comment on them from the point of the organisational meso level (*Municipality, Mine*; see also Layder 1993).

The research team has attempted to avoid qualitative hyperempirisim. In other words similar interviews results has documented only once by using most informative interview information. (Kvale 1996, 254.) Summative Tables consists only the crucial results from the point of socio-economical restructuration process of the Municipalities. Analytical experience gained from the creation of the Utsjoki wellbeing report has been utilised in the creation of the so-called summative tables (Viinamäki ed. 2011; Laiti-Hedemäki 2011).

Interview themes were divided into six common interview main themes:

1. What are the positive and negative challenges concerning the current mine actions from the viewpoint of the Municipality? (*3 of the most important positive and negative aspects*)
2. What are the positive and negative challenges concerning the operations of the Mine in the near future (*until 2018*) from the viewpoint of the Municipality? (*3 of the most positive and negative aspects*)
3. What kind of future operation visions does the Mine have from the viewpoint of the Municipality? (*3 of the most positive and negative aspects*)?
4. Comments on the essential MineHealth Questionnaire data (*and statistical data comments*).
5. How does the Mine reshape the Municipality's: economic structure; unemployment; age structure; moving in and out of the municipality and educational structure of population?
6. Development ideas for the Mine's and the Municipality's action.

There are some country specific variations among Finland, Norway, Russia and Sweden concerning both the total number of interviews and interview themes.

5.1 Finland: Sodankylä, Kevitsa Mining Oy, *Leena Viinamäki & Seppo Kilpiäinen*

The key interviewees of Kevitsa mine were divided into two groups. The evaluation of the social and economic impact of opening the Kevitsa mine were represented by authorities and political decision makers. The third sector and citizens represented the civil perspective. The Kevitsa mine staff on the other hand evaluated the Sodankylä's official (*authorities*) and unofficial *(citizens*) role in the evaluation of social and economic impacts.

The citizens and Sodankylä's inhabitants evaluated the eco-social frames *from the social, physical, cultural, emotional and historical perspective*. The migrated staff evaluated their work on Sodankylä mainly *from social and physical perspective* (Matthies et al. 2001; see also Molyneux 2010; MINING SECTOR PERFORMANCE … 2013; Figure 40.).

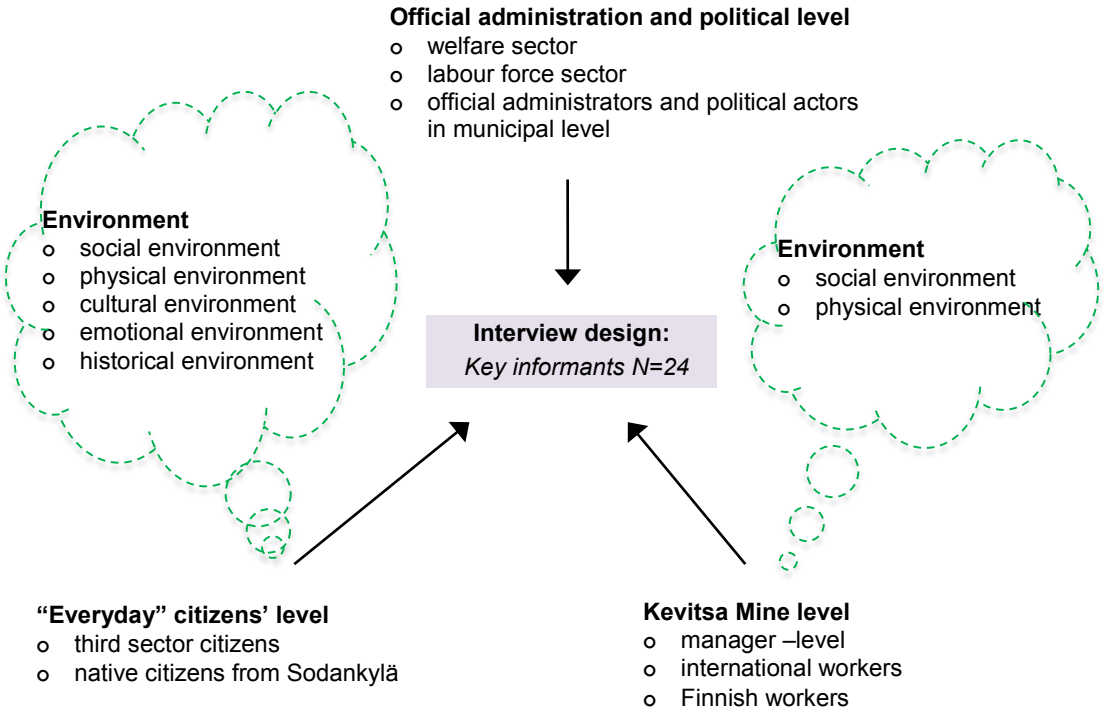


Figure 40. Multilevel evaluation idea in interview design.

Table 8. summarises Sodankylä municipality representatives' (*incl. authorities and political decision makers*) conceptions on the impacts of the Kevitsa Mine opening.

Table 8. *Sodankylä municipality representatives' (incl. authorities and political decision makers) conceptions on the impacts of the Kevitsa Mine opening.*

Sodankylä municipality representatives (incl. authorities and political decision makers, N=6)		
Interview theme	**Mine and country specific content analysis** (key themes)	
	Positive	***Negative***
What are the positive and negative challenges concerning the current mine actions from the viewpoint of Sodankylä municipality? (3 of the most important positive and negative aspects)	✓ *Population growth* ✓ *Improvement in care relations* ✓ *Increase in jobs* ✓ *Decrease in unemployment* ✓ *Tax incomes in municipal services* ✓ *Positive impact on the recovery of entrepreneurship* ✓ *Revival of centre urban area* ✓ *Population growth caused by mine opening* ✓ *The smile is back on the faces of inhabitants* ✓ *New kind on job possibilities for women after shut-down of the traditional women's jobs* ✓ *Increase in day care needs (especially shift day care)* ✓ *Increase in mining education* ✓ *Increase in building and multiplier effects of detached houses and industrial halls* ✓ *Kevitsa Mine's participation in building and purchase costs of the local infrastructure*	✓ *Housing shortage and the increase in the residence costs* ✓ *Risk of pollution* ✓ *Poor development of economy and tax incomes* ✓ *Increase in income support, because of the moving in of population with no jobs at the time* ✓ *Unemployment of men over 50 years with no occupational education* ✓ *New kind of demand of multilingual welfare services (incl. occupational health care, day care)* ✓ *Slow social networking between inhabitants and mine workers* ✓ *The poor investing of Kevitsa Mine compared to expectations. Society responsibility is not in accordance with expectations. There is also a need for improving the openness.*
What are the positive and negative challenges concerning the operations of Kevitsa Mine in the near future (until 2018) from the viewpoint of Sodankylä municipality? (3 of the most positive and negative aspects)	✓ *Development of employment into positive direction, bringing possibilities to new entrepreneurship among mining and other circumstances* ✓ *Positive tax income development*	✓ *There is a hope that Kevitsa Mine would take better into account the society responsibility in its actions* ✓ *Housing construction, securing services etc.*
What kind of future operation visions does Kevitsa Mine have from the viewpoint of Sodankylä municipality? (3 of the most positive and negative aspects)	✓ *Extensive general effect to employment, at the moment lower than expected. Women have even a privilege to the mine jobs.* ✓ *The real estate tax and corporation tax from Kevitsa Mine, if there is enough good will, when most of the taxes come from earning taxes through jobs* ✓ *The aim to make Sodankylä municipality an attractive place through service supply* ✓ *Stop in the increase of aged population and the revival of population pyramid* ✓ *Employment possibilities for the youth*	✓ *There is a great concern about the condition of environment in the future. A real treat is the sagging of harmful materials into Kitinen waters, these materials also threaten the Sodankylä urban area.* ✓ *Environmental risks caused by mining actions (environmental accident)* ✓ *Economic risks of mining actions (bankruptcy of mining company)* ✓ *The uncontrollable growth of the mining industry (Sakatti)*
Comments on essential MineHealth Question-	✓ *Mines and municipalities in general need to consider, how mines are*	✓ *62 out of 199 mine workers would change their job, if possible*

naire data	*able to employ the needed professional staff in remote areas*	
How does Kevitsa Mine reshape Sodankylä's o economic structure? o unemployment? o age structure? o moving in and out of the municipality? o educational structure of population?	✓ *Economic structure is developing* ✓ *Kevitsa Mine has a little effect on traditional livelihoods (reindeer farming, fishing, tourism)* ✓ *Decrease in unemployment* ✓ *Moving-in because of jobs* ✓ *A new master plan, which reckons the doubling of the housing construction of parish village*	✓ *The livelihood development of Sodankylä is a little unclear. The leading authorities and political decision makers do not have a firm grip of livelihood politics. The cooperation with entrepreneurs is poor.* ✓ *The need for housing construction was noticed too late* ✓ *The overall vision is lacking* ✓ *Land use planning is not proceeding fast enough, e.g. cooperation with the local livelihood is poor* ✓ *The youth is moving into the growth centres after educational and service needs* ✓ *The rundown of vocational college is a great problem for the development of municipality* ✓ *The relative amount of aged population is increasing, even though the employment rate is at good level*
Development ideas	✓ *Environmental protection is one of the most important issues – that the mining company should consider* ✓ *The development of services is beginning and there is a need for knowledge on land use planning and transportation* ✓ *If the cooperation with mining company, municipality and other livelihood is to develop, the effects could be great*	

According to the representatives of Sodankylä, positive population development, employment situation and the diversification of the living structure after the opening of the Kevitsa mine are desirable matters. Especially for women, there are new working possibilities. The municipal tax income has also developed into a better direction.

According to the representatives of Sodankylä, the overheating of accommodation markets is a negative matter, because the supply doesn't meet the needs, especially in the time of opening the mine. As a community, Sodankylä has restructured partly uncontrollably. The original population and the migrated people have not socially networked enough. Among the welfare services, the supply doesn't meet the needs in all aspects (*day care services, health care services*). The accommodation and entrepreneurship planning has not reacted fast enough to the new situation.

There are challenges with the nature impacts as well as the financial profitability of the mine. These both set the challenges for the municipality's infrastructure (*industrial policy, accommodation policy, environmental protection*). According to the representatives of Sodankylä, the opening of Kevitsa mine sets the challenge to employ enough professionals to the area. The other challenging questions are the following: how fast the municipality is able to fill in the positive development, such as supporting the local industrial policy, health care service needs as well as what kind of investments to make.

Table 9. summarises Sodankylä municipality natives' (*incl. inhabitants and third sector*) conceptions on the impacts of Kevitsa Mine opening.

Table 9. *Sodankylä municipality natives' (incl. inhabitants and third sector) conceptions on the impacts of the Kevitsa Mine opening.*[29]

Sodankylä municipality representatives (incl. inhabitants' and third sector , N=7)		
Interview theme	**Mine and country specific content analysis (key themes)**	
	Positive	***Negative***
What are the positive and negative challenges concerning the current mine actions from the viewpoint of Sodankylä municipality? (3 of the most important positive and negative aspects)	✓ *People have got jobs from the mine – and women, especially drivers, big machinery and things* ✓ *Young people find jobs from the mine through mining education* ✓ *Sodankylä municipality has had to add resources to day care* ✓ *The village road has become livelier* ✓ *I appreciate the jobs that have been here before the mine, for generations* ✓ *There has happened no changes in a year, well except the traffic* ✓ *It has widen the all-round education to familiarize oneself with mine projects, it has opened eyes for many things: how the society works, how multicultural companies operate as well as the mine project itself*	✓ *…there are reindeer (Kevitsa mining area) that need to be driven away … there's no salary for it, but we have to do that…* ✓ *The highway is very busy, especially in the mornings and afternoons… heavy traffic has multiplied. They transport the ore… and they haven't widened or made any changes to the road itself… the traffic goes by the small roads in the village, near the house walls… It's some old village road, the traffic is dangerous and it's only a matter of time until there's an accident* ✓ *The locals think that the sudden closures of schools and stuff are unequaling the locals compared to the newcomers, they need education in English… and at the same time they decide to close down a school* ✓ *Mine work includes travelling, your family is on the other place, so the money goes out of Sodankylä with the workers, but the municipality needs to arrange services for those workers* ✓ *The mine has an arrangement that doesn't demand workers to settle in Sodankylä, they work 12 hours a day, so they work 12-hour-days for four days and have half a week off… so it supports more the fact that they are living in another place, and then there's travel allowances and everything, that are beneficial for travelling workers…*
What are the positive and negative challenges concerning the operations of Kevitsa Mine in the near future (until 2018) from the viewpoint of Sodankylä municipality? (3 of the most positive and negative aspects)	✓ *People get employed, there's no room for reindeer farmers* ✓ *…The opening of Kevitsa Mine makes the leading authorities to travel to Southern Finland, they are very much employed… The municipal decision makers have visited the ministers and these authorities* ✓ *… In 2012 the tax incomes increased a bit and this year 2013 the increase is about two million, but from next year the state grants are decreasing, so that the municipality has a hard time*	✓ *The owner company of Kevitsa Mine had a very poor restoring plan when they very analysing the environmental effects. …they do not intend to make the environment as it originally was, it will be left like the cellulose factory in Kemijärvi, pollution and the pit, that they make during the open pit mining, and it will probably become a lake afterwards* ✓ *When it windy, there's field dust that spreads at distance of two kilometres, then there's explosion dust which is very fine-grained and it rises higher… we have an increasing amount of*

[29] … this means eliminating the expletives from the authentic interview quotations and combining more authentic sentences to the same theme.

	adjusting and that municipal management has proposed that there will be income from the mine in about two years, so it is okay to incur debt at the moment …	*storms and windy days*
What kind of future operation visions does Kevitsa Mine have from the viewpoint of Sodankylä municipality? (3 of the most positive and negative aspects)	✓ *Unemployment… it would probably be higher without the mine, almost everyone in who wants to get employed, will be employed in Sodankylä* ✓ *They will have one teacher who can teach in English, mainly these English-speaking students… the mine promised to fund this for xx euros next year, as lump-sum compensation, but they believed that the municipality would set up a position and organize teaching… I understood it would be a resource teacher, who would teach different classes and would specifically guide the English-speaking students*	✓ *The opening of Kevitsa Mine causes very much costs for municipality, that authorities and political decision makers did not succeed to predict* ✓ *It requires quarrelling all the time, of what it says on the environmental effects report and license conditions, it is not flexible and of good manners at all, when they are not respecting the limits of pollution, but to rudely exceed if there happens to be a great market price for ore, so they should stick to the license conditions*
How does Kevitsa Mine reshape Sodankylä's o economic structure? o unemployment? o age structure? o moving in and out of the municipality? o educational structure of population?	✓ *We have enough of these lands in Finland, so they don't need to be protected anymore* ✓ *Yes… there will be more mines* ✓ *It has an impact of providing employment also out of Sodankylä municipality*	✓ *Environmental committee has demands and all, but Kevitsa Mine came here to make profit, not to listen to our bleeping* ✓ *They see us as population with no history and past, that they can just do anything here* ✓ *Near here, there is Pahtavaara and Suurkuusikko, and then there's Sokli and Russian mines right on the border, and all the time they are looking for new claims, so we are a little unsure as to where the next mine will take place and what would it mean combined with the current mines, I think these should always be added up and not focus on just one particular mine*
Development ideas	✓ *We should be careful and take notice with these sewage issues, how these are managed in the mine, and if the groundwater is spreading to the surface waters, and then these dusts, how far those are spreading and where the effects appear, and then there's explosion dusts, protected nature fields, are there any effects, in fauna, avifauna and the fish population* ✓ *… from the viewpoint of reindeer farming it would be better if there were annual compensations along with the costs, as long as the mine is operating* ✓ *Critical and responsible actions should be considered, for example when there was this environmental license application for expansion, it was criticised by environmental protections secretary, but not the municipal government*	

According to Sodankylä's original inhabitants, it is good that the opening of Kevitsa mine has diversified and increased the working possibilities, especially for women and younger people, as well as increased the tax income of the municipality. As the mining education starts, also younger people have realistic possibilities to stay in their home municipality.

According to the Sodankylä's original inhabitants, it is not good that after the opening of Kevitsa mine, the heavy machinery on the road has increased, as well as the surrounding nature has

changed. The emotional and historical lifestyle changes are also negative things (*traditional living, Sami heritage*).

There is a challenge in the service needs and supply English speaking (*public and private services*) as well as the responsibility questions caused by the opening of the mine. According to the Sodankylä's original inhabitants, there's also challenges in the applying of the social responsibility of the mine and how much there will be commuting between Sodankylä and the home municipality of the mine workers.

Table 10. summarises Kevitsa Mine employees' (*incl. Finnish and foreign workers as well as the manager level*) conceptions on the impacts of Kevitsa Mine opening.

Table 10. *Kevitsa Mine employees' (incl. Finnish and foreign workers as well as the manager level) conceptions on the impacts of Kevitsa Mine opening.*

Keivtsa Mine employees (incl. Finnish and foreign workers as well as the manager level, N=11)		
	Mine and country specific content analysis (key themes)	
Interview theme	***Positive***	***Negative***
What are the positive and negative challenges concerning the current mine actions from the viewpoint of Sodankylä municipality? (3 of the most important positive and negative aspects)	✓ Increased population ✓ Sodankylä municipality has taken care of shift day care arrangements very well ✓ Reindeer farmers have work for decades to come, mines have only 30 years at the most, but how much more the mines still employ ✓ Money flows a little differently nowadays, as well as people on the move around the village, we have new stores ✓ It shows in the municipal tax incomes ✓ There are more people moving in Sodankylä, also from abroad. It is still in a transitional period, tax authorities approve 3 first years for paying taxes to the home municipality, so many have done that, so that they will get the travel allowances and low tax rate ✓ The tax incomes has risen and unemployment rate has decreased	✓ At the time of mine construction, apartments were hard to find, prices were very high ✓ Especially at the time of construction there are a lot of contractors, so there were almost no apartments at all, and the rents were tremendous ✓ I think the municipality woke up to this a little too late, so that they didn't notice that there were people living in bunkhouses and tents ✓ The traffic is intense ✓ We spend 2 hours a day travelling to and from work, so basically we work for 10 hours so to speak, so if we had the 12-hour shift we could get much more work done and there wouldn't be many interruptions, and then we would have 6 days off, because we have very physically straining job in the concentrating plant, so we don't fully recover in four days off ✓ If you think that you wake up, take your children to day care at 5-6 a.m. in the morning, the bus to the mine leaves at 7 a.m., get off at 4 p.m. and the bus arrives at the village at 5, pick up the children from day care, go to the grocery store, it is at least half 7 p.m. when you get home, and then you are expected to spend time with older children, cook dinner, do cleaning and laundry and then go to your hobbies, I say it doesn't work like that ✓ Our occupational health care is the worst, we don't even have a leading doctor in our health care centre

What are the positive and negative challenges concerning the operations of Kevitsa Mine in the near future (until 2018) from the viewpoint of Sodankylä municipality? (3 of the most positive and negative aspects)	✓ The mining company offers support for living, health care services, transportation, no need to use own car ✓ Employer offers refreshment opportunities, even though we don't have time for that. We have coupons available. ✓ This company is doing good to employ young people, who have recently graduated, so that they don't necessarily have working experience, we have so many young graduates working ✓ It is often emphasised how environmental-friendly we are, and are not destroying anything, and that we have strict instructions for pollution, oils and stuff, and that we have to have preventive measures and not destroy the nature… we have the pools and drive by many times a day, and make sure that the dams don't break, and are very careful and take water samples	✓ There has been Finnish education for foreigners, but no English education for the Finnish ✓ When you are a traveling worker and have an apartment elsewhere, you would want to work the free days too, so when we have 2 days of work, 24 hours off, 2 days of work and 24 hours off, the workers would prefer to work the free days too, they have too much free time here, and they would want to go back to their families as early as possible and then not be at the municipal area. And those who have moved in Sodankylä, they like to have free time at afternoons and they get to know people here ✓ A Finnish worker does the received job, but then there's these foreigners… they have learned the laid-back working attitude, but they don't necessarily do the work, they don't understand the Finnish mentality to do the work even though it would take extra efforts ✓ This cultural collision, when in Finland, we do things in a certain way and they do it in their own way
What kind of future operation visions does Kevitsa Mine have from the viewpoint of Sodankylä municipality? (3 of the most positive and negative aspects)	✓ If we think about this area, how many hectares this is, it doesn't really disturb the reindeer farming, I think it was more disturbing when they built the Kitinen waters, there was much greater soil waste ✓ There was a high school class visit, the manager was very interested of what I think about it, and that it is useful to introduce the students with the mine, so to never prevent them from coming for a visit, but to give them a lecture, to show them the mine, part of them might be interest to become a geologist or work at the concentration plan or become a machine driver, the high school doesn't qualify you for a profession	✓ Well we have kind of a problem, because we have walls around the mine and Anglo-Americans have reserved the surrounding areas, so we have no chances to expand
Comments on essential MineHealth Questionnaire data	✓ Many have left because they very not capable of this kind of job ✓ They wanted to try but the job was not for them – one reason has been the salary ✓ A positive thing is that the mine employs, and in case of approved licenses, it will employ even more, but as a negative results, the lifeline of the mine will shorten	✓ There are 270 workers... so 122 wants to continue at the job, 12 had already arranged a new job, so 74 out of this 200 have plans to apply for another job
How does Kevitsa Mine reshape Sodankylä's o economic structure? o unemployment? o age structure?	✓ They need to take care that all of the instructions and laws are followed, the same goes for the municipal authorities ✓ Well entrepreneurs have been in	✓ Day care and apartments issues need to be taken care of ✓ There haven't been very many municipal representatives visiting the mine

o moving in and out of the municipality? o educational structure of population?	contact with us very well	
Development ideas	✓ I think you shouldn't limit the children according to what the parents do, it is good for the children, because for example children in shift day care come and go at any times, so it would be nice for them to have other children to play with ✓ More shift day care positions ✓ There should be better health care services… we pay a terrible amount of taxes, and then the on-call duty health care services are switched to Rovaniemi… how about the elderly and all… you don't even need to be Sodankylä inhabitant… you will never receive an appointment… Offices should have longer open-times, I personally don't have time to visit the offices ✓ Day care centre is figuring out the 12-hour system, because we have so many shift-workers, so they are discussing with the municipality how the develop the system ✓ Sodankylä municipality should have arranged rental apartments earlier, there should be affordable land sites to sell… and then there's hobbies, swimming hall or something, near the centre, the mine could also build up a swimming hall ✓ Talvivaara gave the negative reputation to the mining industry, Kevitsa could be the one that allows the press to the premises, to photograph, so there wouldn't be any fear of being stamped as bad for nature, but rather to show what kind of work we do concerning the waters and how we monitor the situation ✓ There is a need for openness in both directions ✓ Well this is a growing business at the moment, but at this moment there aren't really anything for the Finnish people, other than the tax income, mine taxes would be a good way, but it can't be presented as incomplete, but it should be thoroughly considered, because this is the mine that we have, could be able to handle the taxes, but there are also other smaller mines, so how would they manage if there was other payments too, those wouldn't necessarily be profitable	

According to the staff of Kevitsa mine, the positives things are Sodankylä's population development, increase in tax income, diversification of business and the increased working possibilities of locals. As an employer, Kevitsa mine offers accommodation support, transportation, occupational health care and free time entertainment for workers.

According to the staff of Kevitsa mine, the negative things are the difficult situation of accommodation (*prices, free accommodation*), increase in traffic, problems with public day care and health care. Shift work restructures the everyday life of workers. The opening times of official offices should be changed so that the mine workers would also have time the run errands after work. Community college could also take into consideration the shift work of the mine and the increase in the population. Children's day care system does not meet the needs of the shift workers.

According to the staff of Kevitsa mine, there is a challenge in the sufficiency of the ore and in the expansion of the mine, upholding the positive image of the mine. The mine taxes set challenges for small mines. There is also a challenge in keeping an open relationship between the mine and the municipality. There should be language education offered for both Finnish workers and workers from abroad.

5.2 Norway: Alta, Stjernoy Sibelco, *Vigdis Nygaard*

Table 11. summarises interviews from Alta (*municipal level, workers, mine administration*) conceptions on the impacts of Sibelco Stjernøya.

Table 11. *Interviews from Alta (municipal level, workers, mine administration) conceptions on the impacts of Sibelco Stjernøya.*

Interview theme	**Mine and country specific content analysis** (key themes), N=5	
	Positive	***Negative***
What are the positive and negative challenges concerning the current mine actions from the viewpoint of Alta municipality? (3 of the most important positive and negative aspects)	✓ Stable, longterm jobs ✓ Industrial jobs, one of few left ✓ Especially easy access to boat transport for the two villages Talvik and Øksfjord (closer to the mine than Alta) ✓ Personal tax income to the municipality ✓ Stable world market demand and price for the product they sell ✓ Take good care of their workers ✓ Many employees have worked there for a long time ✓ Have managed to reach a good agreement with reindeer herders on the island ✓ Take the need of the reindeer herders into account – close production in periodes ✓ Awarded the contract for running the personell boat transport to a local company in Øksfjord – important for employment and economi in the business. ✓ Mine important for developing housing in Bossekop in the 70/80-ties close to the boat terminal ✓ Take part in vocational training programs and use contract of apprenticeship for recruitment	✓ Other parts of the global mining company struggles, - need for reducing costs ✓ Activity is not much linked to the society ✓ Little contribution to sponsor sport and cultural activity in the municipality ✓ Limited ripple effects on Alta private business – isolated on an island ✓ Work in shifts – can be hard to combine with family life ✓ No policy to attract women to male dominant work ✓ Traditional gender patterns – women work in administration and cantina ✓ Opening hours of municipal day care center do not fit working hours of the mine ✓ Limited environmental effects – sea deposit without use of chemicals ✓ Mining industry limited contribution to local budgets
What are the positive and negative challenges concerning the operations of Sibelco mine in the near future (until 2018) from the viewpoint of Alta municipality? (3 of the most positive and negative aspects)	✓ Stable workplaces in the future ✓ Solid company – long term plans for mining activity at Stjernøya ✓ Tax income (personal tax) to the municipal budget ✓ Mine and reindeer husbandry can live side by side in the future ✓ Engineer studies “Arctic construction” started in Alta (Arctic University) 2014 – will be important for further mining recruitment	✓ Limited available workforce in the local community ✓ Low unemployment rate ✓ Next 5 years – many workers will reach pension age ✓ Company will have huge challenges recruiting new personnel ✓ Not so attractive work for young people ✓ Not so attractive work for family people ✓ Commuting distance hard to combine with small children ✓ Hope for more participation in sponsoring local sport and culture ✓ Municipality and mining company should work together to make it easier for families with small children to work in the mine – look at opening hours at day care center, other shift arrangements?
What kind of future operation visions does Sibelco Mine have	✓ Hope the marked conditions for their product will be good in the future	✓ Recruitment challenges – competition from other local businesses. ✓ More strict rules on following up EU

from the viewpoint of Alta municipality? (3 of the most positive and negative aspects)	✓ Will provide stable jobs for different kind of competence in the future ✓ Important work for both high skilled and not so high skilled	water directive might force the company to implement environmental measures for the sea deposit, risk of high investment costs ✓ Climate change – high risk of avalanche in winter time ✓ Must be more active to recruit young local workforce – from educational institutions. Not so good known compared to other companies.
Comments on essential MineHealth Questionnaire data	✓ 57 % of the employees think they will work in the mine in the next 3 years ✓ Most workers are recruited locally	✓ Mine face a generation change in the near future. Need to recruit new personnel. ✓ Young part of the personnel not so sure that they will work there in the next 3 years
How does Sibelco Mine reshape Altas o economic structure? o unemployment? o age structure? o moving in and out of the municipality? o educational structure of population?	✓ To a very limited extent (1 % of employment) ✓ But, one of few reminding industrial workplaces ✓ Practially no unemproyment in this industry ✓ Gives work to people of all ages – more popular among ”older” ✓ Does not contribute to much to migration – but have given work to a handfull of workers from another Sibelco mine in western Norway that closed down ✓ Gives work to people with very different educational backgrounds	✓ Practically no unemployment – rather tight labor market ✓ Limited effect on migration-recruit mainly locally ✓ Lack strategy for recruitment of young people/family people/women
Development ideas	✓ Need new strategies for recruitment ✓ Must be more visible in the local community ✓ The company will keep on producing the same product to the same markets ✓ Have deposits for stable production for at least 50 years	

The mine at Stjernoya has offered stable work for more than 50 years for workers in Alta and smaller neighboring villages. The number of workers has been stable (around 100) with little market fluctuations for the produced product nepheline cyanide. Labor is mainly found locally. The isolated location on an island has nevertheless limited the positive and negative influence on the municipal daily life. Personal tax income is important for the municipal budget, but few other local businesses have contracts with the Sibelco Company. The knowledge of this industry among the local population is vague, and the main challenge for the company is future recruitment as a considerable number of workers will soon reach pension age. The work shift of daily commuting from the mainland to the island is challenging for families with small children as commuting times are not coordinated with school and kindergarten opening times.

5.3 Russia: Kirovsk, Phosagro-Apatit, *Ljudmila Talykova*

Table 12. summarises interviews from Kirovsk (*municipal level, workers, mine administration*) conceptions on the impacts of JSC "Phosagro-Apatit".[30]

Table 12. *Interviews from Kirovsk (municipal level, workers, mine administration) conceptions on the impacts of JSC "Phosagro-Apatit".*

Interview theme	**Mine and country specific content analysis** (key themes)	
	Positive	***Negative***
What are the positive and negative challenges concerning the current situation in Kirovsk? (3 of the most important positive and negative aspects)	✓ Provides a significant part of the population of the city work, highly paid by regional standards; ✓ Provides tax revenues of the municipality; ✓ social programs for workers and their families of JSC "Ph-A", including rest, treatment, education ✓ participation JSC "Ph-A" in the financing of housing and civil construction ✓ participation JSC in multi-level professional training program (mine-classes in high school-mining College-mining University)	✓ High levels of migration among young people. No more than 20% of young people with a University education outside of the Murmansk region, return home. ✓ The negative impact on the environment and the lack of environmental protection measures. ✓ Conversion in JSC "Ph-A" finds no support of the local population. The widespread practice of precarious employment relationships.
What are the positive and negative challenges concerning the mines of JSC "Ph-A", **in the near future** (3 of the most positive and negative aspects)	✓ Ore reserves provide stable operation of the enterprise for more than 75 years; ✓ further modernization of technological processes and equipment will improve working conditions	✓ Reduction in the number of employees in all departments ; ✓ the education of a significant number of new company branches on the basis of service departure that creates social tensions in collectives ✓ the employment of citizens of the former Central Asian republics of the USSR, not quite know the specifics of production, does not speak Russian; ✓ reduction of salary.
How does JSC "PhosAgro-Apatite" **reform Kirovsk**	✓ investments of the state and private investors, including JSC "PhosAgro-Apatite" stimulates the development of Kirovsk as sports and tourist center; ✓ such a development Kirovsk will lead to the creation of new jobs in the service sector; ✓ Perhaps, this will help increase the attractiveness of the city for youth employment.	✓ the work of the JSC "Ph-A" will be held on a rotational schedule ✓ The dramatic aging of the population because of the lack of financial pensioners relocation to other cities
Development ideas	✓ To discuss employment opportunities of Russian miners in the mines of the countries of the Barents region ✓ To increase the role of the JSC "Ph-A" in realization of state program of resettlement of retired ✓ The government of the Murmansk region to continue the investment reform project of Kirovsk in sports and tourist center	

[30] JSC "Phosagro-Apatit" is the new name of the company in the fall of 2013.

5.4 Sweden: Gällivare, Aitik Boliden, *Anita Pettersson-Strömbäck*

Table 13. summarises interviews with representatives from Gällivare municipality about the relation Boliden Aitik mine has with the local society.

Table 13. *Identified themes from interviews with representatives from Gällivare municipality about the relation Boliden Aitik mine has with the local society.*

Interview theme	**Mine and country specific content analysis** (key themes), N=2	
	Positive	***Negative***
What are the positive and negative challenges concerning the current mine actions from the viewpoint of Gällivare municipality? (3 of the most important positive and negative aspects)	✓ Stable, long-term jobs ✓ Investments in the municipality ✓ The company utilize local entrepreneurs and sub-contractors. ✓ Have managed to reach a good agreement with reindeer herders on the island ✓ The development of a upper secondary school with mining profile ✓ Sweden have the best mines in the world when it comes to environment protection ✓ The company use rail road instead of the poor roads we have in the region ✓ The mining affect the tourism industry in a positive way, many tourists want to visit the mines, "technical visits" ✓	✓ A wish for more contribution to sponsor sport and cultural activity in the municipality ✓ A wish for FIFO:s to instead settle in the municipality ✓ A lot of weekly commuters are forced to lives with friends and co-workers ✓ Lack of properties (bungalows and apartments) ✓ Overheated property market ✓ A desperate need to initiate the building of properties, ✓ Negative impacts on the residents close to new mining sites ✓ Recruitment challenges – competition from Boliden Aitik for skilled employees. Cannot compete with Boliden Aitik about wages, Boliden Aitik is able to pay higher wages ✓ Mines are per definition harmful to the environment
What are the positive and negative challenges concerning the operations of Boliden Aitik mine in the near future (until 2018) from the viewpoint of Gällivare municipality? (3 of the most positive and negative aspects)	✓ Stable workplaces in the future ✓ Tax income (personal tax) to the municipal budget ✓ New findings of ore deposits ✓ Increased mining in existing mines	✓ Limited available workforce in the local community, the company will have huge challenges recruiting new personnel ✓ Hope for more participation in sponsoring local sport and culture ✓ Low standard on the regional road network, many accidents due to bad roads, risks when transporting heavy goods ✓ The risk of environmental pollution from for example heavy metal ✓ We will have a large number of people that retires in the nearest years, and in order to get a job, our teenagers must fulfil their upper secondary school
What kind of future operation visions does Boliden Aitik have from the viewpoint of Gällivare municipality? (3 of the most positive and negative aspects)	✓ A good cooperation with the municipality ✓ A positive feeling	✓ The lack of properties to recently employed
How does Boliden Aitik reshape Gällivare's o economic structure? o unemployment? o age structure? o moving in and out of the municipality? o educational structure of population?	✓ Personal tax income to the municipality ✓ Employs both men and women ✓ Low unemployment rate ✓ No real problem with fly in, as we have other professionals that fly out, as nurses and medical doctors to Norway ✓ A positive population growth	✓ Company taxes are paid in Stockholm

	✓ As there are available jobs in the municipality, more young people stays ✓ Most companies demands an upper secondary school exam	

Table 14. summarises interviews with representatives from Boliden Aitik, (*employer and employees*) about the relation Boliden Aitik mine has with the local society.

Table 14. *Identified themes from interviews with representatives from Boliden Aitik, (employer and employees) about the relation Boliden Aitik mine has with the local society.*

	Mine and country specific content analysis (key themes), N=2	
Interview theme	***Positive***	***Negative***
What are the positive and negative challenges concerning the current mine actions from the viewpoint of the Boliden Aitik mine? (3 of the most important positive and negative aspects)	✓ A good cooperation with the municipality ✓ A good cooperation with the sami society when changes are made in the mine's operational activity when it comes to already existing mines ✓ The development of a upper secondary school with mining profile ✓ There are good times for the mining industry, and that is good for this and nearby municipality ✓ Despite the lack of housing, we don't have barracks cities for commuters	✓ A big need to employ more people ✓ New employees can't move here due to lack of housing ✓ Over-heated property market ✓ A large amount of appeals against the inception of new projects as housing areas, cinema and culture centre, and the big society transformation connected to LKAB's operational activities ✓ Newly employed tend to stay a few years, then move back to their home towns because of our climate, the lack of social relationship, and not the "right" spear time interests as skiing, hiking, hunting, fishing and scooter driving ✓ Misunderstandings among local residents, hunters, fishers and those active in the tourism industry of the mines operational activities when it comes to the mine's environmental effects ✓ The society must adapt to the arctic climate, with indoor arenas and a culture centre
What are the positive and negative challenges concerning the operations of Boliden Aitik mine in the near future (until 2018) from the viewpoint of Boliden Aitik mine?? (3 of the most positive and negative aspects)	✓ The development of municipality's education, we need to cooperate with the schools in order to get the competence we need. ✓ To favouring local entrepreneurs and sub-contractors ✓ More commitment among the employees for the mine's operational activities ✓ In production increase, from 35 to 46 million tons, if it is possible ✓ We tries to develop own competence in the organisation, and not only hire entrepreneurs for crucial work tasks ✓ We will take social responsibility in skiing events and so on ✓ We put a lot of money and technical solutions in the protection of surrounding environment ✓ The effects of the world economy can be both positive and negative for the mining industry	✓ Next 5 years – many workers will reach pension age, we will need to re-employ ✓ The development of a negative "mine culture", with many FIFO:s ✓ A desperate need to initiate the building of properties, it is expensive to fly in expertise ✓ We must see that young people thrives in the municipality so that they don't move ✓ To develop other possibilities for spear time activities than hunting and scooter driving, as a new cinema and other cultural activities ✓ Problems with mining ponds overflow in connection to spring flows and autumn rain ✓ Even though we have good times for the mining industry, we have a negative population growth, the young people move from here and especially the girls don't move back

		✓ For new mines, we need to develop a more flexible application process, because there are a vast number of appeals against the establishment of new mines. ✓ The question is of the establishment of a new mine can be carried out in cooperation with the sami society at all because of the complexity
What kind of future operation visions does Boliden Aitik have from the viewpoint of Boliden Aitik mine? (3 of the most positive and negative aspects)	✓ To be proactive in the environmental field ✓ Environmental demands sharpens every year, and our goal is to respect and adjust to laws and regulations ✓ To consulate land owners and the sami society when making changes in the mines operations ✓ To extract other metals as molybdenum and magnetite ✓ To perform explorations and test drillings in other areas ✓ To ensure our need of competence	✓ Very long periods of mining permit application. ✓ The risk of price drop on ore before you got a permission to start a new mine ✓ A growing opinion in Sweden against mining industry, lay people thinks that mines can be suited in other countries
How does Boliden Aitik reshape Gällivare's o economic structure? o unemployment? o age structure? o moving in and out of the municipality? o educational structure of population?	✓ Due to our need of manpower there is hardly no unemployment in the municipality ✓ Employees foremost from this (95 % of the employees are from Gällivare) and next from nearby municipalities ✓ We recruit certain professionals from other parts of the county as welders, electricians, and mechanics ✓ A few percent are weekly commuters ✓ Employs both men and women, this is a expressed policy ✓ We also tries to recruit female managers ✓ We have decreased the municipalities' mean age, more young people take the mining profile at the upper secondary school in order to be able to work in the branch ✓ We have a population development surplus (+ 20 inhabitants) for the first time in twenty years time ✓ The development of a upper secondary school with mining profile ✓ Through the development of the mining profile at the upper secondary school, young people that otherwise not would have taken this grade finish school ✓ Maybe a number of people that otherwise would have taken a university exam is content with the local mining upper secondary school exam ✓ After taking a university exam, a number of engineers move back to Gällivare	✓ Many FIFO:s due to lack of housing ✓ FIFO:s don't pay tax in the municipality but use the municipalities resources

Table 15. summarises interviews with representatives from the environmental movement and the sami society about the relation Boliden Aitik mine has with the local society.

Table 15. *Identified themes from interviews with representatives from the environmental movement and the sami society about the relation Boliden Aitik mine has with the local society.*

Interview theme	**Mine and country specific content analysis** (key themes) N=2	
	Positive	***Negative***
What are the positive and negative challenges concerning the current mine actions from the viewpoint of environmental groups and the sami society? (3 of the most important positive and negative aspects)	✓ A big employer in the municipality, recruiting much new employees ✓ Without them, what would the municipality have been today? ✓ Stable, long-term jobs ✓ Young people can earn good money, 27 – 28 thousand SEK after taxes are paid ✓ People byes houses far away from the municipality centre due to the lack of housing, positive for (older) people on the countryside hat wants to sell their properties ✓ Nowadays they consult the sami society when they make changes in their operational actions. Before they just made changes without talking to the samis.	✓ For the sami society that's operate close to the mining area, it is negative, the mine has claimed great land areas ✓ The reindeers' pasture ground is scattered, the animals cant transport themselves around all available pasture ✓ A desperate need to initiate the building of properties ✓ Overheated property market ✓ The mine industry is a big national interest, if they wants something, the sami society has not so much to set against it ✓ They consult us to some degree, but the samis do not win out. They partly have understanding of our situation, but we that falls by the wayside ✓ We that lives on rein herding feels dejected, there is not much we can do to influence the mines operational actions ✓ A lot of people is disturbed by exposure from the mining activities, as noise, dust and vibrations.
What are the positive and negative challenges concerning the operations of Boliden Aitik mine in the near future (until 2018) from the viewpoint of environmental groups and the sami society? (3 of the most positive and negative aspects)	✓ I think that they live up to environmental laws and regulations, especially about the disposal to water	✓ Low standard on the regional road network, many accidents due to bad roads, risks when transporting heavy goods ✓ Must do something about the dust problem ✓ One can question what kind of economical responsibility the mine takes when it comes to compensate samis for losses in pasture grounds and environmental pollution when the mines grows in the future
What kind of future operation visions does Boliden Aitik have from the viewpoint of environmental groups and the sami society? (3 of the most positive and negative aspects)	✓ It develops the region	✓ The mine competes with other national interests and the environment ✓ The mines use of lands implies conflicts within the sami society about among other how to reach scattered pasture grounds
How does Boliden Aitik reshape Gällivares o economic structure? o unemployment? o age structure? o moving in and out of the municipality? o educational structure of population?	✓ They give job opportunities ✓ Has a positive effect on the population growth ✓ Employs both men and women ✓ Personal tax income to the municipality ✓ Some of the young people takes an engineer exam at the university, ✓ The mine might have an lock-in effect, young people don't need to educate themselves at higher levels as they get employed by the company ✓ Unfortunately, aesthetic subject	✓ The other mining company is owned by the state and maybe pays back some money. Boliden is a privately owned company, and then it might look different, but it might be the reversed situation.

	matters as art is disappear from the secondary upper school on behalf of more technical studies. This is not good for the society's diversity ✓ We don't have a culture of further education, and that is a big problem	

All actors express (*representatives from Gällivare municipality, Boliden Aitik and the environmental movement/Sami society*) that the mines operational activity is positive because it provides stable long term jobs and income to the municipality. Also, all actors express that the mine give job opportunities to both men and women.

Actors from all perspectives (*representatives from Gällivare municipality, Boliden Aitik and the environmental movement/Sami society*) mention the difficult housing situation. In Gällivare municipality, the actors say that there is a lack of available houses and flats due to mainly two reasons: 1) that people want to move to Gällivare because of the opportunity to get jobs and 2) that the work force includes many senior workers that soon will retire. This will increase the need for new recruitment.

Further, both representatives from Gällivare municipality and Boliden Aitik already stress the recruitment challenges and in combination with the lack of housing, presumptive employees from other parts of Sweden can't move in order to work in Gällivare. There is nowhere to live.

Representatives from Gällivare municipality and Boliden Aitik reports that they have started a mining profile program at the upper secondary school due to the lack of mining competence in the work force.

The representative from the Sami society reports mixed feelings about the mine. On one hand, the mine affords a possibility to get a job and support one self, on the other hand, the mine's operational activity intrudes on traditional way of life. The representative says that the reindeers pasture grounds are scattered and thereby the possibility to use it is diminished.

6 MINEWORKERS' EVERYDAY LIFE IN MINE MUNICIPALITIES IN FINLAND, SWEDEN, NORWAY AND RUSSIA *Seppo Kilpiäinen & Tarja Pernu*

The statistical analysis of the socio-economic survey focuses on examining the description of the variables that are constructed in social reality (see, e.g., Byrne 2002, 51–59). The variables of the research data were also examined in terms of the background variables, which included age, sex, place of residence and moving due to working at the mine. However, examination of the correlation of the background and research variables cannot be used to highlight things that could be considered definite causal connections between those background and research variables because, with a few exceptions (*age, height and weight*), the examined variables were discontinuous and, at the same time, categorical variables with scaled values, such as sex and educational background (see, e.g., Blaikie 2003, 22–28).

The Kevitsa mine is one of four mines where the same socio-economic variables for measuring the respondent community have primarily been present. However, due to country-specific changes regarding the forms, it was not possible to attain completely commensurable answers for all variables. Nevertheless, the Finnish material kept to the original questionnaire. On the other hand, the samples have, on average, described the same phenomenon regardless of the target mine. In this respect, there are preconditions for meeting the criteria of commensurability and ability to generalise. (*on research connected to measuring interaction*; see, e.g., Allen et al. 2009, 5–7.)

The multidimensionality and measurability of the socio-economic variables varies greatly depending on the scale standard. The measurability of opinions and the ability to generalise them require a large sample in relation to the original population in order to make generalisation possible. In this respect, the design of the indicator is particularly important (Vehkalahti 2008).

This study examined the life of mine workers using a research approach that was based on the triangulation method. The starting point was determining the social, regional and local significance in the background of international and national mines using three data collection methods. Firstly, the national statistics were reviewed from a mining perspective observing the entire country, which was referred to as macro-level analysis. Secondly, we acquired operational and personal statistical data on socio-economic issues on different employee levels from the mines that were specified as the research targets in each country. This was referred to as micro-level analysis. Finally, the impact of the mine was analysed through individual and group interviews from the viewpoint of the mine and its area of impact using different interview methods. This was referred to as meso-level analysis. Quantitative and textual analysis was emphasised in the data analysis. The analysis was primarily descriptive, but the micro-level analysis (*statistical analysis*) in particular was carried out from the perspective of descriptive and deductive statistical analysis.

The statistical section analyses the answers of informants working in an international mine environment who participated in the MineHealth project from the socio-economic perspective. The answers are based on the jointly constructed questionnaire.

Table 16. *Living arrangement by sex.*

COUNTRY	SEX		LIVING ARRANGEMENT					TOTAL
			1=By myself	2=With spouse/partner	3=With spouse/partner and child(ren)	4=With child(ren)	5=With other person/persons	
Sweden	Male	N	20	22	45	4	4	**95**
		%	21	23	47	4	4	**100**
	Female	N	8	19	23	5	2	**57**
		%	14	33	40	9	4	**100**
	Total	**N**	**28**	**41**	**68**	**9**	**6**	**152**
		%	**18**	**27**	**45**	**6**	**4**	**100**
Finland	Male	N	54	33	53	6	16	**162**
		%	33	20	33	4	10	**100**
	Female	N	7	8	15	3	4	**37**
		%	19	22	41	8	11	**100**
	Total	**N**	**61**	**41**	**68**	**9**	**20**	**199**
		%	**31**	**21**	**34**	**5**	**10**	**100**
Norway	Male	N	19	22	32	3	5	**81**
		%	23	27	40	4	6	**100**
	Female	N	7	4	5	1	1	**18**
		%	39	22	28	6	6	**100**
	Total	**N**	**26**	**26**	**37**	**4**	**6**	**99**
		%	**26**	**26**	**37**	**4**	**6**	**100**
Russia	Male	N	104	238	455	12	54	**863**
		%	12	28	53	1	6	**100**
	Total	**N**	**104**	**238**	**455**	**12**	**54**	**863**
		%	**12**	**28**	**53**	**1**	**6**	**100**
Total	Male	N	197	315	585	25	79	**1201**
		%	16	26	48	2	7	**100**
	Female	N	22	31	43	9	7	**112**
		%	20	28	38	8	6	**100**
	TOTAL	**N**	**219**	**346**	**628**	**34**	**86**	**1313**
		%	**17**	**26**	**48**	**3**	**7**	**100**

In Boliden Aitik material when observing according to the gender, 20 (21 %) men were living on their own, 22 (23 %) men were living with spouse, 45 (47 %) men were living with spouse and children, 4 (4 %) men were living alone with the children, 4 (4 %) men were living with someone else. In Boliden Aitik material when observing according to the gender, 8 (14 %) women were living on their own, 19 (33 %) women were living with spouse, 23 (40 %) women were living with spouse and children, 5 (9 %) women were living alone with the children, 2 (4 %) women were living with someone else.

In Kevitsa material when observing according to the gender, 54 (33 %) men were living on their own, 33 (20 %) men were living with spouse, 53 (33 %) men were living with spouse and children, 6 (4 %) men were living alone with the children, 16 (10 %) men were living with someone else. In Kevitsa material when observing according to the gender, 7 (19 %) women were living on their own, 8 (22 %) women were living with spouse, 15 (41 %) women were living with spouse

and children, 3 (8 %) women were living alone with the children, 4 (11 %) women were living with someone else.

In Sibelco Stjernoya material when observing according to the gender, 19 (23 %) men were living on their own, 22 (27 %) men were living with spouse, 32 (40 %) men were living with spouse and children, 3 (4 %) men were living alone with the children, 5 (6 %) men were living with someone else. In Sibelco Stjernoya material when observing according to the gender, 7 (39 %) women were living on their own, 4 (22 %) women were living with spouse, 5 (28 %) women were living with spouse and children, 1 (6 %) women were living alone with the children, 1 (6 %) women were living with someone else.

In Kirovsk Vostochny material when observing according to the gender, 104 (12 %) person were living on their own, 238 (28 %) person were living with spouse, 455 (53 %) person were living with spouse and children, 12 (1 %) person were living alone with the children, 54 (6 %) person were living with someone else.

Table 17. *Living arrangement by Age.*

COUNTRY	AGE		LIVING ARRANGEMENT					TOTAL
			1=By myself	2=With spouse/partner	3=With spouse/partner and child(ren)	4=With child(ren)	5=With other person/persons	
Sweden	under 40	N	14	24	32	2	4	**76**
		%	18	32	42	3	5	**100**
	40 or more years	N	14	17	36	7	2	**76**
		%	18	22	47	9	3	**100**
	Total	**N**	**28**	**41**	**68**	**9**	**6**	**152**
		%	**18**	**27**	**45**	**6**	**4**	**100**
Finland	under 40	N	44	23	33	5	16	**121**
		%	36	19	27	4	13	**100**
	40 or more years	N	16	17	35	4	4	**76**
		%	21	22	46	5	5	**100**
	Total	**N**	**60**	**40**	**68**	**9**	**20**	**197**
		%	**30**	**20**	**35**	**5**	**10**	**100**
Norway	under 40	N	15	10	9	0	4	**38**
		%	39	26	24	0	11	**100**
	40 or more years	N	11	15	27	4	2	**59**
		%	19	25	46	7	3	**100**
	Total	**N**	**26**	**25**	**36**	**4**	**6**	**97**
		%	**27**	**26**	**37**	**4**	**6**	**100**
Russia	under 40	N	66	58	249	4	38	**415**
		%	16	14	60	1	9	**100**
	40 or more years	N	38	180	205	8	16	**447**
		%	9	40	46	2	4	**100**
	Total	**N**	**104**	**238**	**454**	**12**	**54**	**862**
		%	**12**	**28**	**53**	**1**	**6**	**100**
Total	under 40	N	139	115	323	11	62	**650**
		%	21	18	50	2	10	**100**
	40 or	N	79	229	303	23	24	**658**

more years	%	12	35	46	3	4	**100**
TOTAL	**N**	**218**	**344**	**626**	**34**	**86**	**1308**
	%	**17**	**26**	**48**	**3**	**7**	**100**

In Boliden Aitik material when observing according to the age, of the under 40 year olds, 14 (18 %) person were living on their own, 24 (32 %) person were living with spouse, 32 (42 %) person were living with spouse and children, 2 (3 %) person were living alone with the children, 4 (5 %) person were living with someone else. Of the over 40 year olds, 14 (18 %) person were living on their own, 17 (22 %) person were living with spouse, 36 (47 %) person were living with spouse and children, 7 (9 %) person were living alone with the children, 2 (3 %) person were living with someone else.

In Kevitsa material when observing according to the age, of the under 40 year olds, 44 (27 %) person were living on their own, 23 (19 %) person were living with spouse, 33 (27 %) person were living with spouse and children, 5 (4 %) person were living alone with the children, 16 (13 %) person were living with someone else. Of the over 40 year olds, 16 (21 %) person were living on their own, 17 (22 %) person were living with spouse, 36 (46 %) person were living with spouse and children, 4 (5 %) person were living alone with the children, 4 (5 %) person were living with someone else.

In Sibelco Stjernoya material when observing according to the age, of the under 40 year olds, 15 (39 %) person were living on their own, 10 (26 %) person were living with spouse, 9 (24 %) person were living with spouse and children, 0 (0 %) person were living alone with the children, 4 (11 %) person were living with someone else. Of the over 40 year olds, 11 (19 %) person were living on their own, 15 (25 %) person were living with spouse, 27 (46 %) person were living with spouse and children, 4 (7 %) person were living alone with the children, 2 (3 %) person were living with someone else.

In Kirovs Vostochny material when observing according to the age, of the under 40 year olds, 66 (16 %) person were living on their own, 58 (14 %) person were living with spouse, 249 (60 %) person were living with spouse and children, 4 (1 %) person were living alone with the children, 38 (9 %) person were living with someone else. Of the over 40 year olds, 38 (9 %) person were living on their own, 180 (40 %) person were living with spouse, 205 (46 %) person were living with spouse and children, 8 (2 %) person were living alone with the children, 16 (4 %) person were living with someone else.

Table 18. *Living arrangement by moving.*

COUNTRY	MOVING		LIVING ARRANGEMENT					TOTAL
			1=By myself	2=With spouse/partner	3=With spouse/partner and child(ren)	4=With child(ren)	5=With other person/persons	
Sweden	1=I haven't moved in order to work for the mine I currently work for	N	19	34	58	7	4	**122**
		%	16	28	48	6	3	**100**
	2=Neighbour locality	N	2	2	4	0	2	**10**
		%	20	20	40	0	20	**100**
	3=Neighbour country	N	0	2	1	1	0	**4**
		%	0	50	25	25	0	**100**
	4=Elsewhere in the country	N	3	1	5	1	0	**10**
		%	30	10	50	10	0	**100**

	5=Abroad	N	4	2	0	0	0	**6**
		%	67	33	0	0	0	**100**
	Total	**N**	**28**	**41**	**68**	**9**	**6**	**152**
		%	**18**	**27**	**45**	**6**	**4**	**100**
Finland	1=I haven't moved in order to work for the mine I currently work for	N	24	18	48	8	6	**104**
		%	23	17	46	8	6	**100**
	2=Neighbour locality	N	15	9	12	1	8	**45**
		%	33	20	27	2	18	**100**
	3=Neighbour country	N	1	5	2	0	2	**10**
		%	10	50	20	0	20	**100**
	4=Elsewhere in the country	N	17	6	5	0	1	**29**
		%	59	21	17	0	3	**100**
	5=Abroad	N	3	2	1	0	2	**8**
		%	38	25	13	0	25	**100**
	Total	**N**	**60**	**40**	**68**	**9**	**19**	**196**
		%	**31**	**20**	**35**	**5**	**10**	**100**
Norway	1=I haven't moved in order to work for the mine I currently work for	N	10	12	24	2	3	**51**
		%	20	24	47	4	6	**100**
	2=Neighbour locality	N	8	6	9	2	2	**27**
		%	30	22	33	7	7	**100**
	3=Neighbour country	N	1	2	2	0	0	**5**
		%	20	40	40	0	0	**100**
	4=Elsewhere in the country	N	5	5	2	0	1	**13**
		%	38	38	15	0	8	**100**
	5=Abroad	N	2	0	0	0	0	**2**
		%	100	0	0	0	0	**100**
	Total	**N**	**26**	**25**	**37**	**4**	**6**	**98**
		%	**27**	**26**	**38**	**4**	**6**	**100**
Russia	1=I haven't moved in order to work for the mine I currently work for	N	64	128	265	8	35	**500**
		%	13	26	53	2	7	**100**
	2=Neighbour locality	N	17	41	72	2	10	**142**
		%	12	29	51	1	7	**100**
	3=Neighbour country	N	16	27	69	1	6	**119**
		%	13	23	58	1	5	**100**
	4=Elsewhere in the country	N	6	38	46	1	3	**94**
		%	6	40	49	1	3	**100**
	5=Abroad	N	1	3	3	0	0	**7**
		%	14	43	43	0	0	**100**
	Total	**N**	**104**	**238**	**455**	**12**	**54**	**863**
		%	**12**	**28**	**53**	**1**	**6**	**100**
Total	1=I haven't	N	117	192	395	25	48	**777**

moved in order to work for the mine I currently work for	%	15	25	51	3	6	**100**
2=Neighbour locality	N	42	58	97	5	22	**224**
	%	19	26	43	2	10	**100**
3=Neighbour country	N	18	36	74	2	8	**138**
	%	13	26	54	1	6	**100**
4=Elsewhere in the country	N	31	50	58	2	5	**146**
	%	21	34	40	1	3	**100**
5=Abroad	N	10	7	4	0	2	**23**
	%	43	30	17	0	9	**100**
TOTAL	**N**	**218**	**344**	**628**	**34**	**85**	**1309**
	%	**17**	**26**	**48**	**3**	**6**	**100**

According to the Boliden Aitik material, of all the workers there are 122 (80 %) local residents and 30 (20 %) converters.

According to the Kevitsa material, of all the workers there are 104 (53 %) local residents and 92 (47 %) converters.

According to the Sibelco Sjernoya material, of all the workers there are 51 (52 %) local residents and 47 (48 %) converters.

According to the Kirovs Vostochny material, of all the workers there are 504 (58 %) local residents and 365 (42 %) converters.

Table 19. *Moving by sex.*

COUNTRY	**SEX**		**MOVING**		**TOTAL**
			Local resident	Converter	
Sweden	Male	N	73	22	**95**
		%	77	23	**100**
	Female	N	49	8	**57**
		%	86	14	**100**
	Total	**N**	**122**	**30**	**152**
		%	**80**	**20**	**100**
Finland	Male	N	83	76	**159**
		%	52	48	**100**
	Female	N	21	16	**37**
		%	57	43	**100**
	Total	**N**	**104**	**92**	**196**
		%	**53**	**47**	**100**
Norway	Male	N	42	38	**80**
		%	53	48	**100**
	Female	N	9	9	**18**
		%	50	50	**100**
	Total	**N**	**51**	**47**	**98**
		%	**52**	**48**	**100**

	Male	N	504	365		**869**
		%	58	42		**100**
Russia	**Total**	**N**	**504**	**365**		**869**
		%	**58**	**42**		**100**
	Male	N	702	501		**1203**
		%	58	42		**100**
	Female	N	79	33		**112**
Total		%	71	29		**100**
	TOTAL	**N**	**781**	**534**		**1315**
		%	**59**	**41**		**100**

When observing according to the gender, in Boliden Aitik there are 73 (77 %) local male residents and 22 (23 %) male converters. There are 49 (89 %) local female residents and 8 (14 %) female converters.

When observing according to the gender, in Kevitsa there are 83 (52 %) local male residents and 76 (48 %) male converters. There are 21 (57 %) local female residents and 16 (43 %) female converters.

When observing according to the gender, in Sibelco Stjernoya there are 42 (53 %) local male residents and 76 (48 %) male converters. There are 9 (50 %) local female residents and 9 (50 %) female converters.

When observing according to the gender, in Kirovsk Vostochny there are 504 (58 %) local male residents and 365 (42 %) male converters.

Table 20. *Moving by age.*

COUNTRY	AGE			MOVING		TOTAL
				Local resident	Converter	
	Age_group	under 40	N	62	14	**76**
			%	82	18	**100**
		40 or more years	N	60	16	**76**
Sweden			%	79	21	**100**
	Total		**N**	**122**	**30**	**152**
			%	**80**	**20**	**100**
	Age_group	under 40	N	53	67	**120**
			%	44	56	**100**
		40 or more years	N	51	23	**74**
Finland			%	69	31	**100**
	Total		**N**	**104**	**90**	**194**
			%	**54**	**46**	**100**
	Age_group	under 40	N	19	19	**38**
			%	50	50	**100**
		40 or more years	N	31	27	**58**
Norway			%	53	47	**100**
	Total		**N**	**50**	**46**	**96**
			%	**52**	**48**	**100**

Russia	Age_group	under 40	N	260	155	**415**
			%	63	37	**100**
		40 or more years	N	244	209	**453**
			%	54	46	**100**
	Total		**N**	**504**	**364**	**868**
			%	**58**	**42**	**100**
Total	Age_group	under 40	N	394	255	**649**
			%	61	39	**100**
		40 or more years	N	386	275	**661**
			%	58	42	**100**
		TOTAL	**N**	**780**	**530**	**1310**
			%	**60**	**40**	**100**

In Boliden Aitik, among under 40 year olds, 62 (82 %) workers are local residents and 14 (18 %) are converters. Among over 40 year olds, 60 (79 %) workers are local residents and 16 (21 %) are converters.

In Kevitsa, among under 40 year olds, 53 (44 %) workers are local resi-dents and 67 (56 %) are converters. Among over 40 year olds, 51 (69 %) workers are local residents and 23 (31 %) are converters.

In Sibelco Stjernoya, among under 40 year olds, 19 (50 %) workers are local residents and 27 (47 %) are converters. Among over 40 year olds, 31 (53 %) workers are local residents and 27 (47 %) are converters.

In Kirovs Vostochny, among under 40 year olds, 260 (63 %) workers are local residents and 155 (37 %) are converters. Among over 40 year olds, 244 (54 %) workers are local residents and 209 (46 %) are converters.

Table 21. *Previous job experience by sex.*

COUNTRY	SEX		ANOTHER MINE	AGRICULTURE /FORESTY	INDUSTRY	CONSTRUCTION	SERVICE SECTOR	STUDYING	UNEMPLOYED	ELSEWHERE	TOTAL
Finland	Male	N	46	28	59	44	24	13	8	23	**245**
		%	19	11	24	18	10	5	3	9	
	Female	N	7	1	6	2	17	5	3	8	**49**
		%	14	2	12	4	35	10	6	16	
	Total	**N**	**53**	**29**	**65**	**46**	**41**	**18**	**11**	**31**	**294**
Norway	Male	N	10	2	21	9	6	14	1	22	**85**
		%	12	2	25	11	7	16	1	26	
	Female	N	2	1	0	0	4	7	0	7	**21**
		%	10	5	0	0	19	33	0	33	
	Total	**N**	**12**	**3**	**21**	**9**	**10**	**21**	**1**	**29**	**106**
Sweden	Male	N	15	4	26	9	15	7	2	22	**100**
		%	15	4	26	9	15	7	2	22	
	Female	N	8	0	2	0	20	5	2	21	**58**
		%	14	0	3	0	34	9	3	36	
	Total	**N**	**23**	**4**	**28**	**9**	**35**	**12**	**4**	**43**	**158**

Among men in Boliden Aitik, 26 (26 %) has experience in industry, 22 (22 %) elsewhere, 15 (15 %) on another mine, 15 (15 %) on the service sector. Among women, there were 21 (36 %) converters, 20 (34 %) on the service sector, 8 (14 %) on another mine.

Among men in Kevitsa, 59 (24 %) has experience in industry, 46 (19 %) on another mine, 44 (18 %) on construction. Among women, 17 (35 %) has experience on the service sector, 8 (16 %) elsewhere, 7 (14 %) on another mine.

Among men in Sibelco Stjernoya, 22 (26 %) has experience elsewhere, 21 (25 %) in industry, 14 (16 %) from studying. Among women, 7 (33 %) had experience elsewhere, 7 (33 %) from studying, 4 (19 %) on the service sector.

Kirovsk Vostochny had no records on this matter.

Table 22. *Previous job experience by age.*

COUNTRY	AGE		ANOTHER MINE	AGRICULTURE/ FORESTY	INDUSTRY	CONSTRUCTION	SERVICE SECTOR	STUDYING	UNEMPLOYED	ELSEWHERE	TOTAL
Sweden	under 40	N	14	0	15	3	18	9	1	19	**79**
		%	18	0	19	4	23	11	1	24	
	40 or more years	N	9	4	13	6	17	3	3	24	**79**
		%	11	5	16	8	22	4	4	30	
	Total	**N**	**23**	**4**	**28**	**9**	**35**	**12**	**4**	**43**	**158**
Finland	under 40	N	36	15	38	31	19	12	8	20	**179**
		%	20	8	21	17	11	7	4	11	
	40 or more years	N	16	14	25	15	21	6	3	11	**111**
		%	14	13	23	14	19	5	3	10	
	Total	**N**	**52**	**29**	**63**	**46**	**40**	**18**	**11**	**31**	**290**
Norway	under 40	N	4	1	6	5	5	13	1	8	**43**
		%	9	2	14	12	12	30	2	19	
	40 or more years	N	8	2	15	4	5	7	0	20	**61**
		%	13	3	25	7	8	11	0	33	
	Total	**N**	**12**	**3**	**21**	**9**	**10**	**20**	**1**	**28**	**104**

In Aitik, among the under 40 year olds, 19 (24 %) had experience elsewhere, 18 (23 %) on the service sector, 15 (19 %) in industry. Among the over 40 year olds, 24 (30 %) had experience elsewhere, 17 (22 %) on the service sector, 13 (16 %) in industry.

In Kevitsa, among the under 40 year olds, 38 (21 %) had experience in industry, 36 (20 %) on another mine, 20 (11 %) elsewhere. Among the over 40 year olds, 25 (23 %) had experience in industry, 21 (19 %) on service sector, 16 (14 %) on another mine.

In Sibelco Stjernoya, among the under 40 year olds, 13 (30 %) had experience from studying, 8 (19 %) elsewhere, 6 (14 %) in industry.

Kirovs Vostochny had no records on this matter.

Table 23. *Previous job experience by moving.*

COUNTRY	MOVING		ANOTHER MINE	AGRICULTURE/ FORESTY	INDUSTRY	CONSTRUCTION	SERVICE SECTOR	STUDYING	UNEMPLOYED	ELSEWHERE	TOTAL
Sweden	Local resident	N	20	3	22	7	26	10	4	33	**125**
		%	16	2	18	6	21	8	3	26	
	Converter	N	3	1	6	2	9	2	0	10	**33**
		%	9	3	18	6	27	6	0	30	
	Total	**N**	**23**	**4**	**28**	**9**	**35**	**12**	**4**	**43**	**158**
Finland	Local resident	N	26	25	25	29	24	10	8	17	**164**
		%	16	15	15	18	15	6	5	10	
	Converter	N	26	3	38	15	16	7	2	13	**120**
		%	22	3	32	13	13	6	2	11	
	Total	**N**	**52**	**28**	**63**	**44**	**40**	**17**	**10**	**30**	**284**
Norway	Local resident	N	4	3	10	5	7	10	0	16	**55**
		%	7	5	18	9	13	18	0	29	
	Converter	N	7	0	11	4	3	11	1	13	**50**
		%	14	0	22	8	6	22	2	26	
	Total	**N**	**11**	**3**	**21**	**9**	**10**	**21**	**1**	**29**	**105**

In Boliden Aitik, the previous work experience of local residents consists of 33 (26 %) person working elsewhere, 26 (21 %) on service sector, 22 (18 %) in industry. Among converters the previous work experience consists of 10 (30 %) person working elsewhere, 9 (27 %) on service sector, 6 (18 %) in industry.

In Kevitsa, the previous work experience of local residents consists of 29 (18 %) person working in construction, 26 (16 %) on another mine, 25(15 %) in industry, 25 (15 %) in agriculture. Among converters the previous work experience consists of 38 (32 %) person working in industry, 26 (22 %) on another mine, 16 (13 %) on service sector.

In Sibelco Stjernoya, the previous work experience of local residents consists of 16 (29 %) person working elsewhere, 10 (18 %) in industry, 10 (18 %) from studying. Among converters the previous work experience consists of 13 (26 %) person working elsewhere, 11 (22 %) in industry, 11 (22 %) from studying.

Kirovsk Vostochny had no records on this matter.

Table 24. *Years of school by sex.*

COUNTRY	SEX		1–8 YEARS	9–13 YEARS	14–18 YEARS	19–23 YEARS	TOTAL
Sweden[31]	Male	N	4	82	9	0	**95**
		%	4	86	9	0	**100**
	Female	N	0	45	10	1	**56**
		%	0	80	18	2	**100**
	Total	**N**	**4**	**127**	**19**	**1**	**151**
		%	**3**	**84**	**13**	**1**	**100**
Finland[32]	Male	N	85	35	28	6	**154**
		%	55	23	18	4	**100**
	Female	N	18	3	8	5	**34**
		%	53	9	24	15	**100**
	Total	**N**	**103**	**38**	**36**	**11**	**188**
		%	**55**	**20**	**19**	**6**	**100**

31 **The Swedish education system** consists of a comprehensive school level that starts at age 6 and ends at age 16. Similarly to Finland, comprehensive school lasts for nine years. Swedish upper secondary school education differs from Finland as it covers both general education and vocational training. Sweden does not have a similar matriculation examination system. Upper secondary school has 18 national programmes, six of which provide general education and 12 that have a vocational focus. Swedish post-secondary degrees are divided into general, arts and vocational degrees, with the following levels: basic level, advanced level and doctoral level. (The Swedish Education System.)

32 **The Finnish education system** consists of day care, one year of preschool and nine years of comprehensive school followed by three years of vocational training or three years of general education in upper secondary school. After that, vocational school graduates can progress to a university of applied sciences and upper secondary school graduates can progress to a university or university of applied sciences. The highest level of university of applied sciences is a second-cycle polytechnic degree (master's degree) and the highest level of university is doctoral education. (Education system in Finland 2014.)

Norway[33]	Male	N	2	61	16	1	**80**
		%	3	76	20	1	**100**
	Female	N	0	6	10	2	**18**
		%	0	33	56	11	**100**
	Total	**N**	**2**	**67**	**26**	**3**	**98**
		%	**2**	**68**	**27**	**3**	**100**
Russia[34]	Male	N	7	635	205	20	**867**
		%	1	73	24	2	**100**
	Total	**N**	**7**	**635**	**205**	**20**	**867**
		%	**1**	**73**	**24**	**2**	**100**
Total	Male	N	98	813	258	27	**1196**
		%	8	68	22	2	**100**
	Female	N	18	54	28	8	**108**
		%	17	50	26	7	**100**
	TOTAL	**N**	**116**	**867**	**286**	**35**	**1304**
		%	**9**	**66**	**22**	**3**	**100**

According to a forementioned the workers went to school as follows: 116 (9 %) went to primary school, 867 (66 %) went to high school/vocational school, 286 (22 %) went to college, 35 (3 %) went to university.

Table 25. *Years of school by age.*

			YEARS_OF_SCHOOL				TOTAL
COUNTRY	**AGE**		1–8 years	9–13 years	14–18 years	19–23 years	
Sweden	under 40	N	1	64	9	1	**75**
		%	1	85	12	1	**100**
	40 or more years	N	3	63	10	0	**76**
		%	4	83	13	0	**100**
	Total	**N**	**4**	**127**	**19**	**1**	**151**
		%	**3**	**84**	**13**	**1**	**100**
Finland	under 40	N	76	20	19	3	**118**
		%	64	17	16	3	**100**
	40 or more years	N	27	18	16	7	**68**

[33] **The Norwegian education system** consists of a comprehensive school level. However, after comprehensive school, the students do not choose between upper secondary school and vocational school, but apply to a secondary school with either theoretical of vocational focus. For the first two years, the students attend the same courses, after which the vocational students move on to working life for apprenticeship training for two years. The institutes of higher education are divided into lower and higher degrees. The three-year bachelor's degree is the lowest post-secondary degree, and only those who complete it can apply for the master's degree programme. (The Norwegian education system.)

[34] **The Russian education system** consists of 11 years of general education. Before that, children go to kindergarten, where they attend pre-school at ages 3–6. The general education comes in grades 10 and 11 after the nine years of comprehensive school. Russia also follows the Bologna Process. Russian vocational training is divided into vocational basic education and post-secondary vocational training. The system is similar to the Finnish system before the reform of universities of applied sciences. The higher education institutions are divided into universities, academies and institutes. Post-secondary degrees are divided into lower and higher post-secondary degrees. (Scheme of the Education System of the Russian Federation.)

		%	40	26	24	10	**100**
	Total	**N**	**103**	**38**	**35**	**10**	**186**
		%	**55**	**20**	**19**	**5**	**100**
Norway	under 40	N	0	23	13	2	**38**
		%	0	61	34	5	**100**
	40 or more years	N	2	43	12	1	**58**
		%	3	74	21	2	**100**
	Total	**N**	**2**	**66**	**25**	**3**	**96**
		%	**2**	**69**	**26**	**3**	**100**
Russia	under 40	N	3	269	127	14	**413**
		%	1	65	31	3	**100**
	40 or more years	N	4	365	78	6	**453**
		%	1	81	17	1	**100**
	Total	**N**	**7**	**634**	**205**	**20**	**866**
		%	**1**	**73**	**24**	**2**	**100**
Total	under 40	N	80	376	168	20	**644**
		%	12	58	26	3	**100**
	40 or more years	N	36	489	116	14	**655**
		%	5	75	18	2	**100**
	TOTAL	**N**	**116**	**865**	**284**	**34**	**1299**
		%	**9**	**67**	**22**	**3**	**100**

In the Boliden Aitik material, among the under 40-year-olds, the largest group studied for 9–13 years, 64 (85 %), and the second-largest group studied for 14–18 years, 9 (12 %). Among the over 40-year-olds, the largest group studied for 9–13 years and the second-largest group studied for 14–18 years, 10 (13 %).

In the Sodankylä Kevitsa material, among the under 40-year-olds, the largest group studied for 1–8 years, 76 (64 %), and the second-largest group studied for 9–13 years, 20 (17 %). There were also 19 people (16 %) who studied for 14–18 years. Among the over 40-year-olds, the largest group studied for 1–8 years, 27 (40 %), the second-largest studied for 8–13 years, 18 (26 %), and the third-largest group studied for 14–18 years, 16 (24 %).

In the Sibelco Stjernøya material, among the under 40-year-olds, the largest group studied for 9–13 years, 23 (61 %), and the second-largest group studied for 14–18 years, 13 (34 %). Among the over 40-year-olds, the largest group studied for 9–13 years, 43 (74 %), and the second-largest group studied for 14–18 years, 12 (21 %).

In the Kirovsk Vostochny material, among the under 40-year-olds, the largest group studied for 9–13 years, 269 (65 %), the second-largest group studied for 14–18 years, 127 (31 %), and the third-largest group studied for 19–23 years, 14 (3 %). Among the over 40-year-olds, the largest group studied for 9–13 years, 365 (81 %), and the second-largest group studied for 14–18 years, 78 (17 %).

Table 26. *Years of school by moving.*

COUNTRY	MOVIING		YEARS				TOTAL
			1–8 years	9–13 years	14–18 years	19–23 years	
Sweden	Local resident	N	1	108	13	0	**122**
		%	1	89	11	0	**100**
	Converter	N	3	19	6	1	**29**
		%	10	66	21	3	**100**
	Total	**N**	**4**	**127**	**19**	**1**	**151**
		%	**3**	**84**	**13**	**1**	**100**
Finland	Local resident	N	54	21	16	6	**97**
		%	56	22	16	6	**100**
	Converter	N	49	14	20	5	**88**
		%	56	16	23	6	**100**
	Total	**N**	**103**	**35**	**36**	**11**	**185**
		%	**56**	**19**	**19**	**6**	**100**
Norway	Local resident	N	2	36	13	0	**51**
		%	4	71	25	0	**100**
	Converter	N	0	30	13	3	**46**
		%	0	65	28	7	**100**
	Total	**N**	**2**	**66**	**26**	**3**	**97**
		%	**2**	**68**	**27**	**3**	**100**
Russia	Local resident	N	3	347	140	12	**502**
		%	1	69	28	2	**100**
	Converter	N	4	288	64	8	**364**
		%	1	79	18	2	**100**
	Total	**N**	**7**	**635**	**204**	**20**	**866**
		%	**1**	**73**	**24**	**2**	**100**
Total	Local resident	N	60	512	182	18	**772**
		%	8	66	24	2	**100**
	Converter	N	56	351	103	17	**527**
		%	11	67	20	3	**100**
	TOTAL	**N**	**116**	**863**	**285**	**35**	**1299**
		%	**9**	**66**	**22**	**3**	**100**

In the Boliden Aitik material, among the workers who were local residents, the largest group studied for 9–13 years, 108 (89 %), and the second-largest group studied for 14–18 years, 13 (11 %). Among the commuters, the largest group studied for 9–13 years, 19 (66 %), and the second-largest group studied for 14–18 years, 6 (21 %).

In the Sodankylä Kevitsa material, among the local residents, the largest group studied for 1–8 years, 54 (56 %), and the second-largest group studied for 9–13 years, 21 (22 %). The third-largest group among the local residents were those who studied for 14–18 years, 16 (16 %). Among the commuters, the largest group studied for 1–8 years, 49 (56 %), the second-largest group studied for 14–18 years, 20 (23 %), and the third-largest group studied for 9–13 years, 14 (16 %).

In the Sibelco Stjernøya material, among the local residents, the largest group studied for 9–13 years, 36 (71 %), and the second-largest group studied for 14–18 years, 13 (25 %). Among the commuters, the largest group studied for 9–13 years, 30 (65 %), and the second-largest group studied for 14–18 years, 13 (28 %).

In the Kirovsk Vostochny material, among the local residents, the largest group studied for 9–13 years, 347 (69 %), and the second-largest group studied for 14–18 years, 140 (28 %). Among the commuters, the largest group studied for 9–13 years, 288 (79 %), and the second-largest group studied for 14–18 years, 64 (18 %).

Table 27. *Future plans by sex.*

COUNTRY	SEX		I WILL STAY AT MY CURRENT JOB	I HAVE CONSIDERED APPLYING FOR ANOTHER JOB	I HAVE ALREADY APPLIED FOR ANOTHER JOB	TOTAL
Finland	Male	N	99	50	10	**159**
		%	62	31	6	**100**
	Female	N	23	12	2	**37**
		%	62	32	5	**100**
	Total	**N**	**122**	**62**	**12**	**196**
		%	**62**	**32**	**6**	**100**
Russia	Male	N	802	53	12	**867**
		%	92	6	1	**100**
	Total	**N**	**802**	**53**	**12**	**867**
		%	**92**	**6**	**1**	**100**
Total	Male	N	901	103	22	**1026**
		%	88	10	2	**100**
	Female	N	23	12	2	**37**
		%	62	32	5	**100**
	TOTAL	**N**	**924**	**115**	**24**	**1063**
		%	**87**	**11**	**2**	**100**

In Kevitsa, among men, 99 (62 %) are planning on continuing on their current job in the future, 50 (31 %) are considering of applying for another job, 10 (6 %) have already applied for another job. Among women, 23 (62 %) are planning on continuing on their current job in the future, 12 (32 %) are considering of applying for another job, 2 (5 %) have already applied for another job.

In Kirovs Vostochny, among men, 802 (92 %) are planning on continuing on their current job in the future, 53 (6 %) are considering of applying for another job, 12 (1 %) have already applied for another job. In Russia, there were no women in this material.

Table 28. *Future plans by age.*

COUNTRY	AGE		I WILL STAY AT MY CURRENT JOB	I HAVE CONSIDERED APPLYING FOR ANOTHER JOB	I HAVE ALREADY APPLIED FOR ANOTHER JOB	TOTAL
Finland	under 40 years	N	73	39	8	**120**
		%	61	33	7	**100**
	40 or more years	N	48	22	4	**74**
		%	65	30	5	**100**
	Total	**N**	**121**	**61**	**12**	**194**
		%	**62**	**31**	**6**	**100**
Russia	under 40 years	N	374	32	8	**414**
		%	90	8	2	**100**
	40 or more years	N	427	21	4	**452**
		%	94	5	1	**100**
	Total	**N**	**801**	**53**	**12**	**866**
		%	**92**	**6**	**1**	**100**
Total	under 40 years	N	447	71	16	**534**
		%	83	13	3	**100**
	40 or more years	N	475	43	8	**526**
		%	90	8	2	**100**
	TOTAL	**N**	**922**	**114**	**24**	**1060**
		%	**87**	**11**	**2**	**100**

In Kevitsa, among the under 40 year olds, 73 (61 %) are planning on continuing on their current job in the future, 39 (33 %) are considering of applying for another job, 8 (7 %) have already applied for another job. Among over 40 year olds 48 (65 %) are planning on continuing on their current job in the future, 22 (30 %) are considering of applying for another job, 4 (5 %) have already applied for another job.

In Kirovsk Vostochny, among the under 40 year olds, 374 (90 %) are planning on continuing on their current job in the future, 32 (8 %) are considering of applying for another job, 8 (2 %) have already applied for another job. Among over 40 year olds 427 (94 %) are planning on continuing on their current job in the future, 21 (5 %) are considering of applying for another job, 4 (1 %) have already applied for another job.

Table 29. *Future plans by moving.*

COUNTRY	MOVING		I WILL STAY AT MY CURRENT JOB	I HAVE CONSIDERED FOR ANOTHER JOB	I HAVE ALREADY APPLIED FOR ANOTHER JOB	TOTAL
Finland	1=I haven't moved in order to work for the mine I currently work for	N	63	32	6	**101**
		%	62	32	6	**100**
	2=Neighbour locality	N	23	19	3	**45**
		%	51	42	7	**100**
	3=Neighbour country	N	8	2	0	**10**
		%	80	20	0	**100**

	4=Elsewhere in the country	N	19	7	3	**29**
		%	66	24	10	**100**
	5=Abroad	N	7	1	0	**8**
		%	88	13	0	**100**
	Total	**N**	**120**	**61**	**12**	**193**
		%	**62**	**32**	**6**	**100**
Russia	1=I haven't moved in order to work for the mine I currently work for	N	466	31	6	**503**
		%	93	6	1	**100**
	2=Neighbour locality	N	134	7	0	**141**
		%	95	5	0	**100**
	3=Neighbour country	N	105	9	6	**120**
		%	88	8	5	**100**
	4=Elsewhere in the country	N	88	6	0	**94**
		%	94	6	0	**100**
	5=Abroad	N	8	0	0	**8**
		%	100	0	0	**100**
	Total	**N**	**801**	**53**	**12**	**866**
		%	**92**	**6**	**1**	**100**
Total	1=I haven't moved in order to work for the mine I currently work for	N	529	63	12	**604**
		%	88	10	2	**100**
	2=Neighbour locality	N	157	26	3	**186**
		%	84	14	2	**99**
	3=Neighbour country	N	113	11	6	**130**
		%	87	8	5	**100**
	4=Elsewhere in the country	N	107	13	3	**123**
		%	87	11	2	**100**
	5=Abroad	N	15	1	0	**16**
		%	94	6	0	**100**
	TOTAL	**N**	**921**	**114**	**24**	**1059**
		%	**87**	**11**	**2**	**100**

In Kevitsa, among local residents 63 (62 %) are planning on continuing on their current job, 32 (32 %) are considering of applying for another job, 6 (6 %) have already applied for another job. Among converters 57 (62 %) are planning on continuing on their current job, 29 (32 %) are considering of applying for another job, 6 (7 %) have already applied for another job.

In Kirovs Vostochny, among local residents 466 (92 %) are planning on continuing on their current job, 31 (6 %) are considering of applying for another job, 6 (1 %) have already applied for another job. Among converters 335 (92 %) are planning on continuing on their current job, 22 (6 %) are considering of applying for another job, 6 (2 %) have already applied for another job.

Table 30. *Future plan by sex (Sweden and Norway).*

COUNTRY	SEX		1 will stay at my current job	2 I have considered for another job	3 I have already applied for another job	TOTAL
Sweden	Male	N	80	2	13	**95**
		%	84	2	14	**100**
	Female	N	47	2	7	**56**
		%	84	4	13	**100**
	Total	**N**	**127**	**4**	**20**	**151**
		%	**84**	**3**	**13**	**100**
Norway	Male	N	48	10	23	**81**
		%	59	12	28	**100**
	Female	N	9	2	7	**18**
		%	50	11	39	**100**
	Total	**N**	**57**	**12**	**30**	**99**
		%	**58**	**12**	**30**	**100**
Total	Male	N	128	12	36	**176**
		%	73	7	20	**100**
	Female	N	56	4	14	**74**
		%	76	5	19	**100**
	TOTAL	**N**	**184**	**16**	**50**	**250**
		%	**74**	**6**	**20**	**100**

In Boliden Aitik, among men, 80 (84 %) are planning on continuing on their current job in the future, 2 (2 %) are considering of applying for another job, 13 (14 %) have already applied for another job. Among women, 47 (84 %) are planning on continuing on their current job in the future, 2 (4 %) are considering of applying for another job, 7 (13 %) have already applied for another job.

In Sibelco Stjernoya, among men, 48 (59 %) are planning on continuing on their current job in the future, 10 (12 %) are considering of applying for another job, 23 (28 %) have already applied for another job. Among women, 9 (50 %) are planning on continuing on their current job in the future, 2 (11 %) are considering of applying for another job, 7 (39 %) have already applied for another job.

Table 31. *Future plan by age (Sweden and Norway).*

COUNTRY	AGE		1 I will stay at my current job	2 I have considered for another job	3 have already applied for another job	TOTAL
Sweden	under 40 years	N	59	4	13	**76**
		%	78	5	17	**100**
	40 or more years	N	68	0	7	**75**
		%	91	0	9	**100**
	Total	**N**	**127**	**4**	**20**	**151**
		%	**84**	**3**	**13**	**100**
Norway	under 40 years	N	16	8	14	**38**
		%	42	21	37	**100**
	40 or more years	N	41	3	15	**59**
		%	69	5	25	**100**
	Total	**N**	**57**	**11**	**29**	**97**
		%	**59**	**11**	**30**	**100**
Total	under 40 years	N	75	12	27	**114**
		%	66	11	24	**100**
	40 or more years	N	109	3	22	**134**
		%	81	2	16	**100**
	TOTAL	**N**	**184**	**15**	**49**	**248**
		%	**74**	**6**	**20**	**100**

In Boliden Aitik, among the under 40 year olds, 59 (78 %) are planning on continuing on their current job in the future, 4 (5 %) are considering of applying for another job, 13 (17 %) have already applied for another job. Among the over 40 year olds 68 (91 %) are planning on continuing on their current job in the future, 0 (0 %) are considering of applying for another job, 7 (9 %) have already applied for another job.

In Sibelco Stjernoya, among the under 40 year olds, 16 (42 %) are planning on continuing on their current job in the future, 8 (21 %) are considering of applying for another job, 14 (37 %) have already applied for another job. Among the over 40 year olds 41 (69 %) are planning on continuing on their current job in the future, 3 (5 %) are considering of applying for another job, 15 (25 %) have already applied for another job.

Table 32. *Continue work by moving (Sweden and Norway).*

COUNTRY			1 I will stay at my current job	2 I have considered for another job	3 have already applied for another job	TO-TAL
Sweden	1=I haven't moved in order to work for the mine I currently work for	N	100	3	18	**121**
		%	83	2	15	**100**
	2=Neighbour locality	N	10	0	0	**10**
		%	100	0	0	**100**
	3=Neighbour country	N	3	0	1	**4**
		%	75	0	25	**100**
	4=Elsewhere in the country	N	10	0	0	**10**
		%	100	0	0	**100**
	5=Abroad	N	4	1	1	**6**
		%	67	17	17	**100**
	Total	**N**	**127**	**4**	**20**	**151**
		%	**84**	**3**	**13**	**100**
Norway	1=I haven't moved in order to work for the mine I currently work for	N	31	4	16	**51**
		%	61	8	31	**100**
	2=Neighbour locality	N	16	5	6	**27**
		%	59	19	22	**100**
	3=Neighbour country	N	4	1	0	**5**
		%	80	20	0	**100**
	4=Elsewhere in the country	N	5	2	6	**13**
		%	38	15	46	**100**
	5=Abroad	N	1	0	1	**2**
		%	50	0	50	**100**
	Total	**N**	**57**	**12**	**29**	**98**
		%	**58**	**12**	**30**	**100**
Total	1=I haven't moved in order to work for the mine I currently work for	N	131	7	34	**172**
		%	76	4	20	**100**
	2=Neighbour locality	N	26	5	6	**37**
		%	70	14	16	**100**
	3=Neighbour country	N	7	1	1	**9**
		%	78	11	11	**100**
	4=Elsewhere in the country	N	15	2	6	**23**
		%	65	9	26	**100**
	5=Abroad	N	5	1	2	**8**
		%	63	13	25	**100**
	TOTAL	**N**	**184**	**16**	**49**	**249**
		%	**74**	**6**	**20**	**100**

In Boliden Aitik, among local residents 100 (83 %) are planning on continuing on their current job, 3 (2 %) are considering of applying for another job, 18 (15 %) have already applied for another job. Among converters 27 (90 %) are planning on continuing on their current job, 1 (3 %) are considering of applying for another job, 2 (7 %) have already applied for another job.

In Sibelco Stjernoya, among local residents 31 (61 %) are planning on continuing on their current job, 4 (8 %) are considering of applying for another job, 16 (31 %) have already applied for another job. Among converters 26 (55 %) are planning on continuing on their current job, 8 (17 %) are considering of applying for another job, 13 (28 %) have already applied for another job.

Table 33. *Life dimension by sex/My own paid work.*

COUNTRY	SEX		LIFE DIMENSION				TOTAL
			Developed into a better direc-tion	Stayed ap-prox. the same	Developed into a poor direction	This option does not con-cern me	
Sweden	Male	N	54	36	1	2	**93**
		%	58	39	1	2	**100**
	Female	N	37	9	3	2	**51**
		%	73	18	6	4	**100**
	Total	**N**	**91**	**45**	**4**	**4**	**144**
		%	**63**	**31**	**3**	**3**	**100**
	Male	N	38	95	24	4	**161**
		%	24	59	15	2	**100**
	Female	N	20	15	2	0	**37**
		%	54	41	5	0	**100**
	Total	**N**	**58**	**110**	**26**	**4**	**198**
		%	**29**	**56**	**13**	**2**	**100**
Norway	Male	N	53	24	1	1	**79**
		%	67	30	1	1	**100**
	Female	N	10	8	0	0	**18**
		%	56	44	0	0	**100**
	Total	**N**	**63**	**32**	**1**	**1**	**97**
		%	**65**	**33**	**1**	**1**	**100**
Total	Male	N	145	155	26	7	**333**
		%	44	47	8	2	**100**
	Female	N	67	32	5	2	**106**
		%	63	30	5	2	**100**
	TOTAL	**N**	**212**	**187**	**31**	**9**	**439**
		%	**48**	**43**	**7**	**2**	**100**

In Boliden Aitik, paid labour numbers has increased for 54 (58 %), stayed the same for 36 (39 %), decreased for 1 (1 %). Among women, paid labour has increased for 37 (73 %), stayed the same for 9 (18 %), decreased for 3 (6 %).

In Kevitsa, paid labour numbers has increased for 38 (24 %), stayed the same for 95 (59 %), decreased for 24 (15 %). Among women, paid labour has increased for 20 (54 %), stayed the same for 15 (41 %), decreased for 2 (5 %).

In Sibelco Stjernoya, paid labour numbers has increased for 53 (67 %), stayed the same for 24 (30 %), decreased for 1 (1 %). Among women, paid labour has increased for 10 (56 %), stayed the same for 8 (44 %), decreased for 0 (0 %).

Table 34. *Life dimension by sex/My income level.*

COUNTRY	SEX		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	Male	N	70	17	8		95
		%	74	18	8		100
	Female	N	49	4	3		56
		%	88	7	5		100
	Total	**N**	**119**	**21**	**11**		**151**
		%	**79**	**14**	**7**		**100**
Finland	Male	N	43	56	56	3	158
		%	27	35	35	2	100
	Female	N	24	8	5	0	37
		%	65	22	14	0	100
	Total	**N**	**67**	**64**	**61**	**3**	**195**
		%	**34**	**33**	**31**	**2**	**100**
Norway	Male	N	48	29	3		80
		%	60	36	4		100
	Female	N	9	7	2		18
		%	50	39	11		100
	Total	**N**	**57**	**36**	**5**		**98**
		%	**58**	**37**	**5**		**100**
Total	Male	N	161	102	67	3	333
		%	48	31	20	1	100
	Female	N	82	19	10	0	111
		%	74	17	9	0	100
	TOTAL	**N**	**243**	**121**	**77**	**3**	**444**
		%	**55**	**27**	**17**	**1**	**100**

In Boliden Aitik, the income has increased for 70 (74 %), stayed the same for 17 (18 %), decreased for 8 (8 %). Among women, the income has increased for 49 (88 %), stayed the same for 4 (7 %), decreased for 3 (5 %).

In Kevitsa, the income has increased for 43 (27 %), stayed the same for 56 (35 %), decreased for 56 (35 %). Among women, the income has increased for 24 (65 %), stayed the same for 8 (22 %), decreased for 5 (14 %).

In Sibelco Stjernoya, the income has increased for 48 (60 %), stayed the same for 29 (36 %), decreased for 3 (4 %). Among women, the income has increased for 9 (50 %), stayed the same for 7 (39 %), decreased for 2 (11 %).

Table 35. *Life dimension by sex/Spouse's paid work.*

COUNTRY	SEX		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	Male	N	21	42	5	21	**89**
		%	24	47	6	24	**100**
	Female	N	20	19	1	9	**49**
		%	41	39	2	18	**100**
	Total	**N**	**41**	**61**	**6**	**30**	**138**
		%	**30**	**44**	**4**	**22**	**100**
Finland	Male	N	9	75	10	59	**153**
		%	6	49	7	39	**100**
	Female	N	6	17	3	10	**36**
		%	17	47	8	28	**100**
	Total	**N**	**15**	**92**	**13**	**69**	**189**
		%	**8**	**49**	**7**	**37**	**100**
Norway	Male	N	16	28	5	26	**75**
		%	21	37	7	35	**100**
	Female	N	4	6	0	8	**18**
		%	22	33	0	44	**100**
	Total	**N**	**20**	**34**	**5**	**34**	**93**
		%	**22**	**37**	**5**	**37**	**100**
Total	Male	N	46	145	20	106	**317**
		%	15	46	6	33	**100**
	Female	N	30	42	4	27	**103**
		%	29	41	4	26	**100**
	TOTAL	**N**	**76**	**187**	**24**	**133**	**420**
		%	**18**	**45**	**6**	**32**	**100**

In Boliden Aitik, paid labour of men's spouses has increased for 21 (24 %), stayed the same for 42 (47 %), decreased for 5 (6 %). The paid labour of women's spouses has increased for 20 (41 %), stayed the same for 19 (39 %), decreased for 1 (2 %).

In Kevitsa, paid labour of men's spouses has increased for 9 (8 %), stayed the same for 75 (49 %), decreased for 10 (7 %). The paid labour of women's spouses has increased for 6 (17 %), stayed the same for 17 (47 %), decreased for 3 (8 %).

In Sibelco Stjernoya, paid labour of men's spouses has increased for 16 (21 %), stayed the same for 28 (37 %), decreased for 5 (7 %). The paid labour of women's spouses has increased for 4 (22 %), stayed the same for 6 (33 %), decreased for 0 (0 %).

Table 36. *Life dimension of sex/Spouse's income level.*

COUNTRY	SEX		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	Male	N	28	37	5	20	**90**
		%	31	41	6	22	**100**
	Female	N	26	16	1	8	**51**
		%	51	31	2	16	**100**
	Total	**N**	**54**	**53**	**6**	**28**	**141**
		%	**38**	**38**	**4**	**20**	**100**
Finland	Male	N	10	72	12	58	**152**
		%	7	47	8	38	**100**
	Female	N	9	15	3	10	**37**
		%	24	41	8	27	**100**
	Total	**N**	**19**	**87**	**15**	**68**	**189**
		%	**10**	**46**	**8**	**36**	**100**
Norway	Male	N	17	27	6	26	**76**
		%	22	36	8	34	**100**
	Female	N	5	5	0	8	**18**
		%	28	28	0	44	**100**
	Total	**N**	**22**	**32**	**6**	**34**	**94**
		%	**23**	**34**	**6**	**36**	**100**
Total	Male	N	55	136	23	104	**318**
		%	17	43	7	33	**100**
	Female	N	40	36	4	26	**106**
		%	38	34	4	25	**100**
	TOTAL	**N**	**95**	**172**	**27**	**130**	**424**
		%	**22**	**41**	**6**	**31**	**100**

In Boliden Aitik, the income of men' spouses increased for 28 (31 %), stayed the same for 37 (41 %), decreased for 5 (6 %). The income of women's spouses has increased for 26 (51 %), stayed the same for 16 (31 %), decreased for 1 (2 %).

In Kevitsa, the income of men's spouses has increased for 10 (7 %), stayed the same for 72 (47 %), decreased for 12 (8 %). The income for women's spouses has increased for 9 (24 %), stayed the same for 15 (41 %), decreased for 3 (8 %).

In Sibelco Stjernoya, the income of men's spouses has increased for 17 (22 %), stayed the same for 27 (36 %), decreased for 6 (8 %). The income for women's spouses has increased for 5 (28 %), stayed the same for 5 (28 %), decreased for 0 (0 %).

Table 37. *Life dimension of sex/Social relationships.*

COUNTRY	SEX		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	Male	N	42	48	4		**94**
		%	45	51	4		**100**
	Female	N	26	24	5		**55**
		%	47	44	9		**100**
	Total	**N**	**68**	**72**	**9**		**149**
		%	**46**	**48**	**6**		**100**
Finland	Male	N	17	103	33	6	**159**
		%	11	65	21	4	**100**
	Female	N	7	22	8	0	**37**
		%	19	59	22	0	**100**
	Total	**N**	**24**	**125**	**41**	**6**	**196**
		%	**12**	**64**	**21**	**3**	**100**
Norway	Male	N	26	47	3	2	**78**
		%	33	60	4	3	**100**
	Female	N	3	11	3	0	**17**
		%	18	65	18	0	**100**
	Total	**N**	**29**	**58**	**6**	**2**	**95**
		%	**31**	**61**	**6**	**2**	**100**
Total	Male	N	85	198	40	8	**331**
		%	26	60	12	2	**100**
	Female	N	36	57	16	0	**109**
		%	33	52	15	0	**100**
	TOTAL	**N**	**121**	**255**	**56**	**8**	**440**
		%	**28**	**58**	**13**	**2**	**100**

In Boliden Aitik, men's social relations improved for 42 (45 %), stayed the same for 48 (51 %), weakened for 4 (4 %). Women's social improved for 26 (47 %), stayed the same for 24 (44 %), weakened for 5 (9 %).

In Kevitsa, men's social relations improved for 17 (11 %), stayed the same for 103 (65 %), weakened for 33 (21 %). Women's social relations improved 7 (19 %), stayed the same for 22 (59 %), weakened for 8 (22 %).

In Sibelco Stjernoya, men's social relations improved for 26 (33 %), stayed the same for 47 (60 %), weakened for 3 (4 %). Women's social relations improved for 3 (18 %), stayed the same for 11 (65 %), weakened for 3 (18 %).

Table 38. *Life dimension of sex/Spouse's social relationships.*

COUNTRY	SEX		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed ap-prox. the same	Developed into a poor direction	This option does not concern me	
Sweden	Male	N	23	47	1	22	**93**
		%	25	51	1	24	**100**
	Female	N	18	26	1	8	**53**
		%	34	49	2	15	**100**
	Total	**N**	**41**	**73**	**2**	**30**	**146**
		%	**28**	**50**	**1**	**21**	**100**
Finland	Male	N	6	74	16	57	**153**
		%	4	48	10	37	**100**
	Female	N	1	21	6	9	**37**
		%	3	57	16	24	**100**
	Total	**N**	**7**	**95**	**22**	**66**	**190**
		%	**4**	**50**	**12**	**35**	**100**
Norway	Male	N	15	39	1	22	**77**
		%	19	51	1	29	**100**
	Female	N	1	9	0	8	**18**
		%	6	50	0	44	**100**
	Total	**N**	**16**	**48**	**1**	**30**	**95**
		%	**17**	**51**	**1**	**32**	**100**
Total	Male	N	44	160	18	101	**323**
		%	14	50	6	31	**100**
	Female	N	20	56	7	25	**108**
		%	19	52	6	23	**100**
	TOTAL	**N**	**64**	**216**	**25**	**126**	**431**
		%	**15**	**50**	**6**	**29**	**100**

In Boliden Aitik, the social relations of men's spouses improved for 23 (25 %), stayed the same 47 (51 %), weakened for 1 (1 %). The social relations of women's spouses improved for 18 (34 %), stayed the same for 26 (49 %), weakened for 1 (2 %).

In Kevitsa, the social relations of men's spouses improved for 6 (4 %), stayed the same for 74 (48 %), weakened for 16 (10 %). The social relations of women's spouses improved for 1 (3 %), stayed the same for 21 (57 %), weakened for 6 (16 %).

In Sibelco Stjernoya, the social relations of men's spouses improved for 15 (19 %), stayed the same for 39 (51 %), weakened for 1 (1 %). The social relations of women's spouses improved for 1 (6 %), stayed the same for 9 (50 %), weakened for 0 (0 %).

Table 39. *Life dimension of sex/Children(s) social relationships.*

COUNTRY	SEX		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	Male	N	25	36	0	27	**88**
		%	28	41	0	31	**100**
	Female	N	14	15	3	18	**50**
		%	28	30	6	36	**100**
	Total	**N**	**39**	**51**	**3**	**45**	**138**
		%	**28**	**37**	**2**	**33**	**100**
Finland	Male	N	6	65	8	70	**149**
		%	4	44	5	47	**100**
	Female	N	1	16	4	16	**37**
		%	3	43	11	43	**100**
	Total	**N**	**7**	**81**	**12**	**86**	**186**
		%	**4**	**44**	**6**	**46**	**100**
Norway	Male	N	20	23	1	30	**74**
		%	27	31	1	41	**100**
	Female	N	5	2	0	11	**18**
		%	28	11	0	61	**100**
	Total	**N**	**25**	**25**	**1**	**41**	**92**
		%	**27**	**27**	**1**	**45**	**100**
Total	Male	N	51	124	9	127	**311**
		%	16	40	3	41	**100**
	Female	N	20	33	7	45	**105**
		%	19	31	7	43	**100**
	TOTAL	**N**	**71**	**157**	**16**	**172**	**416**
		%	**17**	**38**	**4**	**41**	**100**

In Boliden Aitik, the social relations of men's children improved for 25 (28 %), stayed the same for 36 (51 %), weakened for 0 (0 %). The social relations of women's children improved for 14 (28 %), stayed the same for 15 (30 %), weakened for 3 (6 %).

In Kevitsa, the social relations of men's children improved for 6 (4 %), stayed the same for 65 (44 %), weakened for 8 (5 %). The social relations of women's children improved for 1 (3 %), stayed the same for 16 (43 %), weakened for 4 (11 %).

In Sibelco Stjernoya, the social relations of men's children improved for 20 (27 %), stayed the same for 23 (31 %), weakened for 1 (1 %). The social relations of women's children improved for 5 (28 %), stayed the same for 2 (11 %), weakened for 0 (0 %).

Table 40. *Life dimension of sex/Domestic life.*

COUNTRY	SEX		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed ap-prox. the same	Developed into a poor direction	This option does not concern me	
Sweden	Male	N	31	49	3	11	**94**
		%	33	52	3	12	**100**
	Female	N	19	29	4	3	**55**
		%	35	53	7	5	**100**
	Total	**N**	**50**	**78**	**7**	**14**	**149**
		%	**34**	**52**	**5**	**9**	**100**
Finland	Male	N	18	102	35	4	**159**
		%	11	64	22	3	**100**
	Female	N	5	22	10	0	**37**
		%	14	59	27	0	**100**
	Total	**N**	**23**	**124**	**45**	**4**	**196**
		%	**12**	**63**	**23**	**2**	**100**
Norway	Male	N	20	42	6	8	**76**
		%	26	55	8	11	**100**
	Female	N	4	10	0	4	**18**
		%	22	56	0	22	**100**
	Total	**N**	**24**	**52**	**6**	**12**	**94**
		%	**26**	**55**	**6**	**13**	**100**
Total	Male	N	69	193	44	23	**329**
		%	21	59	13	7	**100**
	Female	N	28	61	14	7	**110**
		%	25	55	13	6	**100**
	TOTAL	**N**	**97**	**254**	**58**	**30**	**439**
		%	**22**	**58**	**13**	**7**	**100**

In Boliden Aitik, the domestic life of men improved for 31 (33 %), stayed the same for 49 (52 %), weakened for 3 (3 %). The domestic life of women improved for 19 (35 %), stayed the same for 29 (53 %), weakened for 4 (7 %).

In Kevitsa, the domestic life of men improved for 18 (11 %), stayed the same for 102 (64 %), weakened for 35 (22 %). The domestic life of women improved for 5 (14 %), stayed the same for 22 (59 %), weakened for 10 (27 %).

In Sibelco Stjernoya the domestic life of men improved for 20 (26 %), stayed the same for 42 (55 %), weakened for 6 (8 %). The domestic life of women improved for 4 (28 %), stayed the same for 10 (56 %), weakened for 0 (0 %).

Table 41. *Life dimension of sex/My own health.*

COUNTRY	SEX		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	Male	N	20	61	14		**95**
		%	21	64	15		**100**
	Female	N	13	32	11		**56**
		%	23	57	20		**100**
	Total	**N**	**33**	**93**	**25**		**151**
		%	**22**	**62**	**17**		**100**
Finland	Male	N	11	125	22	1	**159**
		%	7	79	14	1	**100**
	Female	N	3	26	8	0	**37**
		%	8	70	22	0	**100**
	Total	**N**	**14**	**151**	**30**	**1**	**196**
		%	**7**	**77**	**15**	**1**	**100**
Norway	Male	N	11	57	8	1	**77**
		%	14	74	10	1	**100**
	Female	N	0	14	4	0	**18**
		%	0	78	22	0	**100**
	Total	**N**	**11**	**71**	**12**	**1**	**95**
		%	**12**	**75**	**13**	**1**	**100**
Total	Male	N	42	243	44	2	**331**
		%	13	73	13	1	**100**
	Female	N	16	72	23	0	**111**
		%	14	65	21	0	**100**
	TOTAL	**N**	**58**	**315**	**67**	**2**	**442**
		%	**13**	**71**	**15**	**0**	**100**

In Boliden Aitik, the health of men improved for 20 (21 %), stayed the same for 61 (64 %), weakened for 14 (15 %). The health of women improved for 13 (23 %), stayed the same for 32 (57 %), weakened for 11 (20 %).

In Kevitsa, the health of men improved for 11 (7 %), stayed the same for 125 (79 %), weakened for for 22 (14 %). The health of women improved for 3 (8 %), stayed the same for 26 (70 %), weakened for 8 (22 %).

In Sibelco Stjernoya, the health of men improved for 11 (14 %), stayed the same for 57 (74 %), weakened for 8 (10 %). The health of women improved for 0 (0 %), stayed the same for 14 (78 %), weakened for 4 (22 %).

Table 42. *Life dimension of sex/Spouse's health.*

COUNTRY	SEX		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	Male	N	13	50	8	21	**92**
		%	14	54	9	23	**100**
	Female	N	7	29	6	10	**52**
		%	13	56	12	19	**100**
	Total	**N**	**20**	**79**	**14**	**31**	**144**
		%	**14**	**55**	**10**	**22**	**100**
Finland	Male	N	0	89	8	55	**152**
		%	0	59	5	36	**100**
	Female	N	1	26	0	10	**37**
		%	3	70	0	27	**100**
	Total	**N**	**1**	**115**	**8**	**65**	**189**
		%	**1**	**61**	**4**	**34**	**100**
Norway	Male	N	8	39	6	24	**77**
		%	10	51	8	31	**100**
	Female	N	1	8	1	8	**18**
		%	6	44	6	44	**100**
	Total	**N**	**9**	**47**	**7**	**32**	**95**
		%	**9**	**49**	**7**	**34**	**100**
Total	Male	N	21	178	22	100	**321**
		%	7	55	7	31	**100**
	Female	N	9	63	7	28	**107**
		%	8	59	7	26	**100**
	TOTAL	**N**	**30**	**241**	**29**	**128**	**428**
		%	**7**	**56**	**7**	**30**	**100**

In Boliden Aitik, the health of men's spouses improved for 13 (14 %), stayed the same for 50 (54 %), weakened for 8 (9 %). The health of women's spouses improved for 7 (13 %), stayed the same for 29 (56 %), weakened for 6 (12 %).

In Kevitsa, the health of men's spouses improved for 0 (0 %), stayed the same for 89 (59 %), weakened 8 (5 %). The health of women's spouses improved for 1 (3 %), stayed the same for 26 (70 %), weakened for 0 (0 %).

In Sibelco Stjernoya, the health of men's spouses improved for 8 (10 %), stayed the same for 39 (51 %), weakened for 6 (8 %). The health of women's spouses improved for 1 (6 %), stayed the same for 8 (44 %), weakened for 1 (6 %).

Table 43. *Life dimension of sex/Children's health.*

COUNTRY	SEX		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	Male	N	13	43	1	27	**84**
		%	15	51	1	32	**100**
	Female	N	7	25	1	18	**51**
		%	14	49	2	35	**100**
	Total	**N**	**20**	**68**	**2**	**45**	**135**
		%	**15**	**50**	**1**	**33**	**100**
Finland	Male	N	1	75	4	70	**150**
		%	1	50	3	47	**100**
	Female	N	0	21	0	16	**37**
		%	0	57	0	43	**100**
	Total	**N**	**1**	**96**	**4**	**86**	**187**
		%	**1**	**51**	**2**	**46**	**100**
Norway	Male	N	10	33	1	30	**74**
		%	14	45	1	41	**100**
	Female	N	1	6	1	10	**18**
		%	6	33	6	56	**100**
	Total	**N**	**11**	**39**	**2**	**40**	**92**
		%	**12**	**42**	**2**	**43**	**100**
Total	Male	N	24	151	6	127	**308**
		%	8	49	2	41	**100**
	Female	N	8	52	2	44	**106**
		%	8	49	2	42	**100**
	TOTAL	**N**	**32**	**203**	**8**	**171**	**414**
		%	**8**	**49**	**2**	**41**	**100**

In Boliden Aitik, the health of men's children improved for 13 (15 %), stayed the same for 43 (51 %), weakened for 1 (1 %). The health of women's children improved for 7 (14 %), stayed the same for 25 (49 %), weakened for 1 (2 %).

In Kevitsa, the health of men's children improved for 1 (1 %), stayed the same for 75 (50 %), weakened for 4 (3 %). The health of women's children improved for 0 (0 %), stayed the same for 21 (57 %), weakened for 0 (0 %).

In Sibelco Stjernoya, the health of men's children improved for 10 (14 %), stayed the same for 33 (45 %), weakened for 1 (1 %). The health of women's children improved for 1 (6 %), stayed the same for 6 (33 %), weakened for 1 (6 %).

Table 44. *Life dimension by sex/Physical training.*

COUNTRY	SEX		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	Male	N	26	55	13	1	**95**
		%	27	58	14	1	**100**
	Female	N	26	23	6	1	**56**
		%	46	41	11	2	**100**
	Total	**N**	**52**	**78**	**19**	**2**	**151**
		%	**34**	**52**	**13**	**1**	**100**
Finland	Male	N	20	101	40	1	**162**
		%	12	62	25	1	**100**
	Female	N	7	18	12	0	**37**
		%	19	49	32	0	**100**
	Total	**N**	**27**	**119**	**52**	**1**	**199**
		%	**14**	**60**	**26**	**1**	**100**
Norway	Male	N	17	47	10	5	**79**
		%	22	59	13	6	**100**
	Female	N	2	14	2	0	**18**
		%	11	78	11	0	**100**
	Total	**N**	**19**	**61**	**12**	**5**	**97**
		%	**20**	**63**	**12**	**5**	**100**
Total	Male	N	63	203	63	7	**336**
		%	19	60	19	2	**100**
	Female	N	35	55	20	1	**111**
		%	32	50	18	1	**100**
	TOTAL	**N**	**98**	**258**	**83**	**8**	**447**
		%	**22**	**58**	**19**	**2**	**100**

In Boliden Aitik, the sports of men increased for 26 (27 %), stayed the same for 55 (58 %), decreased for 13 (14 %). The sports of women increased for 26 (46 %), stayed the same for 23 (41 %), decreased for 6 (11 %).

In Kevitsa, the sports of men increased for 20 (12 %), stayed the same for 101 (62 %), decreased for 40 (25 %). The sports of women increased for 7 (19 %), stayed the same for 18 (49 %), decreased for 12 (32 %).

In Sibelco Stjernoya, the sports of men increased for 17 (22 %), stayed the same for 47 (59 %), decreased for 10 (13 %). The sports of women increased for 2 (11 %), stayed the same for 14 (78 %), decreased for 2 (11 %).

Table 45. *Life dimension of sex/Physical activity.*

COUNTRY	SEX		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	Male	N	31	60	3	1	**95**
		%	33	63	3	1	**100**
	Female	N	18	31	7	0	**56**
		%	32	55	13	0	**100**
	Total	**N**	**49**	**91**	**10**	**1**	**151**
		%	**32**	**60**	**7**	**1**	**100**
Finland	Male	N	19	102	39	1	**161**
		%	12	63	24	1	**100**
	Female	N	6	19	12	0	**37**
		%	16	51	32	0	**100**
	Total	**N**	**25**	**121**	**51**	**1**	**198**
		%	**13**	**61**	**26**	**1**	**100**
Norway	Male	N	21	51	6	1	**79**
		%	27	65	8	1	**100**
	Female	N	4	12	2	0	**18**
		%	22	67	11	0	**100**
	Total	**N**	**25**	**63**	**8**	**1**	**97**
		%	**26**	**65**	**8**	**1**	**100**
Total	Male	N	71	213	48	3	**335**
		%	21	64	14	1	**100**
	Female	N	28	62	21	0	**111**
		%	25	56	19	0	**100**
	TOTAL	**N**	**99**	**275**	**69**	**3**	**446**
		%	**22**	**62**	**15**	**1**	**100**

In Boliden Aitik, the everyday sports of men increased for 31 (33 %), stayed the same for 60 (63 %), decreased for 3 (3 %). The everyday sports of women increased for 18 (32 %), stayed the same for 31 (55 %), decreased for 7 (13 %).

In Kevitsa, the everyday sports of men increased for 19 (12 %), stayed the same for 102 (63 %), decreased for 39 (24 %). The everyday sports of women increased for 6 (16 %), stayed the same for 19 (51 %), decreased for 12 (32 %).

In Sibelco Stjernoya, the everyday sports of men increased for 21 (27 %), stayed the same for 51 (65 %), decreased for 6 (8 %). The everyday sports of women increased for 4 (22 %), stayed the same for 12 (67 %), decreased for 2 (11 %).

Table 46. *Life dimension of sex/Leisure time activities.*

COUNTRY	SEX		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	Male	N	31	59	5		**95**
		%	33	62	5		**100**
	Female	N	23	27	6		**56**
		%	41	48	11		**100**
	Total	**N**	**54**	**86**	**11**		**151**
		%	**36**	**57**	**7**		**100**
Finland	Male	N	16	77	66	1	**160**
		%	10	48	41	1	**100**
	Female	N	7	15	14	1	**37**
		%	19	41	38	3	**100**
	Total	**N**	**23**	**92**	**80**	**2**	**197**
		%	**12**	**47**	**41**	**1**	**1**
Norway	Male	N	20	49	9	1	**79**
		%	25	62	11	1	**100**
	Female	N	3	10	5	0	**18**
		%	17	56	28	0	**100**
	Total	**N**	**23**	**59**	**14**	**1**	**97**
		%	**24**	**61**	**14**	**1**	**100**
Total	Male	N	67	185	80	2	**334**
		%	20	55	24	1	**100**
	Female	N	33	52	25	1	**111**
		%	30	47	23	1	**100**
	TOTAL	**N**	**100**	**237**	**105**	**3**	**445**
		%	**22**	**53**	**24**	**1**	**100**

In Boliden Aitik, the free time activities of men have increased for 31 (33 %), stayed the same for 59 (62 %), decreased for 5 (5 %). The free time activities of women have increased for 23 (41 %), stayed the same for 27 (48 %), decreased for 6 (11 %).

In Kevitsa, the free time activities of men have increased for 16 (10 %), stayed the same for 77 (48 %), decreased for 66 (41 %). The free time activities of women have increased for 7 (19 %), stayed the same for 15 (41 %), decreased for 14 (38 %).

In Sibelco Stjernoya, the free time activities of men have increased for 20 (25 %), stayed the same for 49 (62 %), decreased for 9 (11 %). The free time activities of women have increased for 3 (17 %), stayed the same for 10 (56 %), decreased for 5 (28 %).

Table 47. *Life dimension of sex/Spouse's leisure time activities.*

COUNTRY	SEX		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	Male	N	19	50	2	21	**92**
		%	21	54	2	23	**100**
	Female	N	17	25	2	8	**52**
		%	33	48	4	15	**100**
	Total	**N**	**36**	**75**	**4**	**29**	**144**
		%	25	52	3	20	**100**
Finland	Male	N	5	69	24	54	**152**
		%	3	45	16	36	**1**
	Female	N	3	19	6	9	**37**
		%	8	51	16	24	**100**
	Total	**N**	**8**	**88**	**30**	**63**	**189**
		%	**4**	**47**	**16**	**33**	**100**
Norway	Male	N	11	40	2	24	**77**
		%	14	52	3	31	**100**
	Female	N	1	7	2	8	**18**
		%	6	39	11	44	**100**
	Total	**N**	**12**	**47**	**4**	**32**	**95**
		%	**13**	**49**	**4**	**34**	**100**
Total	Male	N	35	159	28	99	**321**
		%	11	50	9	31	**100**
	Female	N	21	51	10	25	**107**
		%	20	48	9	23	**100**
	TOTAL	**N**	**56**	**210**	**38**	**124**	**428**
		%	**13**	**49**	**9**	**29**	**100**

In Boliden Aitik, the free time activities of men's spouses have increased for 19 (21 %), stayed the same for 50 (54 %), decreased for 2 (2 %). The free time activities of women's spouses have increased for 17 (33 %), stayed the same for 25 (48 %), decreased for 2 (4 %).

In Kevitsa, the free time activities of men's spouses have increased for 5 (3 %), stayed the same for 69 (45 %), decreased for 24 (16 %). The free time activities of women's spouses have increased for 3 (8 %), stayed the same for 19 (51 %), decreased for 6 (16 %).

In Sibelco Stjernoya, the free time activities of men's spouses have increased for 11 (14 %), stayed the same for 40 (52 %), decreased for 2 (3 %). The free time activities of women's spouses have increased for 1 (6 %), stayed the same for 7 (39 %), decreased for 2 (11 %).

Table 48. *Life dimension of sex/Children's leisure time activities.*

COUNTRY	SEX		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	Male	N	14	39	2	28	**83**
		%	17	47	2	34	**100**
	Female	N	9	19	3	17	**48**
		%	19	40	6	35	**100**
	Total	**N**	**23**	**58**	**5**	**45**	**131**
		%	**18**	**44**	**4**	**34**	**100**
Finland	Male	N	6	66	7	71	**150**
		%	4	44	5	47	**100**
	Female	N	1	16	4	16	**37**
		%	3	43	11	43	**100**
	Total	**N**	**7**	**82**	**11**	**87**	**187**
		%	**4**	**44**	**6**	**47**	**100**
Norway	Male	N	12	31	1	30	**74**
		%	16	42	1	41	**100**
	Female	N	1	6	0	11	**18**
		%	6	33	0	61	**100**
	Total	**N**	**13**	**37**	**1**	**41**	**92**
		%	**14**	**40**	**1**	**45**	**100**
Total	Male	N	32	136	10	129	**307**
		%	10	44	3	42	**100**
	Female	N	11	41	7	44	**103**
		%	11	40	7	43	**100**
	TOTAL	**N**	**43**	**177**	**17**	**173**	**410**
		%	**10**	**43**	**4**	**42**	**100**

In Boliden Aitik, the free time activities of men's children have increased for 14 (17 %), stayed the same for 39 (47 %), decreased for 2 (2 %). The free time activities of women's children have increased for 9 (19 %), stayed the same for 19 (40 %), decreased for 3 (6 %).

In Kevitsa, the free time activities of men's children have increased for 6 (4 %), stayed the same for 66 (44 %), decreased for 7 (5 %). The free time activities of women's children have increased for 1 (3 %), stayed the same for 16 (43 %), decreased for 4 (11 %).

In Sibelco Stjernoya, the free time activities of men's children have increased for 12 (16 %), stayed the same for 31 (42 %), decreased for 1 (1 %). The free time activities of women's children have increased for 1 (6 %), stayed the same for 6 (33 %), decreased for 0 (0 %).

Table 49. *Life dimension of sex/Cultural activities.*

COUNTRY	SEX		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	Male	N	7	70	4	13	**94**
		%	7	74	4	14	**100**
	Female	N	4	35	4	13	**56**
		%	7	63	7	23	**100**
	Total	**N**	**11**	**105**	**8**	**26**	**150**
		%	**7**	**70**	**5**	**17**	**100**
Finland	Male	N	6	103	37	14	**160**
		%	4	64	23	9	**100**
	Female	N	2	21	12	2	**37**
		%	5	57	32	5	**100**
	Total	**N**	**8**	**124**	**49**	**16**	**197**
		%	**4**	**63**	**25**	**8**	**100**
Norway	Male	N	5	40	11	19	**75**
		%	7	53	15	25	**100**
	Female	N	2	12	3	1	**18**
		%	11	67	17	6	**100**
	Total	**N**	**7**	**52**	**14**	**20**	**93**
		%	**8**	**56**	**15**	**22**	**100**
Total	Male	N	18	213	52	46	**329**
		%	5	65	16	14	**100**
	Female	N	8	68	19	16	**111**
		%	7	61	17	14	**100**
	TOTAL	**N**	**26**	**281**	**71**	**62**	**440**
		%	**6**	**64**	**16**	**14**	**100**

In Boliden Aitik, the cultural activities of men have increased for 7 (7 %), stayed the same for 70 (74 %), decreased for 4 (4 %). The cultural activities of women have increased for 4 (7 %), stayed the same for 35 (63 %), decreased for 4 (7 %).

In Kevitsa, the cultural activities of men have increased for 6 (4 %), stayed the same for 103 (64 %), decreased for 37 (23 %). The cultural activities of women have increased for 2 (5 %), stayed the same for 21 (57 %), decreased for 12 (32 %).

In Sibelco Stjernoya, the cultural activities of men have increased for 5 (7 %), stayed the same for 40 (53 %), decreased for 11 (15 %). The cultural activities of women have increased for 2 (11 %), stayed the same for 12 (67 %), decreased for 3 (17 %).

Table 50. *Life dimension by age/My own paid work.*

COUNTRY	AGE		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	under 40	N	47	19	2	2	**70**
		%	67	27	3	3	**100**
	40 or more years	N	44	26	2	2	**74**
		%	59	35	3	3	**100**
	Total	**N**	**91**	**45**	**4**	**4**	**144**
		%	**63**	**31**	**3**	**3**	**100**
Finland	under 40	N	38	69	13	1	**121**
		%	31	57	11	1	**100**
	40 or more years	N	20	40	13	2	**75**
		%	27	53	17	3	**100**
	Total	**N**	**58**	**109**	**26**	**3**	**196**
		%	**30**	**56**	**13**	**2**	**100**
Norway	under 40	N	28	10	0	0	**38**
		%	74	26	0	0	**100**
	40 or more years	N	33	22	1	1	**57**
		%	58	39	2	2	**100**
	Total	**N**	**61**	**32**	**1**	**1**	**95**
		%	**64**	**34**	**1**	**1**	**100**
Total	under 40	N	113	98	15	3	**229**
		%	49	43	7	1	**100**
	40 or more years	N	97	88	16	5	**206**
		%	47	43	8	2	**100**
	TOTAL	**N**	**210**	**186**	**31**	**8**	**435**
		%	**48**	**43**	**7**	**2**	**100**

In Boliden Aitik, among under 40 year olds going to work has increased for 47 (67 %), stayed the same for 19 (27 %), decreased for 2 (3 %). Among over 40 year olds going to work has increased for 44 (59 %), stayed the same for 26 (35 %), decreased for 2 (3 %).

In Kevitsa, among under 40 year olds going to work has increased for 38 (31 %), stayed the same for 69 (57 %), decreased for 13 (11 %). Among over 40 year olds going to work has increased for 20 (27 %), stayed the same for 40 (53 %), decreased for 13 (17 %).

In Sibelco Stjernoya, among under 40 year olds going to work has increased for 28 (74 %), stayed the same for 10 (26 %), decreased for 0 (0 %). Among over 40 year olds going to work has increased for 33 (58 %), stayed the same for 22 (39 %), decreased for 1 (2 %).

Table 51. *Life dimension of age/Income level.*

COUNTRY	AGE		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	under 40	N	65	6	4		**75**
		%	87	8	5		**100**
	40 or more years	N	54	15	7		**76**
		%	71	20	9		**100**
	Total	**N**	**119**	**21**	**11**		**151**
		%	**79**	**14**	**7**		**100**
Finland	under 40	N	45	31	42	2	**120**
		%	38	26	35	2	**100**
	40 or more years	N	22	31	19	1	**73**
		%	30	42	26	1	**100**
	Total	**N**	**67**	**62**	**61**	**3**	**193**
		%	**35**	**32**	**32**	**2**	**100**
Norway	under 40	N	23	13	2		**38**
		%	61	34	5		**100**
	40 or more years	N	32	23	3		**58**
		%	55	40	5		**100**
	Total	**N**	**55**	**36**	**5**		**96**
		%	**57**	**38**	**5**		**100**
Total	under 40	N	133	50	48	2	**233**
		%	57	21	21	1	**100**
	40 or more years	N	108	69	29	1	**207**
		%	52	33	14	0	**100**
	TOTAL	**N**	**241**	**119**	**77**	**3**	**440**
		%	**55**	**27**	**18**	**1**	**100**

In Boliden Aitik, among the under 40 year olds the salary has increased for 65 (87 %), stayed the same for 6 (8 %), decreased for 4 (5 %). Among the over 40 year olds the salary has increased for 54 (71 %), stayed the same for 15 (20 %), decreased for 7 (9 %).

In Kevitsa, among the under 40 year olds the salary has increased for 45 (38 %), stayed the same for 31 (26 %), decreased for 42 (35 %). Among the over 40 year olds the salary has increased for 22 (30 %), stayed the same for 31 (42 %), decreased for 19 (26 %).

In Sibelco Stjernoya, among the under 40 year olds the salary has increased for 23 (61 %), stayed the same for 13 (34 %), decreased for 2 (5 %). Among the over 40 year olds the salary has increased for 32 (55 %), stayed the same for 23 (40 %), decreased for 3 (5 %).

Table 52. *Life dimension of age/Spouse's paid work.*

COUNTRY	AGE		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	under 40	N	24	29	1	14	**68**
		%	35	43	1	21	**100**
	40 or more years	N	17	32	5	16	**70**
		%	24	46	7	23	**100**
	Total	**N**	**41**	**61**	**6**	**30**	**138**
		%	**30**	**44**	**4**	**22**	**100**
Finland	under 40	N	6	52	7	52	**117**
		%	5	44	6	44	**100**
	40 or more years	N	8	40	6	16	**70**
		%	11	57	9	23	**100**
	Total	**N**	**14**	**92**	**13**	**68**	**187**
		%	**7**	**49**	**7**	**36**	**100**
Norway	under 40	N	7	8	1	21	**37**
		%	19	22	3	57	**100**
	40 or more years	N	12	26	3	13	**54**
		%	22	48	6	24	**100**
	Total	**N**	**19**	**34**	**4**	**34**	**91**
		%	**21**	**37**	**4**	**37**	**100**
Total	under 40	N	37	89	9	87	**222**
		%	17	40	4	39	**100**
	40 or more years	N	37	98	14	45	**194**
		%	19	51	7	23	**100**
	TOTAL	**N**	**74**	**187**	**23**	**132**	**416**
		%	**18**	**45**	**6**	**32**	**100**

In Boliden Aitik, among the under 40 year olds, the spouse's working has increased for 24 (35 %), stayed the same for 29 (43 %), decreased for 1 (1 %). Among the over 40 year olds, the spouse's working has increased for 17 (24 %), stayed the same for 32 (46 %), decreased for 5 (7 %).

In Kevitsa, among the under 40 year olds, the spouse's working has increased for 6 (5 %), stayed the same for 52 (44 %), decreased for 7 (6 %). Among the over 40 year olds, the spouse's working has increased for 8 (11 %), stayed the same for 40 (57 %), decreased for 6 (9 %).

In Sibelco Stjernoya, among the under 40 year olds, the spouse's working has increased for 7 (19 %), stayed the same for 8 (22 %), decreased for 1 (3 %). Among the over 40 year olds, the spouse's working has increased for 12 (22 %), stayed the same for 26 (48 %), decreased for 3 (6 %).

Table 53. *Life dimension of age/Spouse's income level.*

COUNTRY	AGE		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	under 40	N	33	25	2	12	**72**
		%	46	35	3	17	**100**
	40 or more years	N	21	28	4	16	**69**
		%	30	41	6	23	**100**
	Total	**N**	**54**	**53**	**6**	**28**	**141**
		%	**38**	**38**	**4**	**20**	**100**
Finland	under 40	N	7	52	7	51	**117**
		%	6	44	6	44	**100**
	40 or more years	N	11	35	8	16	**70**
		%	16	50	11	23	**100**
	Total	**N**	**18**	**87**	**15**	**67**	**187**
		%	**10**	**47**	**8**	**36**	**100**
Norway	under 40	N	7	8	2	21	**38**
		%	18	21	5	55	**100**
	40 or more years	N	14	24	3	13	**54**
		%	26	44	6	24	**100**
	Total	**N**	**21**	**32**	**5**	**34**	**92**
		%	**23**	**35**	**5**	**37**	**100**
Total	under 40	N	47	85	11	84	**227**
		%	21	37	5	37	**100**
	40 or more years	N	46	87	15	45	**193**
		%	24	45	8	23	**100**
	TOTAL	**N**	**93**	**172**	**26**	**129**	**420**
		%	**22**	**41**	**6**	**31**	**100**

In Boliden Aitik, among the under 40 year olds, spouse's salary has increased for 33 (46 %), stayed the same for 25 (35 %), decreased for 2 (3 %). Among the over 40 year olds, spouse's salary has increased for 21 (30 %), stayed the same for 28 (41 %), decreased for 4 (6 %).

In Kevitsa, among the under 40 year olds, spouse's salary has increased for 7 (6 %), stayed the same for 52 (44 %), decreased for 7 (6 %). Among the over 40 year olds, spouse's salary has increased for 11 (16 %), stayed the same for 35 (50 %), decreased for 8 (11 %).

In Sibelco Stjernoya, among the under 40 year olds, spouse's salary has increased for 7 (18 %), stayed the same for 8 (21 %), decreased for 2 (5 %). Among the over 40 year olds, spouse's salary has increased for 14 (26 %), stayed the same for 24 (44 %), decreased for 3 (6 %).

Table 54. *Life dimension of age/Social relationships.*

COUNTRY	AGE		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	under 40	N	37	32	5		**74**
		%	50	43	7		**100**
	40 or more years	N	31	40	4		**75**
		%	41	53	5		**100**
	Total	**N**	**68**	**72**	**9**		**149**
		%	**46**	**48**	**6**		**100**
Finland	under 40	N	15	72	30	3	**120**
		%	13	60	25	3	**100**
	40 or more years	N	9	52	11	2	**74**
		%	12	70	15	3	**100**
	Total	**N**	**24**	**124**	**41**	**5**	**194**
		%	**12**	**64**	**21**	**3**	**100**
Norway	under 40	N	12	20	3	2	**37**
		%	32	54	8	5	**100**
	40 or more years	N	16	37	3	0	**56**
		%	29	66	5	0	**100**
	Total	**N**	**28**	**57**	**6**	**2**	**93**
		%	**30**	**61**	**6**	**2**	**100**
Total	under 40	N	64	124	38	5	**231**
		%	28	54	16	2	**100**
	40 or more years	N	56	129	18	2	**205**
		%	27	63	9	1	**100**
	TOTAL	**N**	**120**	**253**	**56**	**7**	**436**
		%	**28**	**58**	**13**	**2**	**100**

In Boliden Aitik, among the under 40 year olds the social relations improved for 37 (50 %), stayed the same for 32 (43 %), weakened for 5 (7 %). Among the over 40 year olds, the social relations improved for 31 (41 %), stayed the same for 40 (55 %), weakened for 4 (5 %).

In Kevitsa, among the under 40 year olds the social relations improved for 15 (13 %), stayed the same for 72 (60 %), weakened for 30 (25 %). Among the over 40 year olds, the social relations improved for 9 (12 %), stayed the same for 52 (70 %), weakened for 11 (15 %).

In Sibelco Stjernoya, among the under 40 year olds the social relations improved for 12 (32 %), stayed the same for 20 (54 %), weakened for 3 (8 %). Among the over 40 year olds, the social relations improved for 16 (29 %), stayed the same for 37 (66 %), weakened for 3 (5 %).

Table 55. *Life dimension of age/Spouse's social relationships.*

COUNTRY	AGE		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	under 40	N	19	40	1	13	**73**
		%	26	55	1	18	**100**
	40 or more years	N	22	33	1	17	**73**
		%	30	45	1	23	**100**
	Total	**N**	**41**	**73**	**2**	**30**	**146**
		%	**28**	**50**	**1**	**21**	**100**
Finland	under 40	N	5	45	15	53	**118**
		%	4	38	13	45	**100**
	40 or more years	N	2	49	7	12	**70**
		%	3	70	10	17	**100**
	Total	**N**	**7**	**94**	**22**	**65**	**188**
		%	**4**	**50**	**12**	**35**	**100**
Norway	under 40	N	5	15	0	18	**38**
		%	13	39	0	47	**100**
	40 or more years	N	11	31	1	12	**55**
		%	20	56	2	22	**100**
	Total	**N**	**16**	**46**	**1**	**30**	**93**
		%	**17**	**49**	**1**	**32**	**100**
Total	under 40	N	29	100	16	84	**229**
		%	13	44	7	37	**100**
	40 or more years	N	35	113	9	41	**198**
		%	18	57	5	21	**100**
	TOTAL	**N**	**64**	**213**	**25**	**125**	**427**
		%	**15**	**50**	**6**	**29**	**100**

In Boliden Aitik, among the under 40 year olds, the social relations of men's improved for 19 (26 %), stayed the same for 40 (55 %), weakened for 1 (1 %). Among the over 40 year olds, the social relations of men's spouses improved for 22 (30 %), stayed the same for 33 (45 %), weakened for 1 (1 %).

In Kevitsa, among the under 40 year olds, the social relations of men's spouses improved for 5 (4 %), stayed the same for 45 (38 %), weakened for 15 (13 %). Among the over 40 year olds, the social relations of men's spouses improved for 2 (3 %), stayed the same for 49 (70 %), weakened for 7 (10 %).

In Sibelco Stjernoya, among the under 40 year olds, the social relations of men's spouses improved for 5 (13 %), stayed the same for 15 (39 %), weakened for 0 (0 %). Among the over 40 year olds, the social relations of men's spouses improved for 11 (20 %), stayed the same for 31 (56 %), weakened for 1 (2 %).

Table 56. *Life dimension of age/Children(s) social relationships.*

COUNTRY	AGE		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	under 40	N	14	20	1	31	**66**
		%	21	30	2	47	**100**
	40 or more years	N	25	31	2	14	**72**
		%	35	43	3	19	**100**
	Total	**N**	**39**	**51**	**3**	**45**	**138**
		%	**28**	**37**	**2**	**33**	**100**
Finland	under 40	N	4	34	6	72	**116**
		%	3	29	5	62	**100**
	40 or more years	N	3	46	6	14	**69**
		%	4	67	9	20	**100**
	Total	**N**	**7**	**80**	**12**	**86**	**185**
		%	**4**	**43**	**6**	**46**	**100**
Norway	under 40	N	5	4	0	28	**37**
		%	14	11	0	76	**100**
	40 or more years	N	20	20	1	12	**53**
		%	38	38	2	23	**100**
	Total	**N**	**25**	**24**	**1**	**40**	**90**
		%	**28**	**27**	**1**	**44**	**100**
Total	under 40	N	23	58	7	131	**219**
		%	11	26	3	60	**100**
	40 or more years	N	48	97	9	40	**194**
		%	25	50	5	21	**100**
	TOTAL	**N**	**71**	**155**	**16**	**171**	**413**
		%	**17**	**38**	**4**	**41**	**100**

In Boliden Aitik, among the under 40 year olds, the social relations of men's children improved for 14 (21 %), stayed the same for 20 (30 %), weakened for 1 (2 %). Among the over 40 year olds, the social relations of men's children improved for 25 (35 %), stayed the same for 31 (43 %), weakened for 2 (3 %).

In Kevitsa, among the under 40 year olds, the social relations of men's children improved for 4 (3 %), stayed the same for 34 (29 %), weakened for 6 (5 %). Among the over 40 year olds, the social relations of men's children improved for 3 (4 %), stayed the same for 46 (67 %), weakened for 6 (9 %).

In Sibelco Stjernoya, among the under 40 year olds, the social relations of men's children improved for 5 (14 %), stayed the same for 4 (11 %), weakened for 0 (0 %). Among the over 40 year olds, the social relations of men's children improved for 20 (38 %), stayed the same for 20 (38 %), weakened for 1 (2 %).

Table 57. *Life dimension of age/Domestic life.*

COUNTRY	AGE		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	under 40	N	23	40	3	7	**73**
		%	32	55	4	10	**100**
	40 or more years	N	27	38	4	7	**76**
		%	36	50	5	9	**100**
	Total	**N**	**50**	**78**	**7**	**14**	**149**
		%	**34**	**52**	**5**	**9**	**100**
Finland	under 40	N	14	71	32	2	**119**
		%	12	60	27	2	**100**
	40 or more years	N	8	52	13	2	**75**
		%	11	69	17	3	**100**
	Total	**N**	**22**	**123**	**45**	**4**	**194**
		%	**11**	**63**	**23**	**2**	**100**
Norway	under 40	N	11	19	1	7	**38**
		%	29	50	3	18	**100**
	40 or more years	N	13	32	4	5	**54**
		%	24	59	7	9	**100**
	Total	**N**	**24**	**51**	**5**	**12**	**92**
		%	**26**	**55**	**5**	**13**	**100**
Total	under 40	N	48	130	36	16	**230**
		%	21	57	16	7	**100**
	40 or more years	N	48	122	21	14	**205**
		%	23	60	10	7	**100**
	TOTAL	**N**	**96**	**252**	**57**	**30**	**435**
		%	**22**	**58**	**13**	**7**	**100**

In Boliden Aitik, among the under 40 year olds, the domestic life improved for 23 (32 %), stayed the same for 40 (55 %), weakened for 3 (4 %). Among the over 40 year olds, the domestic life improved for 27 (36 %), stayed the same for 38 (50 %), weakened for 4 (5 %).

In Kevitsa, among the under 40 year olds, the domestic life improved for 14 (12 %), stayed the same for 71 (60 %), weakened for 32 (27 %). Among the over 40 year olds, the domestic life improved for 8 (11 %), stayed the same for 52 (69 %), weakened for 13 (17 %).

In Sibelco Stjernoya, among the under 40 year olds, the domestic life improved for 11 (29 %), stayed the same for 19 (50 %), weakened for 1 (3 %). Among the over 40 year olds, the domestic life improved for 13 (24 %), stayed the same for 32 (59 %), weakened for 4 (7 %).

Table 58. *Life dimension of age/Own health.*

COUNTRY	AGE		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	under 40	N	15	46	14		**75**
		%	20	61	19		**100**
	40 or more years	N	18	47	11		**76**
		%	24	62	14		**100**
	Total	**N**	**33**	**93**	**25**		**151**
		%	**22**	**62**	**17**		**100**
Finland	under 40	N	9	92	19	0	**120**
		%	8	77	16		**100**
	40 or more years	N	4	58	11	1	**74**
		%	5	78	15	1	**100**
	Total	**N**	**13**	**150**	**30**	**1**	**194**
		%	**7**	**77**	**15**	**1**	**100**
Norway	under 40	N	3	29	6	0	**38**
		%	8	76	16	0	**100**
	40 or more years	N	8	41	5	1	**55**
		%	15	75	9	2	**100**
	Total	**N**	**11**	**70**	**11**	**1**	**93**
		%	**12**	**75**	**12**	**1**	**100**
Total	under 40	N	27	167	39	0	**233**
		%	12	72	17	0	**100**
	40 or more years	N	30	146	27	2	**205**
		%	15	71	13	1	**100**
	TOTAL	**N**	**57**	**313**	**66**	**2**	**438**
		%	**13**	**71**	**15**	**0**	**100**

In Boliden Aitik, among the under 40 year olds, health improved for 15 (20 %), stayed the same for 46 (61 %), weakened for 14 (19 %). Among the over 40 year olds, the health improved for 18 (24 %), stayed the same for 47 (62 %), weakened for 11 (14 %).

In Kevitsa, among the under 40 year olds, health improved for 9 (8 %), stayed the same for 92 (77 %), weakened for 19 (16 %). Among the over 40 year olds, the health improved for 4 (5 %), stayed the same for 58 (78 %), weakened for 11 (15 %).

In Sibelco Stjernoya, among the under 40 year olds, health improved for 3 (8 %), stayed the same for 29 (76 %), weakened for 6 (16 %). Among the over 40 year olds, the health improved for 8 (15 %), stayed the same for 41 (75 %), weakened for 5 (9 %).

Table 59. *Life dimension of age/Spouse's health.*

COUNTRY	AGE		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	under 40	N	12	40	7	13	**72**
		%	17	56	10	18	**100**
	40 or more years	N	8	39	7	18	**72**
		%	11	54	10	25	**100**
	Total	**N**	**20**	**79**	**14**	**31**	**144**
		%	**14**	**55**	**10**	**22**	**100**
Finland	under 40	N	0	63	3	51	**117**
		%	0	54	3	44	**100**
	40 or more years	N	1	51	5	13	**70**
		%	1	73	7	19	**100**
	Total	**N**	**1**	**114**	**8**	**64**	**187**
		%	**1**	**61**	**4**	**34**	**100**
Norway	under 40	N	4	13	2	19	**38**
		%	11	34	5	50	**100**
	40 or more years	N	5	33	4	13	**55**
		%	9	60	7	24	**100**
	Total	**N**	**9**	**46**	**6**	**32**	**93**
		%	**10**	**49**	**6**	**34**	**100**
Total	under 40	N	16	116	12	83	**227**
		%	7	51	5	37	**100**
	40 or more years	N	14	123	16	44	**197**
		%	7	62	8	22	**100**
	TOTAL	**N**	**30**	**239**	**28**	**127**	**424**
		%	**7**	**56**	**7**	**30**	**100**

In Boliden Aitik, among the under 40 year olds, the health of men's spouses has increased for 12 (17 %), stayed the same for 40 (56 %), decreased for 7 (10 %). Among the over 40 year olds, the health of men's spouses has increased for 8 (11 %), stayed the same for 39 (54 %), decreased for 7 (10 %).

In Kevitsa, among the under 40 year olds, the health of men's spouses has increased for 0 (0 %), stayed the same for 63 (54 %), decreased for 3 (3 %). Among the over 40 year olds, the health of men's spouses has increased for 1 (1 %), stayed the same for 51 (73 %), decreased 5 (7 %).

In Sibelco Stjernoya, among the under 40 year olds, the health of men's spouses has increased for 4 (11 %), stayed the same for 13 (34 %), decreased for 2 (5 %). Among the over 40 year olds, the health of men's spouses has increased for 5 (9 %), stayed the same for 33 (60 %), decreased 4 (7 %).

Table 60. *Life dimension of age/Children's health.*

COUNTRY	AGE		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	under 40	N	7	26	1	32	**66**
		%	11	39	2	48	**100**
	40 or more years	N	13	42	1	13	**69**
		%	19	61	1	19	**100**
	Total	N	20	68	2	45	**135**
		%	15	50	1	33	**100**
Finland	under 40	N		44	1	71	**116**
		%		38	1	61	**100**
	40 or more years	N		51	3	15	**69**
		%		74	4	22	**100**
	Total	N		95	4	86	**185**
		%		51	2	46	**100**
Norway	under 40	N	1	8	1	27	**37**
		%	3	22	3	73	**100**
	40 or more years	N	10	30	1	12	**53**
		%	19	57	2	23	**100**
	Total	N	11	38	2	39	**90**
		%	12	42	2	43	**100**
Total	under 40	N	8	78	3	130	**219**
		%	4	36	1	59	**100**
	40 or more years	N	23	123	5	40	**191**
		%	12	64	3	21	**100**
	TOTAL	**N**	**31**	**201**	**8**	**170**	**410**
		%	**8**	**49**	**2**	**41**	**100**

In Boliden Aitik, among the under 40 year olds, the health of men's children has increased for 7 (11 %), stayed the same for 26 (39 %), decreased for 1 (2 %). Among the over 40 year olds, the health of men's children has increased 13 (19 %), stayed the same for 42 (61 %), decreased for 1 (1 %).

In Kevitsa, among the under 40 year olds, the health of men's children has increased for 1 (1 %), stayed the same for 44 (38 %), decreased for 1 (1 %). Among the over 40 year olds, the health of men's children has increased 0 (0 %), stayed the same for 51 (74 %), decreased for 3 (4 %).

In Sibelco Stjernoya, among the under 40 year olds, the health of men's children has increased for 1 (3 %), stayed the same for 8 (22 %), decreased for 1 (3 %). Among the over 40 year olds, the health of men's children has increased 10 (19 %), stayed the same for 30 (57 %), decreased for 1 (2 %).

Table 61. *Life dimension of age/Physical training.*

COUNTRY	AGE		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	under 40	N	31	33	9	2	**75**
		%	41	44	12	3	**100**
	40 or more years	N	21	45	10	0	**76**
		%	28	59	13	0	**100**
	Total	**N**	**52**	**78**	**19**	**2**	**151**
		%	**34**	**52**	**13**	**1**	**100**
Finland	under 40	N	20	66	35	0	**121**
		%	17	55	29		**100**
	40 or more years	N	6	52	17	1	**76**
		%	8	68	22	1	**100**
	Total	**N**	**26**	**118**	**52**	**1**	**197**
		%	**13**	**60**	**26**	**1**	**100**
Norway	under 40	N	7	21	7	3	**38**
		%	18	55	18	8	**100**
	40 or more years	N	12	39	4	2	**57**
		%	21	68	7	4	**100**
	Total	**N**	**19**	**60**	**11**	**5**	**95**
		%	**20**	**63**	**12**	**5**	**100**
Total	under 40	N	58	120	51	5	**234**
		%	25	51	22	2	**100**
	40 or more years	N	39	136	31	3	**209**
		%	19	65	15	1	**100**
	TOTAL	**N**	**97**	**256**	**82**	**8**	**443**
		%	**22**	**58**	**19**	**2**	**100**

In Boliden Aitik, among the under 40 year olds, the sports has increased for 31 (41 %), stayed the same for 33 (44 %), decreased for 9 (12 %). Among the over 40 year olds, the sports has increased for 21 (28 %), stayed the same for 45 (59 %), decreased for 10 (13 %).

In Kevitsa, among the under 40 year olds, the sports has increased for 20 (17 %), stayed the same for 66 (55 %), decreased for 35 (29 %). Among the over 40 year olds, the sports has increased for 6 (8 %), stayed the same for 52 (68 %), decreased for 17 (22 %).

In Sibelco Stjernoya, among the under 40 year olds, the sports has increased for 7 (18 %), stayed the same for 21 (55 %), decreased for 7 (18 %). Among the over 40 year olds, the sports has increased for 12 (21 %), stayed the same for 39 (68 %), decreased for 4 (7 %).

Table 62. *Life dimension of age/Physical activity.*

COUNTRY	AGE		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	under 40	N	23	46	6	0	**75**
		%	31	61	8		**100**
	40 or more years	N	26	45	4	1	**76**
		%	34	59	5	1	**100**
	Total	**N**	**49**	**91**	**10**	**1**	**151**
		%	**32**	**60**	**7**	**1**	**100**
Finland	under 40	N	20	69	32	0	**121**
		%	17	57	26		**100**
	40 or more years	N	4	51	19	1	**75**
		%	5	68	25	1	**100**
	Total	*N*	*24*	*120*	*51*	*1*	***196***
		%	*12*	*61*	*26*	*1*	***100***
Norway	under 40	N	8	25	5	0	**38**
		%	21	66	13	0	**100**
	40 or more years	N	17	37	2	1	**57**
		%	30	65	4	2	**100**
	Total	**N**	**25**	**62**	**7**	**1**	**95**
		%	**26**	**65**	**7**	**1**	**100**
Total	under 40	N	51	140	43	0	**234**
		%	22	60	18	0	**100**
	40 or more years	N	47	133	25	3	**208**
		%	23	64	12	1	**100**
	TOTAL	**N**	**98**	**273**	**68**	**3**	**442**
		%	**22**	**62**	**15**	**1**	**100**

In Boliden Aitik, among the under 40 year olds, everyday sports have increased for 23 (31 %), stayed the same for 46 (61 %), decreased for 6 (8 %). Among the over 40 year olds, everyday sports have increased for 26 (34 %), stayed the same for 45 (59 %), decreased for 4 (5 %).

In Kevitsa, among the under 40 year olds, everyday sports have increased for 20 (17 %), stayed the same for 69 (57 %), decreased for 32 (26 %). Among the over 40 year olds, everyday sports have increased for 4 (5 %), stayed the same for 51 (68 %), decreased for 19 (25 %).

In Sibelco Stjernoya, among the under 40 year olds, everyday sports have increased for 8 (21 %), stayed the same for 25 (66 %), decreased for for 5 (13 %). Among the over 40 year olds, everyday sports have increased for 17 (30 %), stayed the same for 37 (65 %), decreased for 2 (4 %).

Table 63. *Life dimension of age/Leisure time activities.*

COUNTRY	AGE		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	under 40	N	30	39	6		**75**
		%	40	52	8		**100**
	40 or more years	N	24	47	5		**76**
		%	32	62	7		**100**
	Total	**N**	**54**	**86**	**11**		**151**
		%	**36**	**57**	**7**		**100**
Finland	under 40	N	17	51	51	1	**120**
		%	14	43	43	1	**100**
	40 or more years	N	5	40	29	1	**75**
		%	7	53	39	1	**100**
	Total	**N**	**22**	**91**	**80**	**2**	**195**
		%	**11**	**47**	**41**	**1**	**100**
Norway	under 40	N	6	24	8	0	**38**
		%	16	63	21	0	**100**
	40 or more years	N	17	34	5	1	**57**
		%	30	60	9	2	**100**
	Total	**N**	**23**	**58**	**13**	**1**	**95**
		%	**24**	**61**	**14**	**1**	**100**
Total	under 40	N	53	114	65	1	**233**
		%	23	49	28	0	**100**
	40 or more years	N	46	121	39	2	**208**
		%	22	58	19	1	**100**
	TOTAL	**N**	**99**	**235**	**104**	**3**	**441**
		%	**22**	**53**	**24**	**1**	**100**

In Boliden Aitik, among the under 40 year olds, the free time activities of men have increased for 30 (40 %), stayed the same for 39 (52 %), decreased for 6 (8 %). Among the over 40 year olds, the free time activities of men have increased for 24 (32 %), stayed the same for 47 (62 %), decreased for 5 (7 %).

In Kevitsa, among the under 40 year olds, the free time activities of men have increased for 17 (14 %), stayed the same for 51 (43 %), decreased for 51 (43 %). Among the over 40 year olds, the free time activities of men have increased for 5 (7 %), stayed the same for 40 (53 %), decreased for 29 (39 %).

In Sibelco Stjernoya, among the under 40 year olds, the free time activities of men have increased for 6 (16 %), stayed the same for 24 (63 %), decreased for 8 (21 %). Among the over 40 year olds, the free time activities of men have increased for 17 (30 %), stayed the same for 34 (60 %), decreased for 5 (9 %).

Table 64. *Life dimension of age/Spouse's leisure time activities*

COUNTRY	AGE		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	under 40	N	23	35	2	12	**72**
		%	32	49	3	17	**100**
	40 or more years	N	13	40	2	17	**72**
		%	18	56	3	24	**100**
	Total	**N**	**36**	**75**	**4**	**29**	**144**
		%	**25**	**52**	**3**	**20**	**100**
Finland	under 40	N	5	45	18	50	**118**
		%	4	38	15	42	**100**
	40 or more years	N	3	42	12	12	**69**
		%	4	61	17	17	**100**
	Total	**N**	**8**	**87**	**30**	**62**	**187**
		%	**4**	**47**	**16**	**33**	**100**
Norway	under 40	N	4	13	2	19	**38**
		%	11	34	5	50	**100**
	40 or more years	N	8	32	2	13	**55**
		%	15	58	4	24	**100**
	Total	**N**	**12**	**45**	**4**	**32**	**93**
		%	**13**	**48**	**4**	**34**	**100**
Total	under 40	N	32	93	22	81	**228**
		%	14	41	10	36	**100**
	40 or more years	N	24	114	16	42	**196**
		%	12	58	8	21	**100**
	TOTAL	**N**	**56**	**207**	**38**	**123**	**424**
		%	**13**	**49**	**9**	**29**	**100**

In Boliden Aitik, among the under 40 year olds, the free time activities of men's spouses have increased for 23 (32 %), stayed the same for 35 (49 %), decreased for 2 (3 %). Among the over 40 year olds, the free time activities of men's spouses have increased for 13 (18 %), stayed the same for 40 (56 %), decreased for 2 (3 %).

In Kevitsa, among the under 40 year olds, the free time activities of men's spouses have increased for 5 (4 %), stayed the same for 45 (38 %), decreased for 18 (15 %). Among the over 40 year olds, the free time activities of men's spouses have increased for 3 (4 %), stayed the same for 42 (61 %), decreased for 12 (17 %).

In Sibelco Stjernoya, among the under 40 year olds, the free time activities of men's spouses have increased for 4 (11 %), stayed the same for 13 (34 %), decreased for 2 (5 %). Among the over 40 year olds, the free time activities of men's spouses have increased for 8 (15 %), stayed the same for 32 (58 %), decreased for 2 (4 %).

Table 65. *Life dimension of age/Children's leisure time activities.*

COUNTRY	AGE		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	under 40	N	13	20	1	30	**64**
		%	20	31	2	47	**100**
	40 or more years	N	10	38	4	15	**67**
		%	15	57	6	22	**100**
	Total	**N**	**23**	**58**	**5**	**45**	**131**
		%	**18**	**44**	**4**	**34**	**100**
Finland	under 40	N	4	36	6	71	**117**
		%	3	31	5	61	**100**
	40 or more years	N	2	46	5	16	**69**
		%	3	67	7	23	**100**
	Total	**N**	**6**	**82**	**11**	**87**	**186**
		%	**3**	**44**	**6**	**47**	**100**
Norway	under 40	N	2	7	0	28	**37**
		%	5	19	0	76	**100**
	40 or more years	N	11	29	1	12	**53**
		%	21	55	2	23	**100**
	Total	**N**	**13**	**36**	**1**	**40**	**90**
		%	**14**	**40**	**1**	**44**	**100**
Total	under 40	N	19	63	7	129	**218**
		%	9	29	3	59	**100**
	40 or more years	N	23	113	10	43	**189**
		%	12	60	5	23	**100**
	TOTAL	**N**	**42**	**176**	**17**	**172**	**407**
		%	**10**	**43**	**4**	**42**	**100**

In Boliden Aitik, among the under 40 year olds, the free time activities of men's children have increased for 13 (20 %), stayed the same for 20 (31 %), decreased for 1 (2 %). Among the over 40 year olds, the free time activities of men's children have increased for 10 (15 %), stayed 38 (57 %), decreased for 4 (6 %).

In Kevitsa, among the under 40 year olds, the free time activities of men's children have increased for 4 (3 %), stayed the same for 36 (31 %), decreased for 5 (7 %). Among the over 40 year olds, the free time activities of men's children have increased for 2 (3 %), stayed 46 (67 %), decreased for 5 (7 %).

In Sibelco Stjernoya, among the under 40 year olds, the free time activities of men's children have increased for 2 (5 %), stayed the same for 7 (19 %), decreased for 0 (0 %). Among the over 40 year olds, the free time activities of men's children have increased for 11 (21 %), stayed 29 (55 %), decreased for 1 (2 %).

Table 66. *Life dimension of age/Cultural activities.*

COUNTRY	AGE		LIFE DIMENSION				TOTAL
			Developed into a better direction	Stayed approx. the same	Developed into a poor direction	This option does not concern me	
Sweden	under 40	N	8	50	5	12	**75**
		%	11	67	7	16	**100**
	40 or more years	N	3	55	3	14	**75**
		%	4	73	4	19	**100**
	Total	**N**	**11**	**105**	**8**	**26**	**150**
		%	**7**	**70**	**5**	**17**	**100**
Finland	under 40	N	4	73	31	12	**120**
		%	3	61	26	10	**100**
	40 or more years	N	4	49	18	4	**75**
		%	5	65	24	5	**100**
	Total	**N**	**8**	**122**	**49**	**16**	**195**
		%	**4**	**63**	**25**	**8**	**100**
Norway	under 40	N	3	20	6	8	**37**
		%	8	54	16	22	**100**
	40 or more years	N	4	32	7	11	**54**
		%	7	59	13	20	**100**
	Total	**N**	**7**	**52**	**13**	**19**	**91**
		%	**8**	**57**	**14**	**21**	**100**
Total	under 40	N	15	143	42	32	**232**
		%	6	62	18	14	**100**
	40 or more years	N	11	136	28	29	**204**
		%	5	67	14	14	**100**
	TOTAL	**N**	**26**	**279**	**70**	**61**	**436**
		%	**6**	**64**	**16**	**14**	**100**

In Boliden Aitk, among the under 40 year olds, cultural activities have increased for 8 (11 %), stayed the same for 50 (67 %), decreased for 5 (7 %). Among the over 40 year olds, cultural activities have increased for 3 (4 %), stayed the same for 55 (73 %), decreased for 3 (4 %).

In Kevitsa, among the under 40 year olds, cultural activities have increased for 4 (3 %), stayed the same for 73 (61 %), decreased for 31 (26 %). Among the over 40 year olds, cultural activities have increased for 4 (5 %), stayed the same for 49 (65 %), decreased for 18 (24 %).

In Sibelco Stjernoya, among the under 40 year olds, cultural activities have increased for 3 (8 %), stayed the same for 20 (54 %), decreased for 6 (16 %). Among the over 40 year olds, cultural activities have increased for 4 (7 %), stayed the same for 32 (59 %), decreased for 7 (13 %).

7 CONCLUSION AND CHALLENGE FOR THE MINING INDUSTRY IN THE LOCAL COMMUNITY *Leena Viinamäki, Seppo Kilpiäinen & Martti Ainonen*

The everyday life of the workers who work at the mines and the associated decision-making process are guided by the mine municipality's welfare policy, the work area's economic structure and employment situation, the family's life situation and stage of life, and the ability to commute. In these solutions, four mutually "intertwined infinite" fields structuring citizens' decision-making can be discerned (Figure 41.). In decision-making situations, the following are in simultaneous interaction: the worker's educational and work history and current job market position; bonds with family and relatives and the family's current life situation; local and regional educational and job opportunities and welfare services (*including welfare services provided by the public, private, and organisational sector according to the so-called welfare mix model*) and the national education, labour and welfare policy practiced at the time. (cf. Viinamäki 1993; Viinamäki 2005; Haley et al. 2011.)

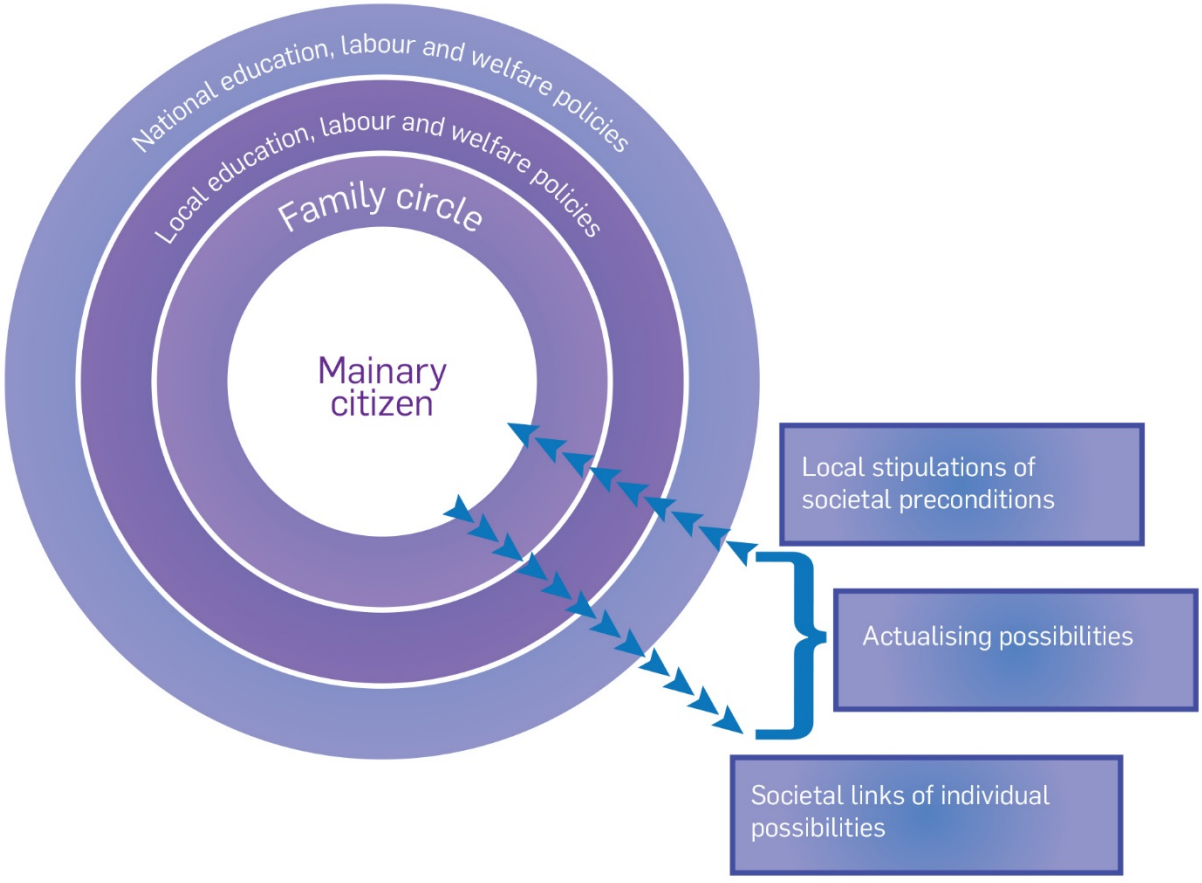


Figure 41. Individual and structural preconditions of decisions connected to the work of the "miner citizen" (cf. Viinamäki 1993; Viinamäki 2005)

The preconditions for everyday life of mineworkers who work at the Kevitsa, Sibelco Stjernøya, Vostochny and Aitik Boliden mines are structured by the welfare policy *(including housing, education and labour policy*) of each country and mine municipality as well as the employment situation, and the mine municipality's business structure and its educational and job opportunities (see Tables 67.–69.).

The summative experience gained from summing up the statistical, survey and interview material of welfare barometers and reports has been utilised in the creation of the so-called summative

tables[35] (e.g., Suikkanen, Viinamäki & Selkälä 2014, 273–287; see also Laiti-Hedemäki 2011). From the statistics, we describe the direction (*increasing, stable, decreasing*) and nature (*positive, negative*) of the change in each municipality from the viewpoint of welfare service providers. We examine the summative balance of the interviews and the miner survey from a respondent-specific perspective, striving to avoid qualitative and quantitative hyper-empiricism, or reporting the same themes several times (cf. Kvale 1996). The detailed statistical, interview and survey data can be found in chapters 4–6.

Table 67. summarises the statistical data analysis from the restructuring process in Sodankylä, Alta, Kirovsk and Boliden. The summative analysis of the statistics is based on the evaluation of the socio-economic development of the mine municipality from the viewpoint of municipal operations and cost development.

Table 67. *Summative statistical data analysis from the restructuring process in Sodankylä, Alta, Kirovsk and Boliden.* [36]

RESEARCH TOPICS	**COUNTRY & MINE** **The direction of the Change:** ⇧/⇔/⇩[37] **The nature of the Change:** positive/negative/stabile			
	Finland, Sodankylä *Kevitsa*	**Norway**, Alta *Stjernoy Sibelco*	**Russia**, Kirovsk *Vostochni*	**Sweden**, Boliden *Aitik Boliden*
Development of age structure		not available statistical trend data		
Children	⇩, negative		⇩, negative	⇩, negative
Young people	⇩, negative		⇧, positive	⇔, quite stabile
Working-age people	⇩, negative		partly ⇧, positive & partly ⇩, negative	⇩, negative
Retired people	⇧, negative		⇧, negative	⇧, negative
Net migration (per 1000 inhabitants)	⇧, positive	⇧–⇩, quite unstable	⇩, negative	⇧, positive
Educational structure of population			not available statistical trend data	
Upper secondary education	⇧, positive	⇩, negative		⇧, positive
Higher education	⇧, positive	⇧, positive		⇧, positive
Industrial structure, mining sector	⇧, positive	⇩, negative		⇧, positive
Employment rate	⇩, negative	⇩, negative		⇧, positive
Unemployment rate	⇩, positive	⇩, positive		⇩, positive
Gini coefficient, disposable income	⇧, negative	⇧, negative		⇧, negative

Analysing the direction of the change in age structure as a whole for each age group, we can see that the development in the number of *children* was negative in every mine municipality, the development in the number of *young people* was negative in Sodankylä, positive in Kirovsk and stable in Boliden, and the development in the number of *working-age people* was negative in Sodankylä and Boliden but partly positive and partly negative in Kirovsk. The development in the number of *retired people* was negative in every mine municipality during the observation period.

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35 Kemi-Tornio University of Applied Sciences (*Lapland University of Applied Sciences since 1st of January 2014*) was responsible for welfare barometers and welfare reports in the project "Pohjoisen hyvinvoinnin tietopaikka". The welfare barometer was implemented in the Sub-regions of Itä-Lappi, Pohjois-Lappi, Tunturi-Lappi and Rovaniemi. The barometer consists of the welfare statistics of inhabitants, a questionnaire for inhabitants as well as an expert estimation. The welfare report of the Sub-regions of Kemi-Tornio and Tornionlaakso consists of the welfare statistics of inhabitants as well as an expert estimation.

36 The composite table is based on the statistical data presented in Chapter 4.

37 Compared from the first statistical year to final statistical year.

The *net migration* was positive in Sodankylä and Boliden but negative in Kirovsk. Alta municipality has a more complex net migration pattern with large cyclic differences from year to year.

As for the *educational structure of population*, the development for those who completed upper secondary education was positive in Sodankylä and Boliden but negative in Alta. Regarding those who completed a higher education degree, the development was positive in every mine municipality.

In regard to the *industrial structure*, the development of the mining sector was positive in Sodankylä and Boliden but negative in Alta.

The employment development in regard to the *employment rate* is positive in Boliden but negative in Alta and Sodankylä. The development regarding the *unemployment rate* was also positive in each mine municipality.

As for the *differences in disposable income*, the development was negative in every mine municipality.

Table 68. summarises interview data analyse from the restructuring process in Sodankylä, Alta, Kirovsk and Boliden. The summative analysis of the interviews is based on the evaluation of the mine municipality's socio-economic development from the viewpoint of interest-group evaluation represented by the interviewees.

Table 68. *Summative interview data analyse from the restructuring process in Sodankylä, Alta, Kirovsk and Boliden.*

RESEARCH TOPICS	**COUNTRY & MINE** **Positive & negative themes**			
	Finland, Sodankylä, *Kevitsa*	**Norway,** Alta, *Stjernoy Sibelco*	**Russia,** Kirovsk, *Vostochni*	**Sweden**, Boliden, *Aitik Boliden*
What are the positive and negative challenges concerning the current mine actions from the viewpoint of Municipality?	**Positive:**			
	✓ Population growth ✓ Decreased unemployment rate	✓ Stable, long-term jobs ✓ Have managed to reach a good agreement with reindeer herders on the island	✓ Provides a significant part of the population of the city work ✓ Social programs for workers and their families of JSC "Ph-A", including rest, treatment, education	✓ Stable, long-term jobs ✓ Nowadays they consult the Sami society when they make changes in their operational actions.
	Negative:			
	✓ Housing shortage ✓ The traffic jam	✓ Activity is not much linked to the society ✓ No policy to attract women to male dominant work	✓ High levels of migration among young people ✓ The negative impact on the environment and the lack of environmental protection measures	✓ New employees can't move here due to lack of housing ✓ The reindeers' pasture ground is scattered, the animals cant transport them-selves around all available pasture
What are the positive and negative challenges concerning the operations of Mine in the near future (until 2018) from the viewpoint of Municipality	**Positive:**			
	✓ The tax incomes growth ✓ Increased employment opportunities	✓ Stable workplaces in the future ✓ Engineer studies "Arctic construction" started in Alta 2014 – will be important for further mining recruitment	✓ Ore reserves provide stable operation of the enterprise for more than 75 years ✓ further modernization of technological processes and equipment will improve working conditions	✓ Stable workplaces in the future ✓ The effects of the world economy can be both positive and negative for the mining industry
	Negative:			
	✓ The better social responsibility ✓ New kind of multicultural challenges	✓ Company will have huge challenges recruiting new personnel ✓ Hope for more participation in sponsoring local sport and culture	✓ Reduction in the number of employees in all departments ✓ Reduction of salary	✓ Low standard on the regional road net-work, many accidents due to bad roads, risks when transporting heavy goods ✓ The company will have huge challenges recruiting new personnel

RESEARCH TOPICS	COUNTRY & MINE Positive & negative themes **Finland**, Sodankylä, *Kevitsa*	**Norway,** Alta, *Stjernoy Sibelco*	**Russia,** Kirovsk, *Vostochni*	**Sweden**, Boliden, *Aitik Boliden*
What kind of future operation visions does the Mine have from the viewpoint of Municipality? (3 of the most positive and negative aspects)	**Positive:**			
	✓ Employment possibilities ✓ New career visions for young peoples	✓ Hope the marked conditions for their product will be good in the future ✓ Will provide stable jobs for different kind of competence in the future	not available	✓ A good cooperation with the municipality ✓ To consulate land owners and the Sami society when making changes in the mines operations
	Negative:			
	✓ Environmental risks ✓ Economical risks	✓ Recruitment challenges – ✓ Climate change – high risk of avalanche in winter time	not available	✓ The risk of price drop on ore before you got a permission to start a new mine ✓ The mine competes with other national interests and the environment
How does the Mine reshape Municipality's ✓ economic structure? ✓ unemployment? ✓ age structure? ✓ moving in and out of the municipality? ✓ educational structure of population?	**Positive:**			
	✓ town planning ✓ The diversity of the economic structure	✓ Gives work to people of all ages ✓ Gives work to people with very different educational backgrounds	✓ Investments of the state and private investors, ✓ Such a development Kirovsk will lead to the creation of new jobs in the service sector	✓ Low unemployment rate ✓ The development of a upper secondary school with mining profile
	Negative:			
	✓ Not controllable mine boom ✓ The lack of welfare services for the mineworkers	✓ Limited effect on migration ✓ Recruit mainly locally ✓ Lack strategy for recruitment of young people/family people/women	✓ The work of the JSC "Ph-A" will be held on a rotational schedule ✓ The dramatic aging of the population because of the lack of financial pensioners relocation to other cities	✓ FIFO:s don't pay tax in the municipality but use the municipalities resources ✓ The other mining company is owned by the state and maybe pays back some money. Boliden is a privately owned company, and then it might look different, but it might be the reversed situation.

RESEARCH TOPICS	COUNTRY & MINE Positive & negative themes			
	Finland, Sodankylä, *Kevitsa*	**Norway,** Alta, *Stjernoy Sibelco*	**Russia,** Kirovsk, *Vostochni*	**Sweden**, Boliden, *Aitik Boliden*
Comments on essential MineHealth Questionnaire data	✓ The recruiting challenges concerning mine workers in the near future ✓ Replace rates	✓ 57 % of the employees think they will work in the mine in the next 3 years ✓ Young part of the personnel not so sure that they will work there in the next 3 years	not available	not available
Development ideas	✓ Intensive cooperation with mining company and municipality ✓ From the viewpoint of reindeer farming it would be better if there were annual compensations along with the costs, as long as the mine is operating ✓ There is a need for openness to both directions (*mine & municipality*)	✓ Need new strategies for recruitment ✓ Must be more visible in the local community ✓ Have deposits for stable production for at least 50 years	✓ To discuss employment opportunities of Russian miners in the mines of the countries of the Barents region ✓ To increase the role of the JSC "Ph-A" in realization of state program of resettlement of retired ✓ The government of the Murmansk region to continue the investment reform project of Kirovsk in sports and tourist centre	not available

Analysed summatively from the viewpoint of the mine municipalities' socio-economic development, the positive themes highlighted in the interviews included good and stable jobs, the mine companies' joint social programmes with municipal operators, and co-operation with the Sami people and reindeer breeders. Some of the negative themes that were highlighted included workers' issues with the lack of housing, the failures in recruiting women for mining work, and issues related to nature conservation.

As positive challenges for the future, the interviewees mentioned stable and relatively well-paying jobs and technological advancements in mining work. As negative future challenges, the interviewees noted reductions in the number of jobs, difficulties recruiting skilled workers, co-operation between the mine and local community, infrastructure or condition of the public roads, and issues related to multiculturalism.

When asked about future visions[38] from the municipal viewpoint, the positive themes mentioned by the interviewees included themes related to jobs, market development and co-operation with the municipality and local residents (*Sami people*). As negative themes, the interviewees mentioned financial risks related to the environment and market developments, the mine ending up in a competitive situation/(*conflict*) with other interests and utility values, risk of avalanche due to climate change, and potential recruitment difficulties.

Regarding themes that were seen as positive for the local community (*municipal economy, residents' level of education, age structure of the population, migration*), the interviewees mentioned the municipality's economy and its increasingly diverse foundations, the mines' employment effect for people of different ages and with various educational backgrounds, the investments (*including the public and private sector*) brought by the mines, and the development of educational opportunities for the mining sector. In negative things, the interviewees mentioned insufficient welfare services, uncontrolled community development, recruiting the necessary labour for mining work (*women, movers, young people*), the local community's ageing population structure, taxes paid by the companies to the municipality and state, and issues related to the services used by the companies.

In development ideas[39], the interviewees mentioned co-operation and dialogue between the local community and the company, taking reindeer breeders into consideration and organising their remunerations (*annual remuneration in place of a one-time payment*), revising the companies' recruitment strategies, issues related to the sufficiency of ore reserves, and employment opportunities in different countries in the Barents Region, such as Russian workers' opportunities to seek employment in the mines in other countries.

Table 69. summarises questionnaire data analysis from the Kevitsa, Sibelco, Stjernøya, Vostochni and Boliden Aitik mines. Figure 42. summarises questionnaire data analysis from the Kevitsa.

38 The information for Russia is missing.
39 The information for Norway is missing.

Table 69. *Summative questionnaire data analyse from the Kevitsa, Sjernoya Sibelco, Vostochny and Boliden Aitik.*

RESEARCH TOPICS o Variables have been presented only by **sex**	**COUNTRY AND MINE** **The direction of the Change:** positive change & negative change							
	Finland, Sodankylä, *Kevitsa*		**Norway,** Alta, *Stjernoy Sibelco*		**Russia,** Kirovsk, *Vostochni*		**Sweden**, Boliden, *Aitik Boliden*	
Common Living arrangements by all workers/100 %	Family + children: 34 %		Family + children: 37 %		Family + children: 53 %		Family + children: 45 %/	
Moving, *mine place and outside of the mine place*	Mine place N 104 (53 %) Outside of the mine place n 92 (47 %)		Mine place N 51 (52 %) Outside of the mine place n 47 (48 %)		Mine place n 504 (58 %) Outside of the mine place n 365 (42 %)		Mine place N 122 (80 %) Outside of the mine place n 30 (20 %)	
Years of the school, *common amount*	1–8 years: N 103 (55 %)		9–13 years: N 67 (68 %)		9–13 years: N 635 (73 %)		9–13 years: N 127 (84 %)	
Continue work, *future plan*	32 % considered to 6 % have applied for another job		12 % considered to 30 % have applied for another job		6 % considered to 1 % have applied for another job		3 % considered to 6 % have applied for another job	
Life dimensions: (17)	**Positive change**	**Negative change**	**Positive change**	**Negative change**	**Positive change**	**Negative change**	**Positive change**	**Negative change**
My own paid work	58 (29 %)	26 (13 %)	63 (65 %)	1 (1 %)	Not counted		91 (63 %)	4 (3 %)
My income level	67 (34 %)	61 (31 %)	57 (58 %)	5 (5 %)			119 (79 %)	11 (7 %)
Spouse's paid work	15 (8 %)	13 (7 %)	20 (22 %)	5 (5 %)			41 (30 %)	6 (4 %)
Spouse's income level	19 (10 %)	15 (8 %)	22 (23 %)	6 (6 %)			54 (38 %)	6 (4 %)
Social relationships	24 (12 %)	41 (21 %)	29 (31 %)	6 (6 %)			68 (46 %)	9 (6 %)
Spouse's social relationships	7 (4 %)	22 (12 %)	16 (17 %)	1 (1 %)			41 (28 %)	2 (1 %)
Children(s) social relationships	7 (4 %)	12 (8 %)	25 (27 %)	1 (1 %)			39 (28 %)	3 (2 %)
Domesticity life	23 (12 %)	45 (23 %)	24 (26 %)	6 (6 %)			50 (34 %)	7 (5 %)
My Own health	14 (7 %)	30 (15 %)	11 (12 %)	12 (13 %)			33 (22 %)	25 (17 %)
Spouse's health	1 (1 %)	8 (4 %)	9 (9 %)	7 (7 %)			20 (14 %)	14 (10 %)
Children(s) health	1 (1 %)	4 (2 %)	11 (12 %)	2 (2 %)			20 (15 %)	2 (1 %)
Physical training	27 (14 %)	52 (26 %)	19 (20 %)	12 (12 %)			52 (34 %)	19 (13 %)
Physical activity	25 (13 %)	51 (26 %)	25 (26 %)	8 (8 %)			49 (32 %)	10 (7 %)
Leisure time activities	23 (12 %)	80 (41 %)	23 (24 %)	14 (14 %)			54 (36 %)	11 (7 %)
Spouse's leisure time activities	8 (4 %)	30 (16 %)	13 (12 %)	4 (4 %)			36 (25 %)	4 (3 %)
Children(s) leisure time activities	7 (4 %)	6 (11 %)	13 (14 %)	1 (1 %)			23 (18 %)	5 (4 %)
Cultural activities	8 (4 %)	49 (25 %)	7 (8 %)	14 (15 %)			11 (7 %)	8 (5 %)

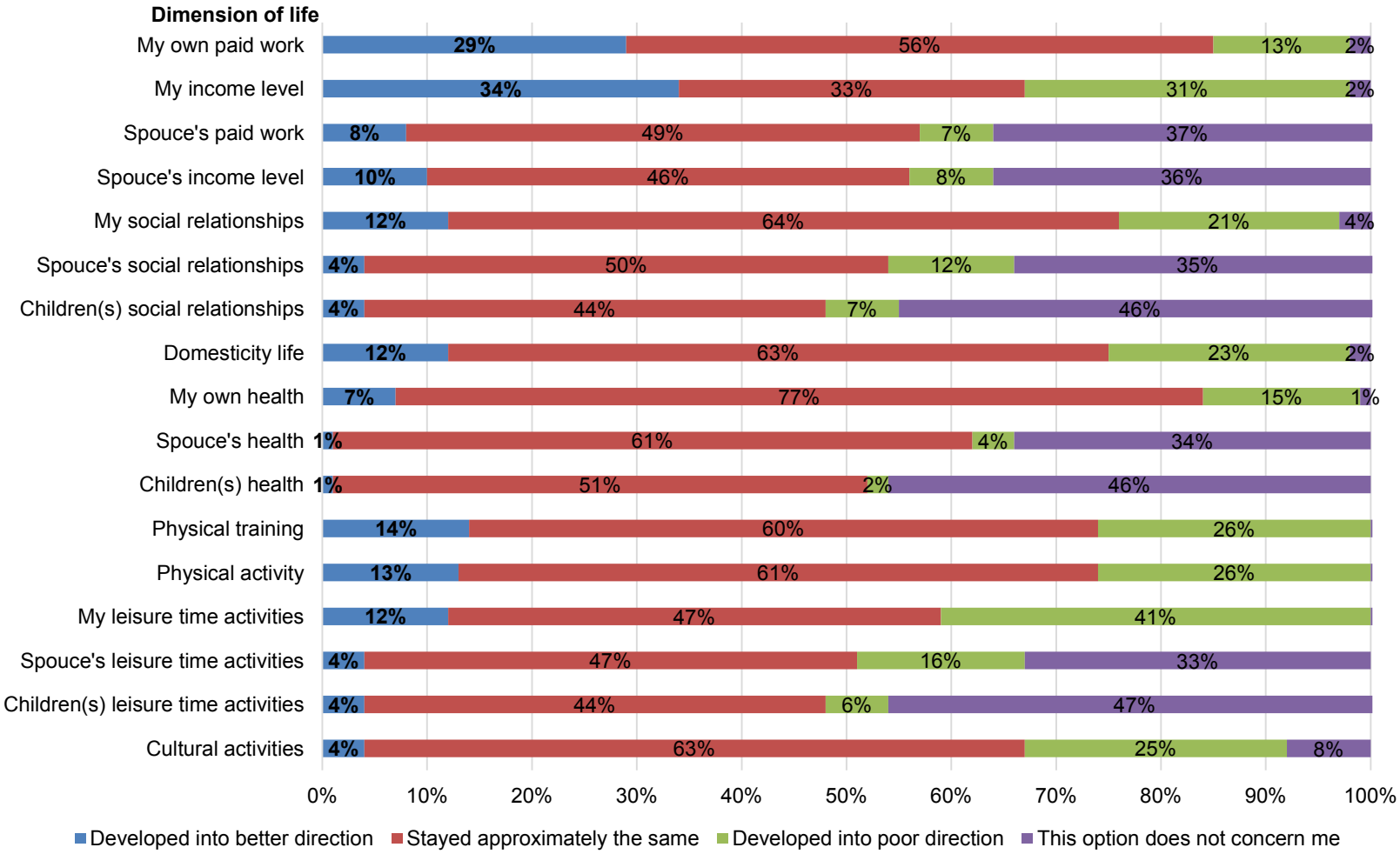


Figure 42. Evaluation of different life dimensions after starting at the current job in Kevitsa mine.[40]

[40] **Source:** Mänttäri et al. 2014. Summary of the results of questionnaire obtained from the MineHealth project in Kevitsa mine spring 2013.

In conclusion, one thing that emerges in the international data as an example regarding education is that, analysed by sex, most workers at the Kevitsa mine had 1–8 years of school, 103 (55%), whereas the corresponding figure was 4 (3%) in Aitik Boliden, 2 (2%) in Sibelco Stjernøy and 7 (1%) in Kirovsk Vostochny. The share of workers who had 9–13 years of school was 38 (20%) in Sodankylä Kevitsa, 127 (84%) in Aitik Boliden, 67 (68%) in Sibelco Stjernøy and 635 (73%) in Kirovsk Vostochny. Those who had 14–18 years of school numbered 36 (19%) in Sodankylä Kevitsa, 19 (13%) in Aitik Boliden, 26 (27%) in Sibelco Stjernøy and 205 (24%) in Kirovsk Vostochny.As for workers who has 19–23 years of school, there were 11 (6%) in Sodankylä Kevitsa, 1 (1%) in Aitik Boliden, 3 (3%) in Sibelco Stjernøy and 20 (2%) in Kirovsk Vostochny.

Examining the dimensions of life after starting work at the mine based on the mine survey, it can be stated that the changes were mostly positive. There were some differences between countries. The workers at the Sodankylä Kevitsa mine experienced the most negative changes for individual variable; only four out of 17 variables of dimensions of life were felt to be more positive after starting work at the mine (see Table 69, variables 5–17.) In the Swedish data, this was not the case for any variable. In the Norwegian material, negative changes were felt regarding two variables (see Table 69., variables 9 and 17).

Summa summarum:

Mining projects in the Barents Region should carry out multi-phase evaluations of the environmental[41] and social impact[42] of the mine's operations throughout their life cycle, taking into consideration issues related to the social licence[43] to operate before the mine's opening, during its operation (*mid-way through its estimated operating time, for example*) and after the end of its operations (see also Kunnari et al. 2008, 69–72). For this type of analysis, the sustainable society index could be adopted as the contextual frame of reference, and triangulation interdisciplinary multi-faceted evaluation configuration could be selected as the methodological research design (see Figures 43.–44.).

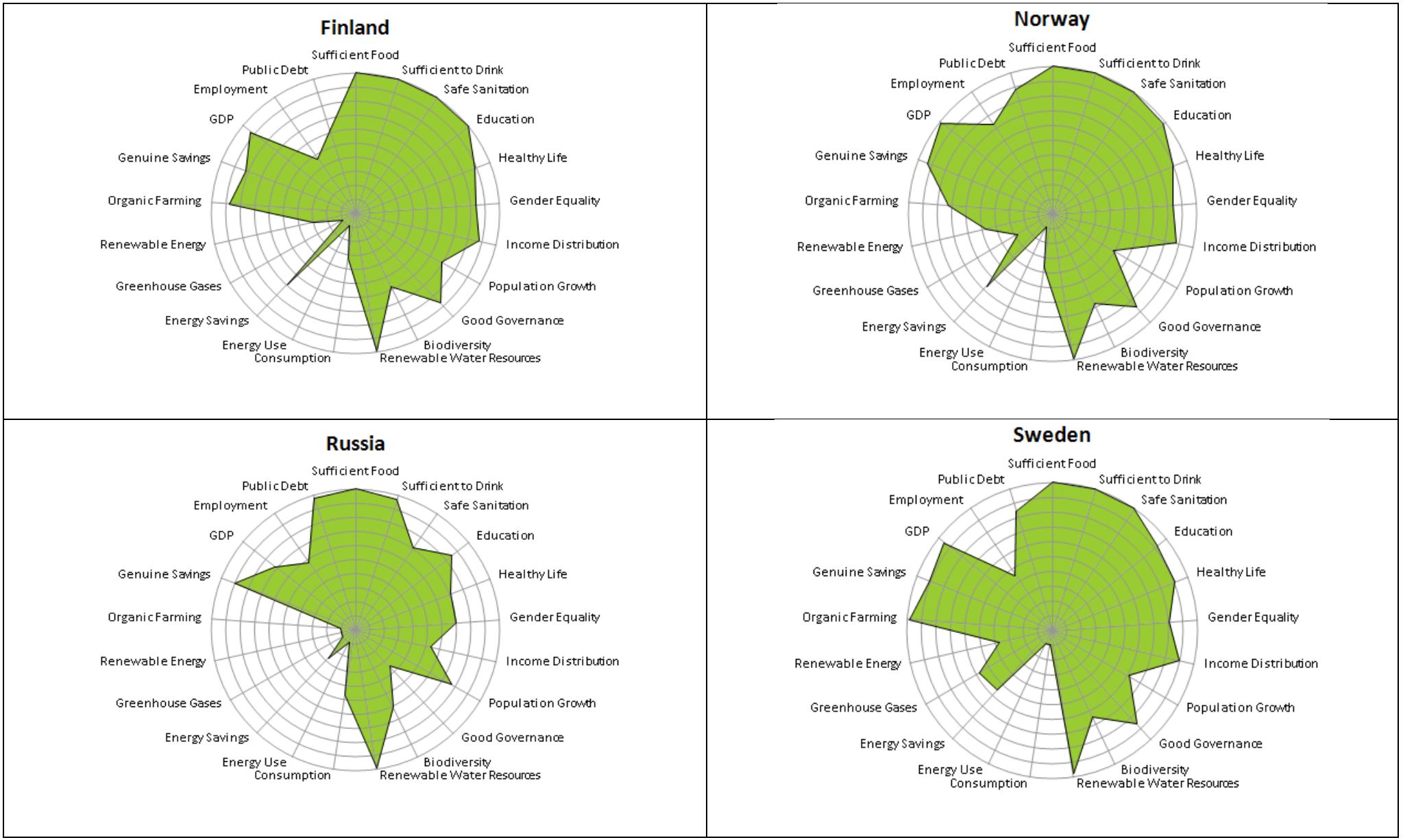
Human Wellbeing	Environmental Wellbeing	Economic Wellbeing

Figure 43. Sustainable Society Index (SSI). [44]

The SSI integrates Human Wellbeing and Environmental Wellbeing. That is the proper way to look at development to a sustainable world. Human and Environmental Wellbeing are the goals we are aiming at. Human Wellbeing without Environmental Wellbeing is a dead end, Environmental Wellbeing without Human Wellbeing makes no sense, at least not for human beings. Economic Wellbeing is not a goal in itself. It is integrated as a condition to achieve Human and Environmental Wellbeing. It can be considered as a safeguard to wellbeing. The SSI is based on the well-known Brundtland definition, to which we added a third sentence to make explicitly clear that both Human Wellbeing and Environmental Wellbeing are included. A sustainable society is a society: that meets the needs of the present generation, that does not compromise the ability of future generations to meet their own needs and in which each human being has the opportunity to develop itself in freedom, within a well-balanced society and in harmony with its surroundings. (SSI n.d.; see also Matthies et al. 2001; Dominelli 2010; Suopajärvi 2013.)

41 Guidebook for Evaluating … 2010; Environmental Impact Assessment (EIA) … 2011.
42 Joyce & & MacFarlane 2001; Breaking New Ground … 2002; Franks 2012.
43 What is the Social … 2012; Jartti et al. 2014, 202–209; Moffat & Zhang 2014.
44 **Source:** The Sustainable Society Foundation, SSF (http://www.ssfindex.com/); SSI (http://www.ssfindex.com/ssi/; see also Sustainable Society Index 2014).

Figure 44. Sustainable Society Index 2014 in the research countries of the MineHealth project.



The Sustainable Society Index 2014 varies each country's standard of living and welfare system according to the policies practices by the country.

The evaluation process of the mine's direct and indirect socio-economic effects in different stages of its life cycle would involve leading members of the local communities (*including authorities and political decision-makers*), representatives of the mine company and the original population of the local communities. This multi-stage assessment process would promote the creation of a constructive dialogue during the planning and kick-off stage of mining operations and maintain it throughout the operations' life cycle. With these actions, in the best-case scenario, the opening of a mine would not constitute a competitive factor for the local community's traditional way of life and traditional trades, but rather the mining operations would create alternative employment opportunities and reflect positively in the direction of the (mine) municipality's migration trend[45] and general life opportunities in the region in accordance with the principles of sustainable development[46].

45 Canadian Mining Industry…2011.
46 Report on measuring sustainable…2012; Kokko et al. 2013.

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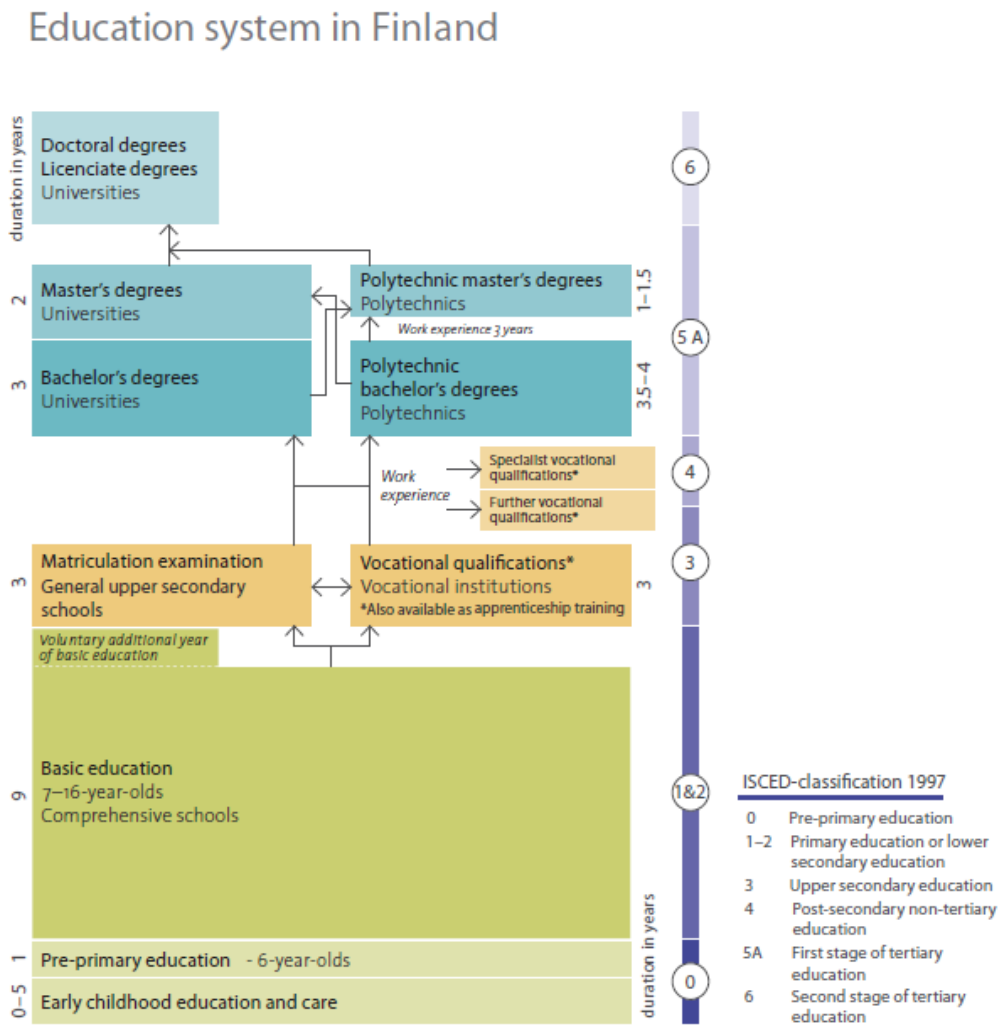
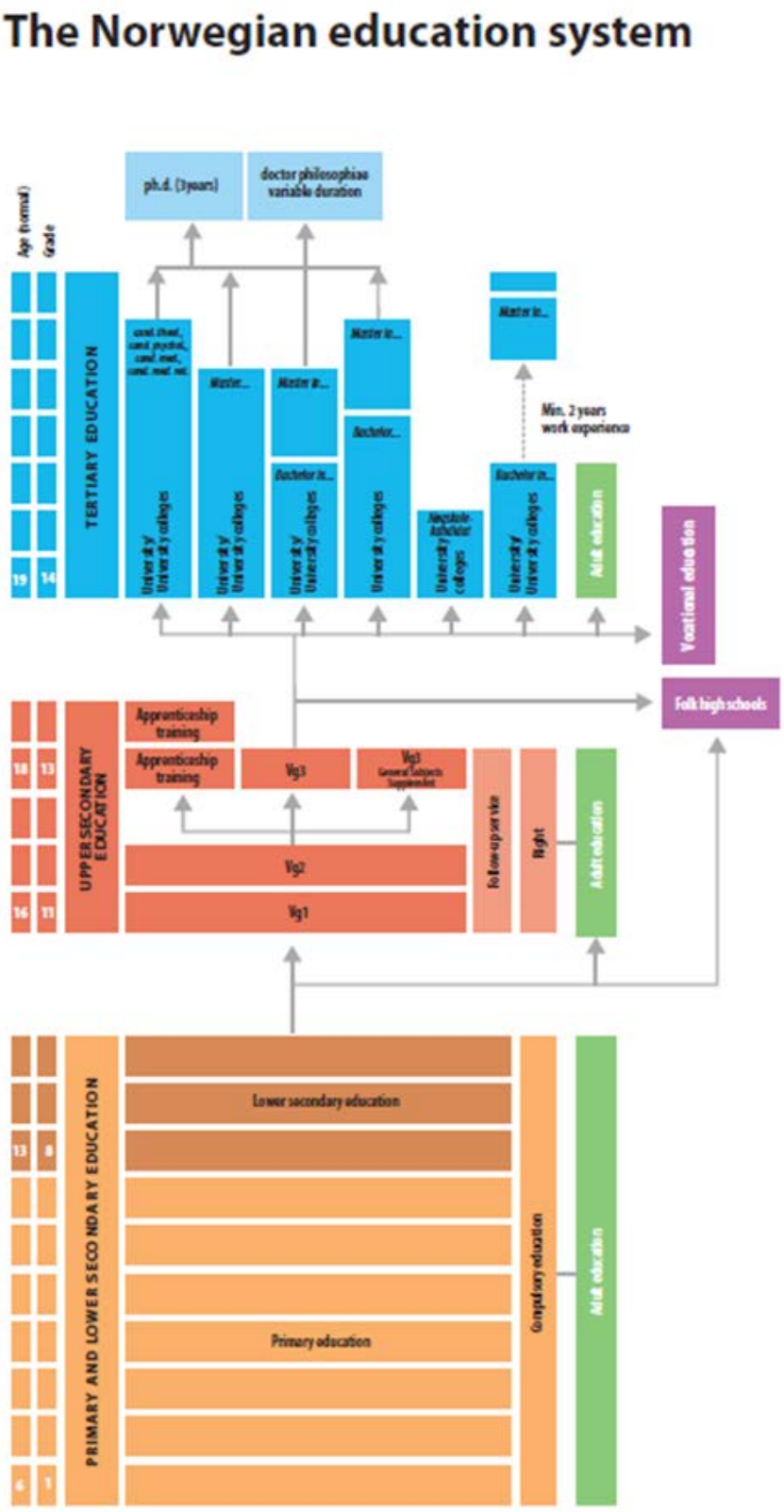
Appendix



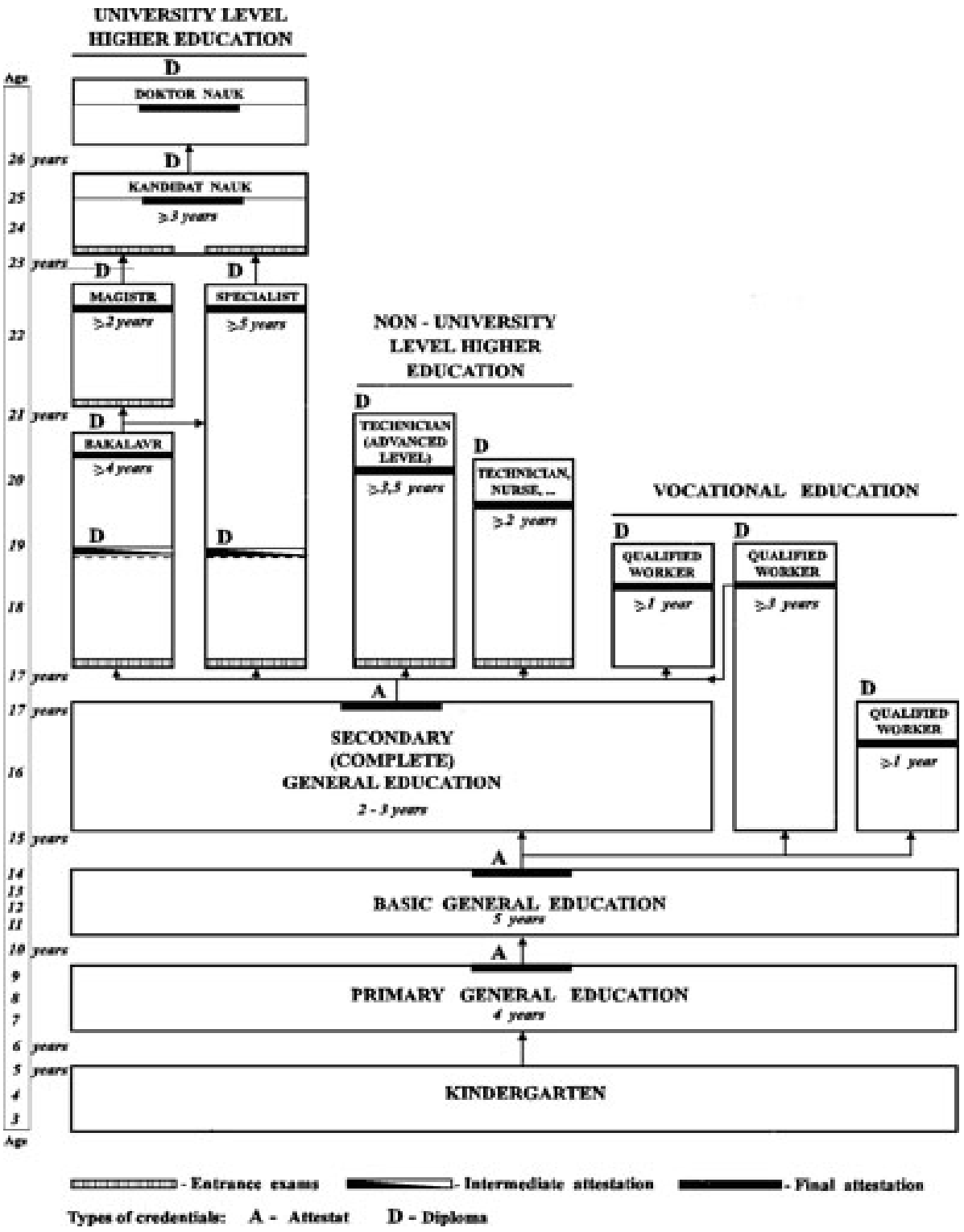
Appendix figure 1. Education system in Finland.[47]

[47] **Source**: Ministry od Education and Culture. <http://www.okm.fi/export/sites/default/OPM/Koulutus/koulutusjaerjestelmae/liitteet/finnish_education.pdf>



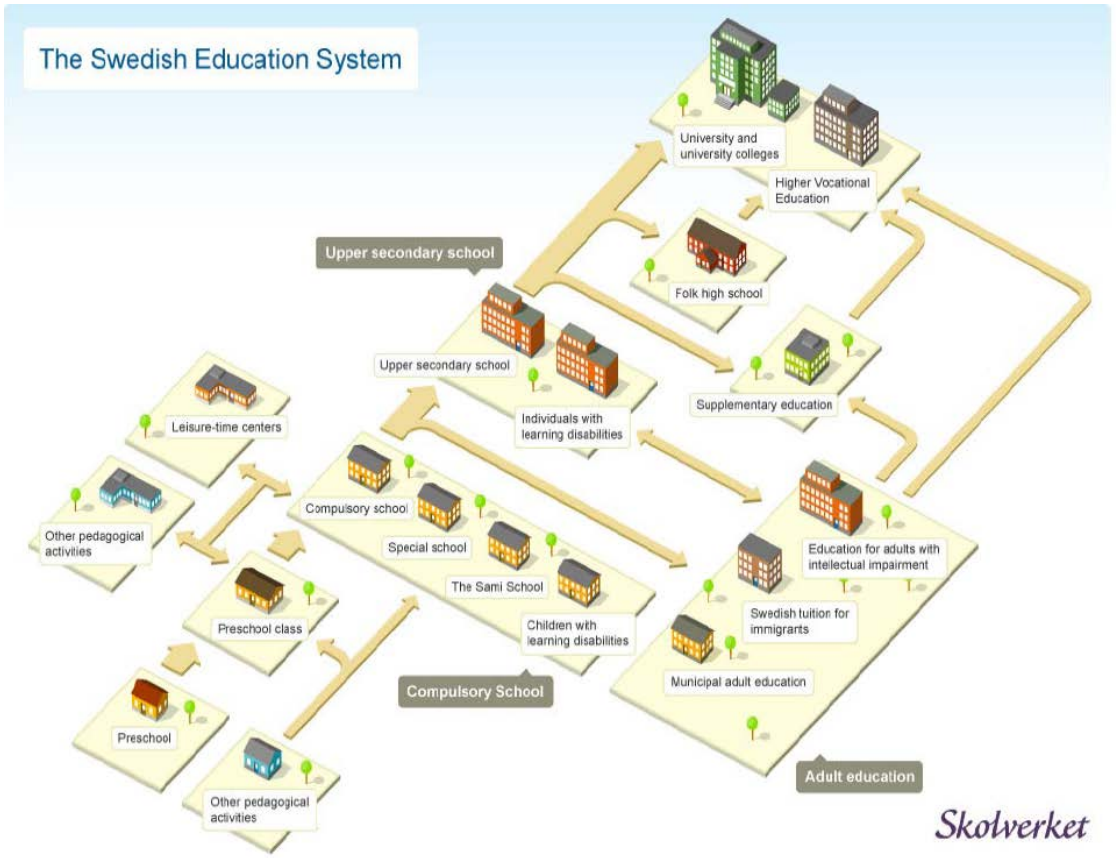
Appendix figure 2. Education system in Norway. [48]

[48] **Source**: The Norwegian education system. Education – from Kindergarten to Adult Education. Norwegian Ministry of Education and Research. <https://www.european-agency.org/sites/default/files/Gen_Education_in_Norway.pdf>



Appendix figure 3. Education system in Russia. [49]

[49] **Source**: Scheme of the Education System of the Russian Federation. <http://en.russia.edu.ru/edu/description/sysobr/902/>



Appendix figure 4. Education system in Sweden. [50]

[50] **Source**: The Swedish Education System. <http://www.skolverket.se/polopoly_fs/1.179241!/Menu/article/attachment/SVUS-Original-2012-EN.pdf>

Appendix table 1. *Data content.*

Source: SOTKAnet website www.sotkanet.fi [Referred 12.12.2013].	
1.	**(id: 3865)** Mining and quarrying, Electricity, gas, steam and air conditioning supply, Water supply; sewerage, waste management and remediation activities, % of total active labour force
2.	**(id: 3860)** Professional, scientific and technical activities, Administrative and support service activities, % of total active labour force
3.	**(id: 3859)** Agriculture, forestry and fishing, % of total active labour force
4.	**(id: 3864)** Construction, % of total active labour force
5.	**(id: 3861)** Public administration and defence; compulsory social security, Education, Human health and social work activities, % of total active labour force
6.	**(id: 3858)** Real estate activities, % of total active labour force
7.	**(id: 3855)** Wholesale and retail trade; Transportation and storage; Accommodation and food service activities, % of total active labour force
8.	**(id: 3857)** Financial and insurance activities, % of total active labour force
9.	**(id: 3862)** Manufacturing, % of total active labour force
10.	**(id: 3856)** Information and communication, % of total active labour force
11.	**(id: 3863)** Other service activities, % of total active labour force

Appendix table 2. *The definitions of the different socioeconomic variables are listed below through the explanations given by Statistics Norway and Statistics Sweden.*

GINI COEFFICIENT

The Gini coefficient is a measure of income dispersion. It is a number between 0 and 1 that measure the degree of inequality in the distribution of income, where 0 corresponds with total equality and 1 corresponds with total inequality. I.e., the lower Gini coefficient the more equal society.

- **Norway:** For Norway, there is no Gini coefficient data available before 2009, and households with students are not included. Figures have been corrected.
- **Sweden:** In Sweden, data is available between 1990 and 2012, but the definition of disposa-ble income changed between the years 2004 and 2005 (one of the factors used when calcu-lating the coefficient). However, it still can counts as an indicator of the national relationship between Sweden as a country, the county of Norrbotten and Gällivare municipality.

INDUSTRIAL STRUCTURE, % EMPLOYED IN MINING AND QUARRYING

- **Norway**: For Norway, mining and quarrying restricted to the following SIC-codes (SIC2007): 05 - mining of coal and lignite, 07 - mining of metal ores, 08 - other mining and quarrying. Da-ta for the 4th quarter of 2013 will be published during June 2014. The data is based in em-ployed persons per 4th quarter every year.
- **Sweden**: In Sweden, the data is based on work places located in the specified regions. It includes the number of employed people in the work places divided by the total number of people employed in the specified region. In Sweden, the definition of SNI codes changed be-tween 2001 and 2002 and between 2008 and 2009.

POPULATION STRUCTURE

- **Norway**: Data consist of the total population the first of January 2014. Age groups slightly different due to school age and retirement age.
- **Sweden:** Data indicates the age group in relation to the total population.

UNEMPLOYMENT

- **Norway:** By distribution of registered unemployed persons by municipality level, we use municipality of residents from The Central Population Register. The figures of unemployed persons from NAV also include persons not registered resident in Norway. These persons have no registered municipality of residence in Norway, and will not be distributed by munici-pality level in this table. The figures will vary somewhat throughout the year, and in November 2009 about 1600 unemployed persons, were not distributed by municipality level. The Labour force is the sum of employed and unemployed by place of residence. The data con-sist of unemployed people as registered at the employment office (NAV).
- **Sweden:** For Sweden, data indicate uunemployed plus people in activity support in relation to the total population.

EMPLOYMENT

- **Norway:** Employed persons per 4th quarter (per cent), by region of residence, contents and time. Employed persons as per cent of population 16–74 years.
- **Sweden:** The variable is defined as persons registered in Gällivare municipality, Norrbottens county, and Sweden the 31 of December current year in the ages 16–74 years, and the num-ber employed registered in the specified region in relation to the total number registered in the region.

INTER MUNICIPAL NET MIGRATION PR 1000 HABITANTS

- **Norway:** The variable is defined as moves within the counties. On county level, movement within municipalities are not included. On national level, the variable is defined as all movements between municipalities.
- **Sweden:** Data express the move excess per 1000 of the mean population during the years 1990–2012. For Sweden, the immigration surplus is used. The domestic move excess (in relation to other counties) plus the net migration is used for the county of Norrbotten. For Gällivare municipality, the domestic move excess (against other municipalities) plus the net migration is used.

EDUCATION LEVEL OF POPULATION

- **Norway:** For Norway, the inclusion for upper secondary education is intermediate level courses based on completed upper secondary level, but which are not accredited as tertiary education. Tertiary education short includes higher education up to 4 years in duration. Ter-tiary education long comprises higher education more than 4 years in duration. People with unknown or no completed education are not included.
- **Sweden:** For secondary school, the data express the proportion of people with secondary education as the highest completed education, 16 years and older, divided by sex.

Appendix table 3. *Percent of the population working in the mining and quarrying industry between the years 2000 to 2012 in Gällivare, Norrbotten and Sweden based on the definitions of SNI-codes 1992, 2002 and 2007.*

	Percent mining and quarrying 2000–2012												
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Gällivare	19	20	20	21	23	25	23	22	23	23	25	25	28
Norrbotten	3	3	3	3	4	3	3	3	3	3	3	3	4
Sweden	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2

Appendix table 4. *The Gini coefficient for the population of Sweden, the county of Norrbotten and Gällivare municipality from 1990 to 2012, where the blue area indicates the change in the definition of disposable in-come between the years 2004 and 2006.*

Region	Gini coefficient											
	1990	**1992**	**1994**	**1996**	**1998**	**2000**	**2002**	**2004**	**2006**	**2008**	**2010**	**2012**
Gällivare	0,212	0,22	0,22	0,218	0,22	0,234	0,219	0,219	0,244	0,264	0,273	0,279
Norrbotten	0,224	0,232	0,235	0,231	0,233	0,253	0,238	0,237	0,267	0,277	0,291	0,288
Sweden	0,249	0,265	0,277	0,271	0,282	0,313	0,288	0,289	0,329	0,337	0,348	0,346

Appendix table 5. *Population of Sweden, 0–6 years, split by time, region, and gender, in percent of the total population in Sweden.*

	Year								
Region	**1990**	**1994**	**1998**	**2002**	**2006**	**2009**	**2010**	**2011**	**2012**
Gällivare, female	9,3	9,7	7,7	6,1	5,8	6,2	6,1	6,1	6,2
Gällivare, male	8,8	9,5	7,4	5,7	5,8	6,0	5,9	5,9	6,2
Gällivare, combined	9,1	9,6	7,6	5,9	5,8	6,1	6,0	6,0	6,2
Norrbotten, female	9,3	9,7	7,7	6,1	5,8	6,2	6,1	6,1	6,2
Norrbotten, male	9,0	9,4	7,9	6,9	6,9	7,0	7,0	7,1	7,1
Norrbotten, combined	8,9	9,3	7,7	6,7	6,8	6,9	6,9	6,9	7,0
Sweden, female	8,6	9,2	8,0	7,0	7,4	7,9	8,0	8,0	8,1
Sweden, male	9,3	9,9	8,6	7,6	8,0	8,4	8,5	8,5	8,6
Sweden, combined	8,9	9,6	8,3	7,3	7,7	8,1	8,2	8,3	8,3

Appendix table 6. *Population of Sweden, 7–15 years, split by time, region, and gender, in percent of the total population in Sweden.*

	Year								
Region	**1990**	**1994**	**1998**	**2002**	**2006**	**2009**	**2010**	**2011**	**2012**
Gällivare, female	9,9	10,4	11,9	12,5	10,7	9,1	8,7	8,4	8,2
Gällivare, male	10,2	10,2	11,3	12,0	10,1	8,5	8,2	8,2	8,1
Gällivare, combined	10,0	10,3	11,6	12,2	10,4	8,8	8,4	8,3	8,1
Norrbotten, female	10,6	10,6	11,5	11,8	10,3	9,2	9,0	9,0	9,0
Norrbotten, male	11,0	10,8	11,8	12,1	10,6	9,6	9,3	9,3	9,2
Norrbotten, combined	10,8	10,7	11,7	12,0	10,5	9,4	9,2	9,1	9,1
Sweden, female	10,0	10,1	11,0	11,6	10,4	9,4	9,3	9,2	9,3
Sweden, male	10,7	10,9	11,9	12,4	11,1	10,0	9,9	9,8	9,8
Sweden, combined	10,4	10,5	11,5	12,0	10,7	9,7	9,6	9,5	9,6

Appendix table 7. *Population of Sweden, 16–24 years, split by time, region, and gender, in percent of the total population in Sweden.*

	Year								
Region	**1990**	**1994**	**1998**	**2002**	**2006**	**2009**	**2010**	**2011**	**2012**
Gällivare, female	9,9	9,8	8,5	8,2	10,2	11,0	11,1	11,4	11,6
Gällivare, male	10,2	10,3	9,4	9,2	10,8	11,8	12,1	11,6	11,3
Gällivare, combined	10,0	10,0	9,0	8,7	10,5	11,4	11,6	11,5	11,5
Norrbotten, female	10,6	11,0	9,9	9,6	10,6	11,4	11,4	11,3	11,1
Norrbotten, male	11,0	12,1	11,1	11,1	12,0	12,7	12,8	12,8	12,7
Norrbotten, combined	10,8	11,6	10,5	10,4	11,3	12,1	12,1	12,1	12,0
Sweden, female	10,0	10,9	10,2	10,1	11,0	11,7	11,8	11,7	11,5
Sweden, male	10,7	11,7	11,0	10,8	11,7	12,4	12,5	12,4	12,2
Sweden, combined	10,4	11,3	10,6	10,5	11,3	12,1	12,1	12,0	11,9

Appendix table 8. *Population of Sweden, 25–64 years, split by time, region, and gender, in percent of the total population in Sweden.*

	Year								
Region	**1990**	**1994**	**1998**	**2002**	**2006**	**2009**	**2010**	**2011**	**2012**
Gällivare, female	53,3	53,2	52,8	51,7	50,1	49,3	49,1	48,8	48,8
Gällivare, male	55,9	56,0	55,9	54,9	53,8	53,0	52,8	52,6	52,2
Gällivare, combined	54,6	54,6	54,4	53,4	52,0	51,2	51,1	50,8	50,6
Norrbotten, female	50,7	50,8	51,5	51,4	50,8	50,1	49,7	49,3	49,0
Norrbotten, male	52,9	53,3	53,9	53,7	53,4	52,2	51,8	51,2	50,9
Norrbotten, combined	51,8	52,1	52,7	52,6	52,1	51,1	50,8	50,3	50,0
Sweden, female	49,4	49,9	50,9	51,8	51,8	51,0	50,7	50,5	50,3
Sweden, male	51,9	52,6	53,7	54,4	54,0	53,0	52,6	52,2	51,9
Sweden, combined	50,7	51,2	52,3	53,1	52,9	52,0	51,6	51,4	51,1

Appendix table 9. *Population of Sweden, 65–75 years, split by time, region, and gender, in percent of the total population in Sweden.*

	Year								
Region	**1990**	**1994**	**1998**	**2002**	**2006**	**2009**	**2010**	**2011**	**2012**
Gällivare, female	8,4	9,1	9,9	11,6	12,5	12,7	13,0	13,3	12,8
Gällivare, male	8,2	8,7	9,9	11,0	11,3	11,9	12,0	12,2	12,6
Gällivare, combined	8,3	8,9	9,9	11,3	11,9	12,3	12,5	12,7	12,7
Norrbotten, female	9,5	9,8	10,0	10,4	10,7	11,4	11,7	12,1	12,4
Norrbotten, male	8,6	8,7	9,1	9,5	9,8	10,8	11,2	11,5	11,9
Norrbotten, combined	9,0	9,2	9,5	9,9	10,2	11,1	11,4	11,8	12,2
Sweden, female	10,4	9,9	9,1	8,7	8,8	9,7	10,1	10,5	10,8
Sweden, male	9,1	8,6	8,0	7,9	8,3	9,4	9,8	10,2	10,5
Sweden, combined	9,7	9,3	8,6	8,3	8,6	9,6	10,0	10,3	10,7

Appendix table 10. *Unemployed persons (per cent), split by region and time.*

	Year													
Region	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Gällivare	6,8	5,5	4,9	4,8	4,7	4,7	4,2	3,9	3,2	4,1	3,3	3,4	3,6	2,8
Norrbotten	6,5	5,4	4,9	5,4	5,5	5,3	4,6	4,0	3,4	4,6	4,1	3,6	3,4	3,2
Sweden	4,1	3,4	3,3	3,9	4,2	4,2	3,6	2,9	2,5	4,0	3,9	3,4	3,5	3,6

Appendix table 11. *Employed persons, in % of the work force.*

	Year													
Region	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Gällivare	57,9	58,5	59,0	60,0	59,8	61,7	61,8	62,9	64,1	65,3	63,4	65,7	68,1	69,1
Norrbotten	57,3	58,2	58,6	59,6	59,0	60,6	60,5	62,0	63,3	63,1	60,9	62,4	64,6	65,8
Sweden	62,4	63,9	64,2	64,5	63,3	64,0	63,7	64,6	65,5	64,9	62,3	63,4	64,6	65,1

Appendix table 12. *Inter municipal net migration pr 1000 habitants.*

	Year											
Region	**1990**	**1992**	**1994**	**1996**	**1998**	**2000**	**2002**	**2004**	**2006**	**2008**	**2010**	**2012**
Gällivare	-9,56	-3,98	-11,15	-13,17	-16,90	-21,56	-7,42	1,35	-3,15	-5,16	-1,89	2,78
Norrbotten	-0,35	1,54	-0,29	-5,83	-5,52	-5,81	-2,20	0,29	1,66	-1,74	-0,57	2,43
Sweden	4,07	2,26	5,77	0,64	1,23	2,77	3,48	2,83	5,60	6,06	5,33	5,39

Appendix table 13. *Persons 16 years and over in Gällivare municipality with upper secondary education, per cent.*

	Year																						
	1990	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Total	46,5	46,7	47,4	47,3	47,8	47,9	48,1	48,2	48,2	48,2	49,2	50,1	50,2	50	49,9	50,2	50,3	50,2	54	54,9	55,3	56,3	56,4
Men	47,4	47,7	48,1	48,2	49	49,4	49,6	49,5	49,7	49,8	51,1	52,2	52,6	52,7	52,6	53	53,4	53,6	56,8	57,6	58,2	59,4	59,7
Women	45,5	45,6	46,5	46,3	46,5	46,4	46,5	46,7	46,5	46,4	47,2	47,9	47,5	47,2	47,1	47,2	47	46,5	50,9	51,9	52,2	52,9	52,9

Appendix table 14. *Persons 16 years and over in the county of Norrbotten with upper secondary education, per cent.*

	Year																						
	1990	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Total	43,9	44,3	45,3	45,7	46	45,6	45,7	45,4	45,2	45,1	46,1	46,2	46,1	45,9	45,8	45,8	45,7	45,8	49,4	49,7	49,9	50,3	50,5
Men	45,3	45,7	46,3	46,8	47,3	47	47,3	47,1	47,1	47	48,2	48,5	48,3	48,3	48,5	48,7	48,7	49	52	52,5	52,8	53,3	53,6
Women	42,5	42,9	44,2	44,6	44,7	44,2	44	43,7	43,3	43,1	44	43,9	43,8	43,3	43	42,9	42,7	42,5	46,6	46,9	46,9	47,3	47,4

Appendix table 15. *Persons 16 years and over in Sweden with upper secondary educa-tion, per cent.*

	Year																						
	1990	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Total	43,9	44,3	45,3	45,7	46	45,6	45,7	45,4	45,2	45,1	46,1	46,2	46,1	45,9	45,8	45,8	45,7	45,8	49,4	49,7	49,9	50,3	50,5
Men	45,3	45,7	46,3	46,8	47,3	47	47,3	47,1	47,1	47	48,2	48,5	48,3	48,3	48,5	48,7	48,7	49	52	52,5	52,8	53,3	53,6
Women	42,5	42,9	44,2	44,6	44,7	44,2	44	43,7	43,3	43,1	44	43,9	43,8	43,3	43	42,9	42,7	42,5	46,6	46,9	46,9	47,3	47,4

Appendix table 16. *Persons 16 years and over in Gällivare municipality with tertiary education, per cent.*

	Year																						
	1990	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Total	43,9	44,3	45,3	45,7	46	45,6	45,7	45,4	45,2	45,1	46,1	46,2	46,1	45,9	45,8	45,8	45,7	45,8	49,4	49,7	49,9	50,3	50,5
Men	45,3	45,7	46,3	46,8	47,3	47	47,3	47,1	47,1	47	48,2	48,5	48,3	48,3	48,5	48,7	48,7	49	52	52,5	52,8	53,3	53,6
Women	42,5	42,9	44,2	44,6	44,7	44,2	44	43,7	43,3	43,1	44	43,9	43,8	43,3	43	42,9	42,7	42,5	46,6	46,9	46,9	47,3	47,4

Appendix table 17. *Persons 16 years and over in the county of Norrbotten with tertiary education, per cent.*

	Year																						
	1990	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Total	43,9	44,3	45,3	45,7	46	45,6	45,7	45,4	45,2	45,1	46,1	46,2	46,1	45,9	45,8	45,8	45,7	45,8	49,4	49,7	49,9	50,3	50,5
Men	45,3	45,7	46,3	46,8	47,3	47	47,3	47,1	47,1	47	48,2	48,5	48,3	48,3	48,5	48,7	48,7	49	52	52,5	52,8	53,3	53,6
Women	42,5	42,9	44,2	44,6	44,7	44,2	44	43,7	43,3	43,1	44	43,9	43,8	43,3	43	42,9	42,7	42,5	46,6	46,9	46,9	47,3	47,4

Appendix table 18. *Persons 16 years and over in Sweden with tertiary education, per cent.*

	Year																						
	1990	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Total	43,9	44,3	45,3	45,7	46	45,6	45,7	45,4	45,2	45,1	46,1	46,2	46,1	45,9	45,8	45,8	45,7	45,8	49,4	49,7	49,9	50,3	50,5
Men	45,3	45,7	46,3	46,8	47,3	47	47,3	47,1	47,1	47	48,2	48,5	48,3	48,3	48,5	48,7	48,7	49	52	52,5	52,8	53,3	53,6
Women	42,5	42,9	44,2	44,6	44,7	44,2	44	43,7	43,3	43,1	44	43,9	43,8	43,3	43	42,9	42,7	42,5	46,6	46,9	46,9	47,3	47,4

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Socio-economic study gives possibilities to compare different mines, regions and countries and show the possibilities to implement a good socio-economic practice in the local community. The Socio-Economic Part of The Mine Research Work Package 4. is based as a Triangulative and Case Study Research Design. Reserarch team has collecting statistical data key economic and social indicators, has interviewed key informants and has done questionnaire for the Miners ac-cording to same data collecting plan. As the cases are the Mines in local municipalities in Finland Sodankylä, Kevitsa Mining Oy, in Norway Alta, Stjernoy Sibelco, in Russia Kirovsk, Phosagro-Apatit and in Sweden Boliden, Aitik Boliden.

This is the final report from the Work package 4's socio-economic study. We hope that this final report is useful review for the administrator, politician and citizen from the Minig Industry's so-cio-economical impacts in local communities in Barent's region.

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