

## Module 9: Northern Social Infrastructure

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### Overview

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This module focuses on social infrastructure. Firstly, it is important to understand how production in the North is provided by manpower despite the extreme conditions for living. Secondly, the module describes how the northern states provide a social environment for those who have decided to connect their lives with the North. Finally, the module discusses how the state, the local community and businesses interact with each other to let northerners obtain the necessary secondary and professional education, jobs, qualified medical care, and other social services.

### Learning Objectives

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Upon completion of this module, you will be able to:

1. Describe why social infrastructure development is important for human development in the circumpolar North.
2. Assess the government's role in affecting standards of living in the circumpolar North in the context of social infrastructure development
3. Summarize how to achieve the economic efficiency of social infrastructure in the circumpolar North.
4. Illustrate the economic importance of benefit-sharing agreements, partnership and self-government for human development in the circumpolar North.

### Required Readings (including web sites)

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Duhaime G., and Caron, A. (2008) *Economic and social conditions of Arctic regions*. In Glomsrød, S. and Aslaksen, J. (eds.) **The Economy of the North**, Oslo: Statistics Norway, p11-22  
[http://www.ssb.no/a/english/publikasjoner/pdf/sa112\\_en/kap6.pdf](http://www.ssb.no/a/english/publikasjoner/pdf/sa112_en/kap6.pdf)

Rasmussen, R. O. et al. (2011). **Megatrends**, Rasmussen, R.O. et al. Copenhagen: Nordic Council of Ministers, pp. 58-79,  
[http://www.keepeek.com/Digital-Asset-Management/oecd/development/megatrends/fundamental-changes-in-the-nature-of-arctic-economies\\_9789289330718-6-en#page1](http://www.keepeek.com/Digital-Asset-Management/oecd/development/megatrends/fundamental-changes-in-the-nature-of-arctic-economies_9789289330718-6-en#page1)

### Key Terms and Concepts

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- Benefit-sharing agreement
- Economic efficiency
- Employment
- Human capital
- Investment in human development in the North
- Local northern labour markets
- Social efficiency
- Social infrastructure
- Standards of living

### Introduction

Social infrastructure includes housing, educational, recreational and other facilities accessed to residences in a community. Together with individual disposable income they provide human development in the Circumpolar North. This module discusses social infrastructure as a system ensuring human activity in the North and human development as a benchmark of its formation. Human development has become a key concept in many international and national documents dealing with the definition of economic growth strategy. Whereas previously the most important indicator of human development was GDP per capita, now it has become clear that this factor cannot fully characterize the level and quality of life in a certain country or a certain region. Much more information can be obtained by measuring life expectancy and the educational level of the population, which are dependent on economic development as well as on the system of distribution of the results of production activity among residents in a certain area. This role of the distribution system is often played by the social infrastructure.

The above facts are true for northern regions. However, the coexistence of industrial and traditional economies there must be taken into account. In the traditional economy where the standard of living on the brink of survival is supported, the traditional way of life itself is a value although it does not help to increase life expectancy. It is necessary to understand the traditional ways of life of the Indigenous northern peoples more deeply than merely as a form of economy. Most of northern countries try to provide opportunities for human development in the north at a level that is not lower than in southern regions. In addition, the state must provide jobs and good incomes in the North.

**Learning Highlight 1:**  
Social infrastructure provides human development in the circumpolar North

Considering the social infrastructure economically, it is necessary to understand the expectations of northerners for social infrastructure related to, for example, education and its future possibilities. The module also helps to understand if it is profitable to entrepreneurs working in the North, to finance educational systems, hospitals, libraries, swimming pools and other aspects of social infrastructure. Finally, the module considers the ways the national governments provide for the development of social infrastructure in northern communities. The state can completely guarantee social services as it was done in the Soviet Union. This way requires a huge investment. The government may offer favorable conditions for business investment and therefore expenditure on human development in the North will be shared with the private sector and the state can extent social activity and implement other important projects and programs. Searching for the ways of effective interaction with local communities and business in the interests of human development is one of the priority issues of northern policy in the circumpolar countries.

### 9.1 How to understand efficiency of social infrastructure in the Circumpolar North?

We can distinguish between economic and social efficiency. From an economic point of view, circumpolar social infrastructure takes extra expenditures when compared to southern regions. Higher expenditures directed to social infrastructure per capita can be associated northern factors leading to additional costs of social infrastructure for national governments, households, communities and businesses. How do northern factors increase expenditures on social infrastructure? First, extreme climatic conditions require additional costs for living: more nutritious food and vitamins, warm clothing, heating etc. If education is considered as an investment in people, then the expected future return may be associated with salary. Obviously, the salaries should be higher than in the regions with a more comfortable climate when additional costs connected with living in the north are taken into account. Investment risks in the North come from the fact that not all northerners believe that professional

education will increase earnings. Settlements are located far away from each other. Many of them are economically dependent on one type of activity. For example, in Russian northern villages, the number of jobs is very limited and people are forced to work for low wages and therefore they and their families cannot fully compensate high living costs. The inability to increase their incomes and to improve the quality of life leads to the fact that northerners do not want to improve their professional skills; many ruin their futures and their families by turning to alcohol and drugs.

When an individual decides where to live and work, he or she often chooses the place where the expected return from education is higher. In choosing a work place anywhere in the North it must be more attractive than in the South, it means salaries must cover the higher costs. Thus employers in the North must spend more on wages and social bonuses for workers. Not every enterprise can run its activities in the North when the salary of employees is considerably higher than in the south. It explains why national government usually covers employers' extra costs on labor in the North.

At the same time **human capital** investment can be shared between state and business. Many large companies operating in the circumpolar North, offer training courses for young people and workers, pay for the training of capable youth in southern universities who making an agreement that they come to work in the company after their studies. In this case, the fear of not finding a decent job after receiving an enhanced education is reduced for the individual. At the same time, educational programs and training are additional costs and reduce profits for business. Not all businesses can afford such educational programs. As a rule, the smaller the firm, the harder it is to provide additional social bonuses.

Low population density and geographic isolation of settlements lead to additional transportation costs in providing social services. When cities and villages are separated by hundreds of kilometers and their population is small, it is very difficult to guarantee residents access to large libraries, health clinics, universities and colleges. Thus the social infrastructure in the North requires additional investment as well as new methods of providing services at lower costs in the presence of long distances.

Extreme living conditions lead to increased sickness rates and reduce life expectancy in the North. From an economic point of view reduced life expectancy and early onset of disability mean that investment in vocational training yields smaller returns with respect to the southern region. To reduce the influence of northern conditions on health, special research and health program for northerners' must be carried out. Thus these factors increase the cost of the social infrastructure in the North.

### **9.1.1 Standards of living indicate the social efficiency of infrastructure**

The quality of social infrastructure can be measured by the availability of social services for northerners as well as human development parameters such as life expectancy, level of literacy, and the number of youth going to school. It is necessary to be aware that this figure depends not only on the availability of medical services and educational opportunities, but also on the level of employment and labor income. Both the number of jobs and number of social facilities depend on the economic activities existing in the region and on economic growth. While one may assume that the higher the GRP per capita (gross regional product), the higher should be the standard of living. In fact, it is not. An important role here is played by the distribution of income between the national government and local authorities, employers and employees, government and owners of companies.

For instance, despite the relatively high GDP per capita in some northern regions of Russia the standard of living is relatively low. Partly this is due to the rigidity of centralized management of the Russian economy. Natural rent goes to the federal budget, and therefore cannot be used directly on the development of the region where the wealth and exploitation of the land was obtained. Another reason for the inefficient allocation of resource rents is inactivity of local communities. Several generations having grown up in the Soviet Union got used to the fact that the government would take care of people – it would make decisions for them such as building schools, universities, hospitals, etc. In the present

market economy, when the government significantly reduced the volume of direct investments in the social infrastructure, people have gradually come realize that they need to express and coordinate their views with others. People are uniting to achieve a better distribution of revenues and to ensure an improvement in the social environment.

## 9.2 How government affects standards of living in the North in the context of social infrastructure development

To ensure human development in the circumpolar North national governments can directly invest in social infrastructure: schools, housing, hospitals, and other infrastructure for the delivery of social services. For example, in Norway the largest item of budget expenditure is expenditures for education, health and social assistance. In 2002 it was approximately twenty-four percent of gross domestic product. At the same time in Alaska, these types of expenditures accounted for no more than six percent of budget expenditures in the circumpolar regions of Russia these expenditures were less than nine percent (McDonald, 2006). But this fact does not mean that in Alaska or in northern Russia the level of social infrastructure is worse. The government can invest in social infrastructure but they can also develop rules for business and local communities so they can be involved in the construction of hospitals and libraries and in investment in other social services. In this case governments create conditions to interest companies in the building of housing, sports facilities and schools. These conditions include tax regulations and land use and benefit-sharing agreements.

**Learning Highlight 2:**  
National governments combine directed investment in infrastructure and undirected methods to achieve economic and social efficiency.

For instance, the *Canadian Department of Indian Affairs and Northern Development (DIAND)* in conjunction with representatives of Indigenous communities and organizations, formed an agreement defining the minimum standards under which the state budget finances the social infrastructure of northern communities. The department promotes the development of self-governance, the gradual transfer to local communities of responsibilities in the management of social services such as vocational training and employment for Indigenous people. In the 2006-2007 budgetary year the actual expenditure of DIAND on these programs was more than 6 billion dollars, of which spending on education amounted to twenty-seven percent, on social development negative twenty-three percent on the health of northern communities negative two percent on the economic opportunities of employment for Indigenous people negative seven percent (Indian and Northern Affairs Canada 2008).

The establishing of funds is another approach to reach higher standards of living in future. Social infrastructure as a system should be designed with regard to future generations. This is especially important for the North because its industrial development is closely connected to exhaustible natural resources. Special federal and territorial funds allow for a better distribution of current resource revenues to provide social infrastructure development for present and for future generations. In order to provide human development in the future, part of the income from resource extraction and the use of the northern lands can be collected in funds managed by local communities and then used for improving the northerners' lives based on benefit-sharing agreements. The effectiveness of such funds lies in the fact that the revenues are saved up during the active exploitation of deposits. Then they will be spent when the natural resources are depleted. This is how future generations are compensated for the use of the natural resources by the current generation. Part of the funds goes to social infrastructure, which in itself is a good investment in the future. Due to a better social

**Learning Activity 2:**  
Do you agree that distant education increases northerners' ability to choose their future profession and level of income? What do you think impedes the idea of replacing regular education by distance learning?

environment, the circumpolar regions become a more attractive place to live in the future. This idea underlies funds established in Alaska (USA), Alberta (Canada), and Norway.

For example, the Alaska Permanent Fund created in 1976 receives twenty-five percent of revenues from minerals' extraction as well as revenues from royalties (The Alaska Permanent Fund, 2009). The Permanent Fund is made up of two parts: the principal and the earnings reserve. The principal cannot be spent but the earnings reserve can be spent by the State legislature for public purposes.

### 9.3 How to achieve efficiency of education?

The system of education is very important in maintaining standards of living. It helps gain skills and values, and mastering the techniques of thinking and behavior. Typically, this is a formalized process. The nation perpetuates its beliefs and values through education at schools, colleges and universities passing them from one generation to another. This applies to science, arts, sports and other aspects of culture. What exactly transmits through the education system determines the ability of people to be involved in socially useful activities of both a community or a nation and society in a global sense. Knowledge and skills determine the size of labor income, the opportunity to make choices in life, and the ability to care for children.

The efficiency of the educational system depends on how it relates to the demands of the global, national and local economies. The *processes of globalization* which impacts modern education in all countries, obliterates the line between different cultures and traditions. It increases understanding between people, significantly facilitates labor mobility, and leads to a higher efficiency in the translation of knowledge through the educational system. However, we also witness the loss of some of the unique characteristics of a nation, its language features, and especially traditional life in a certain area. This can lead to the loss of local communities. In the north which is home for about 200 ethnic groups, globalization threatens to assimilate Indigenous peoples with an industrial-oriented society and by the loss of thousands of years of traditional life. At the same time as technology promoted by globalization, such as satellite television and the Internet, opens up the whole world for northern students, northern values and skills are irrevocably changed. That is why along with the construction of new schools which provide the education necessary for employment in the industrial economy, countries are seeking ways to preserve traditional culture and the possibility of transferring tacit knowledge. **Balance** between transmitting of knowledge demanded in industrial and local activity is necessary for the preservation of traditional culture and for the provision of an opportunity for northerners to continue their education and get jobs in the industrial economy. For this purpose, school and university curricula include ordinary subjects and components of local traditional knowledge.

**Learning Highlight 3:**  
Social efficiency of human health services depends on local culture, the educational level of communities, as well as opportunities to for employment.

Ensuring the economic efficiency of educational system in the circumpolar North also depends on *overcoming geographic isolation*. In Alaska, Canada and Russia there are settlements reachable only by air; some are connected only with winter roads during several months of the year. The number of inhabitants in these settlements may be small. If there are ten to twenty people of school age it is virtually impossible to provide them with the same variety of education as a student who lives in the city can get. In many countries a system of boarding schools has been set up to solve these problems. Lately however, education in boarding schools is being rejected because children there do not receive traditional skills and knowledge that they will need in the future. In many areas of the circumpolar North boarding schools have been associated with painful histories of assimilation along with physical and sexual abuse.

At the same time, in other areas of the region boarding schools are used as a special system of education for developing gifted children. In order to let gifted children who are the future artists, dancers,

engineers receive the education necessary for future professional careers, they are taught at an early age the classical subjects of high school and they are also heavily involved in the choreography or art, mathematics and computer science.

Development of distance education has significantly expanded opportunities for northerners to access education. Since our course is a distance learning course provided by the *University of the Arctic* you can appreciate its advantages and disadvantages yourself. Thus an important aspect of improving the efficiency of the educational system is *the increased access to various educational programs*.

A highly skilled population is increasingly important. Many of these skills are important even for normal day to day activities for example for using computers, cell phones, automobiles and so on. Advanced education is necessary for human development in the north. The most important trend in education is the establishing of universities in the north. This trend has been observed in the circumpolar countries since the early 1970's. Professional training of northerners is a necessary condition to guarantee jobs and family income. For the region universities and other post-secondary institutions are helping to overcome the shortage of qualified human resources and at the same time preserve northern cultural values. Public universities are not only centers for education, but for regional development as well. In the circumpolar parts of Finland, Iceland, Norway, Russia, Sweden and Alaska universities have stimulated the development of affordable education and qualitative research. The universities have created the conditions for the development of social infrastructure: the introduction of new communication technologies, university clinics and specialized research institutes, libraries, sports complexes, campuses with public catering and consumer services. So far there are no universities in Arctic Canada but there are functioning colleges and research institutes in each of the three territories.

To conclude this section, we should note some difficulties in the development of the northern education. Post-secondary education is often received away from home and many students have difficulties adapting to new living conditions. They return home without having received professional training. The others, on the contrary, are so excited about city life, new friends, and job prospects in the southern parts of the country and abroad that they do not want to return to their families in northern communities. It is obvious that the community loses its future specialists: teachers, doctors, engineers, and lawyers, politicians, thanks to higher standards of living in the south.

#### **9.4 How to provide efficiency of human health services?**

Not only is investment in education and training important but also investments in human health. These investments help determine the expected period which an individual will be able to work. Human health is currently defined more widely than ever before. It relates not only to mental and physical health but also social welfare. It concerns not merely the absence of disease and disability but cultural and social status as well. In the north the difficult physical environment means that the human immune system is heavily stressed. Human health depends on the biosphere, atmosphere, and social environment. One of the challenges for the health of people in the near circumpolar North near is the large-scale exploitation of resources that significantly affect the environment. One example of this is pollution from mining production. Many of the effects of the exploitation of mineral deposits in the north have complex effects on human health which are still difficult to understand (AMAP, 2002).

The efficiency of human health services relies on the social conditions of communities. The health problems of northerners can be also be explained by the conflict between traditional and industrial cultures. For Indigenous peoples, a lack of formal education needed for employment in the industrial economy often leads to a lack of self-confidence and problems in finding a job. On the other hand, people who received their education in boarding schools and lost family traditions have difficulties in maintaining family relations and raising children. One of the regrettable characteristics of human health in the North is the high percentage of suicides. Drug and alcohol abuse affects many families and

communities in the North. These are interrelated factors that are strengthened by unemployment, domestic violence, child abuse, and high crime rates.

About half of the deaths and illnesses can be explained by behavioral norms and can be prevented by educational programs in health care, such as how to follow a proper diet, physical exercise, avoiding tobacco, drugs and alcohol. While these decisions are made by individuals, experience shows that new approaches on a local government level can significantly improve health. Thus, the health system for the northerners should include measures of prevention, early intervention, and the promoting the benefits of involvement in local organizations and activities. It is much more effective to teach the young people to be active and ready to participate in the management of community life than to "correct" their anti-social behavior when they become adults. "Prevention, promotion, protection" is a motto of the US Healthy People Program, in which Healthy Alaskans 2010 is a separate part (Healthy Alaskans, 2002).

As noted in the first version of the AHDR (2004) health services have improved significantly over the past decade. In part this is because of the intensive industrial development of the North. This is reflected in increasing life expectancy in all circumpolar regions except Russia where social infrastructure created in the Soviet Era was largely destroyed during the transition period in economy starting in the early 1990s and lasting until 2002. At present the problems existing in the Russian North are slowly being solved. In other northern countries, life expectancy is lower than the national averages. The incidence of tuberculosis, diabetes, scurvy, and parasitic diseases are still quite common they have decreased significantly over the past decades.

New technologies linked to telemedicine and early diagnosis make health services more effective while decreasing the costs of health care delivery. These technologies help overcome the problem of long distances and difficult transportation conditions of doctors and medical equipment. New technologies make it possible to provide qualified clinical services to remote communities through access to medical consulting by the radio, telephone or video conferences. At the same time medical care in remote villages will always be a challenge for northern medicine.

#### **9.4.1 Partnership and self-government makes health services more efficient.**

The role of local government of circumpolar communities is growing. Their involvement in health care makes programs more flexible and efficient in terms of access, quality and cost of medical services. Studies point to the development of partnership and increased self-government in Canada as being responsible for a decrease in the number of suicides among young people in First Nations communities (Schereyer, 2002).

The Alaska Department of Health and Social Services adopts a policy of partnership development in order to better investigate communities' needs in health care and to provide necessary medical and social services. The Healthy Alaskans Partnership Council consists of members of government, health organizations, universities and communities. Such multilateral cooperation is considered an important basis for mobilizing the forces of the state in order to increase life expectancy and make people healthier. In Canada, in addition to the treatment of diseases, regional health corporations, urban and rural clinics and hospitals, the staff providing emergency medical care, as well as non-profit charity organizations, do everything to encourage healthy lifestyles and disease prevention. (Health Canada, 2009)

Large extractive resource corporations are also involved in developing social infrastructure. This includes the building of hospitals, health institutions, and sports facilities for workers and the local population. It may seem that it is unprofitable for companies to build social services that do not generate revenue. So why do they do it? One reason is the requirements of national governments to develop social environments in communities where corporations carry out their activities. Governments require social commitments from corporations. The state provides projects with financial support by partially funding the construction of housing, schools and other social facilities. For example, in 1960s and 1970s, when

the Canadian North started intensive resource exploration a national investment program was put in place. According to this program the state covered seventy percent of the cost of housing.

Another reason why corporations may contribute to social infrastructure is the need to maintain the company's reputation in the international market which is necessary for successful marketing of its products. Corporations participate in international business certification programs which ensures the implementation of environmental and social programs for the workers and the local population. The third and final reason is economic. Manpower is one of factors of production necessary to carry out production activities. At present, workers, especially skilled workers, can easily change their workplace by choosing the one where conditions of employment and the wages are the best. Competition for skilled labor between corporations is a good incentive for the development of social infrastructure in the North.

### 9.5 How to provide efficiency of labor market?

**Human capital** is the most important factor in production. Economic growth is determined by the quality and quantity of **labor**. The quality of labor is usually related to educational systems and quantity depends on standards of living. Labor market services such as giving information about vacant jobs, assistance in finding a working place and getting professional skills serve economic growth. Thus labor market infrastructure is one of the most important elements of social infrastructure. It consists of organizations involved in the selection of labor, training, and the professional orientation of those who are unemployed or want to change their current activities. There are important inefficiencies in northern labor markets and these inefficiencies are often related to Indigenous peoples who receive lower wages than country average. Unemployment among Indigenous people in all Arctic countries is high. Many of them live below the poverty line. Typically Indigenous peoples spend most of their earnings on current needs and are not able to save. That is why the northern labor market infrastructure of should take into account the socio-cultural features of indigenous people and their current structure of work.

Another aspect of labor market inefficiency relates to women. Women usually find it harder to get a job than men because of the notion that jobs in the north are more physically demanding. Therefore unemployment among women is higher and incomes are lower than among men.

Exploitation of natural resources is a constant challenge for traditional employment in the North. Large-scale extraction of natural resources leads to destruction of traditional forms of employment such as fishing and hunting. Loss of jobs in the traditional economy is partially offset by their provision in the industrial economy.

#### 9.5.1 Assistance in professional education helps to increase individual incomes.

Many economic problems can be solved by increasing access to professional education. In Canada DIAND operates a program called the *Aboriginal Skills and Employment Partnership (ASEP)*. The purpose of the program is to develop initiatives that will provide stable employment of Indigenous people in such industries as mining, extraction and transportation of oil and gas, construction, forestry, hydroelectric power generation and transmission of electric power across Canada. Canada's Economic Action Plan for 2009 included additional investment in the ASEP - more than \$100 million over three years. This will help Indigenous people to get jobs and the necessary training.

Many companies also operate short-term professional training programs. For example, on the Alaska pipeline, annual two-week training for its future construction workers takes place. Students acquire both theoretical knowledge and practical skills in conditions similar to their future work.

Investment projects aimed at developing the economy and social infrastructure can bring additional income to local populations through job creation. In 2008, in order to save energy on heating, \$360 million dollars were invested in improving home energy efficiencies. These energy saving programs have significantly increased demand for skilled workers in the state. The Alaska Housing Finance Corporation, the Denali Commission, and the Alaska Works Partnership combined their efforts to



prepare the necessary workforce among local residents, mainly from rural areas. A total of 253 people participated in the program in fifty-four communities.

The internet greatly expanded opportunities for professional education and employment. It significantly reduces the risks associated with moving to a new place of work as much information about the conditions of work and life can be learned in advance. Special web sites for Native people exist to help them to find jobs, study job offers, and determine income levels. One example of such a website was created by the Aboriginal Job Centre in Alaska.

Another way of improving living standards in the region is to protect Native people with low skills from competition in the labour market. This protection is necessary because Native people' competitors in the labour market have latent advantages received from formal education and education in families where many generations have been engaged in the industrial economy. As such they are considered better adapted for such work even if they have no specialized skills advantages. Native people find it much more difficult to adapt to these workplaces. A job in the industrial economy is not just a workplace for them. It is also a radical change in the culture of relationships between people and in the tempo of life they are used to.

One of the ways to protect northerners in the labor market is through partnerships between mining corporations and local communities. Such partnerships exist between the mining industry and First Nations in the Yukon. The Yukon Mine Training Association (YMTA, Canada) helps to increase opportunities for local employment in the mining sector, promotes the growth of professional skills, and controls the matching of professional skills to production demands (Federal Framework, 2009).

It is important to note that DIAND monitors investment projects implemented in Northern Canada. According to government requirements, each investment project must have a section under which the investing company makes certain commitments to train and employ workers from the local population.

### **9.5.2 Entrepreneurship among the Indigenous population decreases the burden of state expenditures on social infrastructure.**

The Indigenous population does not just wait for assistance from corporations and national governments. They themselves become entrepreneurs, company owners and jobs providers. Development of entrepreneurship could be seen as one of the most important tasks for northern policies. In the long run it could allow a reducing of government expenditures on employment programs and enhance the ability of northerners to be responsible for their lives, the well-being of their families and the prosperity of their communities. Business education programs must be realized in the North, loans needed to open business should be available for Indigenous people in order to develop entrepreneurship. DIAND programs such as *The Aboriginal Human Resources Development Strategy (AHRDS)* help to achieve these goals. New businesses established by representatives of Indigenous people cover different activities both in the traditional and industrial economy. The AHRDS is a \$1.6 billion program launched in 1999 and renewed in 2004 with the same level of funding until 31 March 2009. AHRDS covers more than 300 Indigenous communities across Canada. From 2001 to 2006 this program helped bring about a 25% growth of self-employment among Indigenous people.

### **Conclusion**

Northern social infrastructure like schools, colleges, universities, hospitals, housing and so on determines standards of living and human development. Northern factors such geographical isolation and extreme climatic conditions may generate inequality of access to educational programs, medical services and other facilities. That is why northern social policy must be used a means to develop a social infrastructure that can help overcome this inequality of access. New technologies like distance learning, telemedicine, and mobile medical care help ensure northerners receive the same quality of services as in southern regions. In this module we have shown that it is not only government expenditures which contributes to this objective but also the social programs of corporations and northern communities. These are often developed and implemented through benefit-sharing agreements, partnerships, and

increased self-governance. Key trends surrounding social infrastructure development are giving more access to services, following to preventive policies in health programs, and keeping alive the traditional culture of Indigenous people.

## Discussion Questions

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1. The quality of social infrastructure is a condition of human development. Explain this sentence.
2. What do you think about the roles of government, health organizations, universities, and communities in providing health care systems in the North? How could they share resources and functions to provide for a better human healthcare system?
3. How can government, communities and entrepreneurs collaborate to achieve greater social and economic efficiencies in the educational system of the circumpolar North?

## Study Questions

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1. What is the role of national governments in improving the standards of living in the North?
2. Describe the educational system in your region. What can you say about how local cultural traditions are included in education? How is education related to the local labor market?
3. What is meant by the economic efficiency of health care services?
4. Why are benefit-sharing agreements an important factor of human development in the North?
5. Why is partnership between local communities, enterprises and government important for social infrastructure development?

## Glossary of Terms

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**Benefit-sharing** agreements between communities, authorities and corporations were necessitated by the conflicts that arose when commercial interests began to use some resources such as land use and natural resources in the circumpolar North.

**Economic efficiency** implies the best allocation of resources. In terms of social services produced in the circumpolar North it means the lowest possible cost for a certain quality and quantity of services.

**Employment** is the state of being hired to provide services to a company or organization on a regular basis in exchange for compensation (InvestorWords.com).

**Human capital** refers to the health, knowledge, motivation and skills of individuals embodied in the ability to perform labor so as to produce goods and services.

**Labour market** is the market in which workers compete for jobs and employers compete for workers (audioenglish.net)

**Partnership** in our case means a formal agreement between inhabitants of a community, state authorities and business where they have agreed to work together towards the pursuit of common goals.

**Social efficiency** reflects access to social services. In the opinion of Amartya Sen (1991) the concept of equality and efficiency are similar. Social efficiency also relates to welfare or standards of living.

**Social infrastructure** includes housing, educational, recreational, and law and order facilities that support the community's need for social interaction.

**Standard of living** is a level of material comfort as measured by the goods, services, and luxuries available to an individual, group, or nation (answers.com).

**Unemployment** is the state of people who are jobless, looking for jobs, and available for work (investorwords.com).

## References:

- AHDR (2004). Arctic Human Development Report. Accessed via <http://www.thearctic.is/AHDR%20chapters.htm>
- AMAP (2002), Arctic Monitoring and Assessment Programme, *Human Health in the Arctic*. Accessed via <http://www.amap.no>.
- Health Canada (2009) Accessed via <http://www.hc-sc.gc.ca/fniah-spnia/index-eng.php>
- Federal Framework for Aboriginal Economic Development*. (2009). Published under the authority of the Minister of Indian Affairs and Northern Development and Federal Interlocutor for Métis and Non-Status Indians
- Healthy Alaskans*. (2010). Accessed via <http://hss.state.ak.us/ha2020/>
- Indian and Northern Affairs Canada and Canadian Polar Commission Performance Report. (2008) Accessed via <https://www.aadnc-aandc.gc.ca/eng/1359569600624/1359569658365>
- Glomsrød S., Mäenpää I., Lindholt L., McDonald H. and S. Goldsmith. (2008). *Arctic economy within the Arctic nations*. In Solveig Glomsrød and Iulie Aslaksen (Eds.), *The Economy of the North*. Statistics Norway. [http://www.ssb.no/a/english/publikasjoner/pdf/sa112\\_en/kap4.pdf](http://www.ssb.no/a/english/publikasjoner/pdf/sa112_en/kap4.pdf)
- Schereyer P., and Koechlinn, F. (2002), *Parités de pouvoir d'achat: mesure et utilisations*. Cahiers statistiques OCDE (Organisation de coopération et de développement économiques, no. 3, March 2002).

## Supplementary Resources

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- ACPD (2009), The database Alaska Capital Projects Database. [http://www.commerce.state.ak.us/dca/commdb/CF\\_RAPIDS.htm](http://www.commerce.state.ak.us/dca/commdb/CF_RAPIDS.htm)
- Alaska Works Partnership Inc. (2009). <http://akwp.org>
- APED (2009) The Alaska Partnership for Economic Development. <http://www.alaskapartnership.com/>
- Healthy Alaskans 2010 (2002). <http://www.hss.state.ak.us/DPH/targets/ha2010/default.htm>
- Rural Alaska Community Action Program, Inc. (2009). <http://www.ruralcap.com/>
- Strategic Priorities of DIAND (2007). <http://www.ainc-inac.gc.ca/ai/arp/trp/pubs/dfnfa/dfnfa-eng.asp>
- The Alaska Department of Health and Social Services. <http://www.anhb.org/index.cfm?section=Contacts&page=Member%20Organizations>
- The Alberta Heritage Savings Trust Fund in Sovereign Wealth Fund Institute Inc. (2009). <http://www.swfinstitute.org/fund/alberta.php>.
- The Economy of the North (2006) – S. Glomsrod and I. Aslaksen (eds.) [http://www.ssb.no/english/subjects/00/00/30/sa84\\_en/](http://www.ssb.no/english/subjects/00/00/30/sa84_en/)
- The Government Pension Fund in Sovereign Wealth Fund Institute Inc. (2009). <http://www.swfinstitute.org/fund/norway.php>
- The Mackenzie Gas Project. <http://www.mackenziegasproject.com/>
- Young O.R. and N. Einarsson (2004). A Human Development Agenda for the Arctic: Major Findings and Emerging Issues in Arctic Human Development Report. [www.svs.is](http://www.svs.is)