

Mineral and social regulations in the Far Northern regions: A comparative analysis

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SUMMARY

The development of mineral resources in the Far Northern Region requires major investment in infrastructure. This and the mineral extraction itself are likely to have a significant impact on the local environment as well as bringing about rapid social change. These can have an important negative impact on the local population, particularly those dependent upon hunting, fishing, forestry, and agriculture if mineral exploitation causes degradation to the environment.

There are also important potential economic benefits for local communities. However, much of the economic benefits from exploiting mineral resources go outside of the regions in which they are found as a result of service contracts being placed with firms from outside the region and employment opportunities going to outsiders. The regions have been characterised by their dependence on grants from central government and employment in the public sector or publicly supported businesses because of the limited economic and infrastructure base before the exploitation of their mineral wealth.

In the USA (Alaska), Denmark (Greenland), Canada (Nuanvut), and the Russian Federation (Khanty-Mancy and Sakha/Yakut) there have been important policy measures taken to try to secure part of the benefits from mineral extraction for local populations, including communities of indigenous peoples. Part of the value added in mineral extraction can be appropriated by those with property rights over the land. These include those with surface and sub-surface rights.

Development rights have in many countries been collectivised so that planning consent has to be obtained from the appropriate planning authority before development can be undertaken. This enables planning authorities to appropriate part of the value added by requiring developers' contributions to infrastructure and planning gain. Also as public governments, they are able to tax the mineral extraction companies and the companies that provide services for them.

The regions contain some useful examples of how indigenous peoples have been allocated land rights as part of land claim settlement programmes, which include surface and sub-surface rights. In Alaska, for example, this has enabled the local population to benefit considerable from mineral extraction, primarily, but not exclusively of oil and gas. Similar

policy measures have been put in place in Nunavut, and the Russian Federation has also embarked upon this approach. As a result of demographic majorities, indigenous peoples are able to control public regional governments in areas like Greenland, Nunavut and Sakha and local governments in other areas. The Far Northern Regions therefore provides some interesting examples of how problems of access to the wealth created by mineral extraction can be resolved.

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1. INTRODUCTION: THE DEVELOPMENT OF THE FAR NORTHERN REGIONS

The circumpolar region is one of the last great wildernesses in the Northern Hemisphere, but there are increasing pressures on it from development to exploit its mineral resource potential. For example, geological data shows 20-25% of all untapped world hydrocarbon resources may lie in the region. Rising resource prices makes it economically viable to exploit them in spite of the technical problems, the inhospitable conditions in which they are to be found, and the distance from centres of population and industry. The region provides an important share of the economies of the countries amongst which it is divided.

Development of the natural resources in the region has important implications for the environment. The United Nations Environmental Program (UNEP 2001) has estimated that growth in the region between 1940 and 1990 resulted in between 15 and 20% of the land area being subject to critical anthropogenic disturbance, including impacts on habitats, biodiversity, the reproductive capacity of plant and animal life, and water resources. In the period up to 2050, it is estimated that the area affected by anthropogenic disturbance will increase to 50 – 80%. The disturbance will primarily come from infrastructure, like roads, airports, pipelines, power lines, utilities, and dams, and the increased access associated with these.

Table 1 Characteristics of the Far North Region

Region	Area (million square kilometres)	Population (millions)
Alaska	1.519	0.627 (2000)
Greenland	2.176	0.57 (2005)
North West Territory and Arctic Archipelago	1.300	0.095
Sakha (Yakut)	3.103	0.95 (2002)
Khanty Mancy	0.523	1.469 (2002)
Chukotka	0.750	0.531 (2006)

Table 1 shows the sizes and populations for different parts of the region. The Arctic region is dominated physically and economically by the Russian Federation. Approximately 34% of the land area of the Arctic region lies within the Russian Federation, compared with 33% in Canada. Almost 49% of the region's population lives in Russia compared with 31% in the combined areas of the other European countries (Bogoyavlensky & Siggner 2004). Russia is also the most urbanised country in the region and accounts for most of the major cities apart

from Anchorage and Reykjavik. The population is located primarily in Kola Peninsula, which is where most of the major urban areas are. The Russian Federation accounts for approximately 67% of the gross product of the region when measured on a purchasing power parity basis, compared with 19% from other areas of Europe, and 12% for Alaska (Duhaime et al 2004).

Amongst the main world oil and gas regions are the North Slope of Alaska and northern part of West and East Siberia in Russia. Prospecting is taking place off-shore in Canadian Arctic waters and around Greenland. Alaska is second place in the USA for the oil extraction and eighth place for natural gas. There is a decreasing dynamic of oil extraction from 220,000 barrels a day in 1990 to 110,000 barrels a day in 2006. There is a similar trend for exploring for new layers on Alaskan territory. Alaskan gas reserves are very large, and were estimated in 2004 at nearly 1,130 billion cubic metres. Western Siberian oil and gas extraction, which currently accounts for nearly 68% of Russian oil and 91% of gas extraction, is also on a decreasing dynamic. The main future prospects in Russia are in Eastern Siberia and the Far East. Concrete geological knowledge about the oil and gas reserves of these regions is only 7-10%, compared with the general geological data for 21% of total gas and 27% of total oil resources of the Russian Federation a whole. Different versions of the oil-gas geological prospecting and investments activities suggest the following perspectives for Eastern Siberia and the Far East up to 2020: 95-168 billion cubic metres of gas and 50-80 million tonnes of oil extraction. The fuel-energy sector accounts for more than 30% of the Russian economy, 40% of budget income, and 45% of foreign earnings. The Russian share of the world oil reserves is 12-13% and in gas 32%. Two-thirds of the reserves are in the continental part of the Russian Federation, with 60% of these being found in Western Siberia and 30% in Eastern Siberia and the Far East.

2. REAL ESTATE INFRASTRUCTURE IN THE FAR NORTHERN REGIONS

Real estate development means any material works on, above, or under the land sites or material changes in the class of permitted land use which would permit the construction of new real estate objects, new uses or the alteration of their previous characteristics. Traditionally attention has been focused on housing and commercial real estate development with much less attention being paid to infrastructure development. This may be because traditional real estate development takes place in the well-developed territories and settlements of countries with a highly developed market economies and standards of welfare of their populations. The Far Northern regions have own specific issues for traditional real estate development infrastructure development. Amongst these are the severe climate and difficulties of working conditions, complications for the building process, and fragile environment. We have concentrated on real estate infrastructure development because it covers all aspects of real estate and its development problem has important significance and peculiarities.

Real Estate Infrastructure is a spatial resource and provides the means necessary for life. The spatial resource includes industrial and social objects such as roads, rail networks and waterways, terminals, lines of electricity transmission, oil- gas and oil-production pipelines,

engineering and communal systems, and auxiliary industrial, repair and communal services facilities. The Far Northern regions are characterised by very large spaces and low densities of population, severe climatic conditions, poor transport infrastructure, and extremely difficult access to the natural resources for extraction and delivery to the main users in well-developed regions. These huge territories have extremely little opportunities for transporting passengers and goods. For example, Yakut territory is five times the size of France but only has a few hundred kilometres of roads with solid covering. The main ways for delivering bulky materials have a limited season, such as the rivers during the short Yakut summer. There is no railway.

The mineral resources business and corresponding the real estate development processes involve a number of participants, and touch a number of contrasting interests of different participants. Of interest is who stakeholders of the real estate infrastructure development process are and the ways in which they are connected during the period of mineral extraction.

Among the main participants are:

- competing companies of the fuel-energy and other mineral resource complexes, including those involved in extraction, transportation, building, and service provision;
- investors, both local and foreign and financial institutions;
- public authorities and administrative bodies of central, regional, and municipal government with responsibilities for town and spatial planning, development consents, licensing the access to mineral resources, land registration and cadastre;
- associations representing the local population, including indigenous populations.

In order to emphasise parallels and contrasts between the different participants' interests, it is useful to present the real estate infrastructure in the region in the following three levels:

- 1) Macro-infrastructure, including national railways such as the Trans-Siberian Railway, the main waterways and terminals, networks of electricity lines, large-scale pipelines for export to other regions and abroad such as the East Siberia–Pacific Ocean and Trans-Canadian pipeline, and also basic infrastructure such as service centres, auxiliary stations, and temporary settlements near extraction zones. In social aspects the macro-infrastructure includes residential and commercial real estate of the main cities of a region.
- 2) Midi-infrastructure, including regional infrastructure networks such as regional pipelines to regional processing plants and settlements, local electricity lines, roads, industrial and auxiliary objects of regional and local companies, settlements and their real estate objects both for the commercial and residential sectors.
- 3) Mini-infrastructure as in the infrastructure delivering the needs of small local settlements, private estates and families, including those for the indigenous population.

The three-level division helps to identify the different interests of the participants in real estate infrastructure development. Table 2 illustrates the interests, emphasising the regional authorities as the participant with the interest in and opportunity to co-ordinate the successful solution of the infrastructure problems in the interests of achieving an efficient and reliable business environment, the welfare of society, and the social interests of the population.

Table 2 Different interests of the mineral extraction participants in regional infrastructure development

Infrastructure levels	Central government	Regional authorities	Investors	Mineral extraction companies
Macro	+++ Realising export policy and the national fuel energy balance	++* Protection of the environment Assimilation of territories into society	+++ Right choice for mineral export	+++ Basis of their business for extraction and transportation
Midi	++ As part of a national social programme	+++ Midi infrastructure a main function of regional authorities	+ The better the infrastructure the more attractive the region	++ Provision during life cycle of mineral deposits
Micro	+ As part of a national social programme	++ Micro infrastructure a main function of regional authorities	No interest	+(+) Support for quality of life of their employees

+ Reflects the measure of interest.

* The dual influence of the macro-infrastructure development which is simultaneously positive for harmonic assimilation and economic growth and potentially negative as a source of environmental destruction and ecological danger.

3. MINERAL RESOURCES, PROPERTY RIGHTS AND THE CLAIMS OF DIFFERENT STAKEHOLDERS

The typical real estate development process includes the following stages: the development of the project initiative, feasibility study, obtaining financial credits and technological rights, purchases of the land site rights, planning permission, project elaboration and costing, contracting by the project management team with main contractors and sub-contractors, and the realisation of results. There are a number of issues connected with the multitude of overlapping property rights between public authorities and the participants. Historically the region has not developed good practice for fair property right regulation but this has been changing. The significance of the problem is accentuated by the physical size of the territories and the economic potential of its resources.

Among the participants in real estate development projects are: developers, owners of the land necessary for extraction and transportation, administrative bodies, financial institutions, contractors and sub-contractors for building and exploitation processes, professional bodies, those who live and work in the area, and public interest groups such as those concerned with

the environment and the impact on indigenous populations. Their objectives that may not always be compatible. Sometimes these different stakeholders overlap. Important issues arise as to what share of the economic benefits are to go to different groups as well as which groups are likely to suffer from adverse consequences, such as deterioration of environmental conditions or social disruption resulting from rapid change. Governments have an interest in the development of the region since many areas in it are heavily dependent upon transfers from other regions to maintain social welfare. For example 90% of the budget of Nunavut and 75% of that for the North West Territories in Canada comes from central government transfer. For those living in the region, being able to capture a share of the economic benefits from mineral resource development means greater opportunities for autonomy and self-determination by reducing their dependence upon central government transfers.

The analysis of property rights can help identify the potential beneficiaries of economic development. Modification of property rights can also help to direct some of the economic benefits towards groups who may suffer adverse consequences as a result of development. What is at stake is the value added from extracting minerals and transporting them to where they can be used as an input into manufacturing or processing. In some cases, such as diamonds, there is potential to increase the producing region's share of the total value added by relocating processing close to the points of extraction. For other resources, such as oil and natural gas, processing takes place close to consumption rather than near the point of extraction. The value added in extraction and transportation as well as any production process can be taxed by governments, including local and regional governments. Potentially taxes can be levied on the companies involved in extraction, processing, or servicing, such as profits taxes; on the workers working in these areas, such as income taxes; and on the assets used in extraction, processing, or servicing, such as real estate taxes. Such income can be used to develop infrastructure and support those living in the area.

Property rights can be divided into three groups for conceptual purposes.

- Sub-surface rights, including the rights over the mineral reserves themselves;
- Surface rights; and
- Development rights.

Companies wishing to exploit mineral resources have to pay the owner of sub-surface rights an access fee, such as a rent or royalty. Access to the mineral resources generally requires the permission of the surface right owner. There can be no exploitation of the mineral reserves unless the owners of surface rights give permission for entry to their land for prospecting and exploration, to erect extraction works like wellheads and their servicing facilities, and to construct transport facilities with which to remove the minerals for processing.. The surface right owner is not necessarily the same as the owner of the sub-surface rights. The surface right owner can appropriate a part of the value added through renting permission to access their land. Mineral extraction requires development, such as the erection of buildings and works and infrastructure such as roads. Development rights in many countries have been collectivised so that those wishing to undertake development have to obtain the consent of the appropriate planning authority. The planning authority is therefore in a position to appropriate a part of the value added from mineral extraction by levying charges for planning applications

and by requiring developers to pay infrastructure charges or to make planning gain payments in return for obtaining planning consent.

A complicating factor in the development of the mineral resources in the northern region is that many of the population who live in the region are indigenous peoples. Many earn significant parts of their living through exploiting natural resources through hunting or fishing, or by reindeer herding. Mineral extraction can degrade the natural habitats on which these activities depend. It can bring rapid social changes that can be disruptive to communities. Many of the jobs created through mineral extraction go to outsiders as companies import labour. The issue of property rights therefore has important implications for how local communities can share in the economic benefits from resource exploitation. These may be needed to offset the adverse consequences from mineral exploitation. Indigenous peoples throughout the world generally have problems in asserting their claims to land and natural resources. Their traditional lands have often come to be regarded as “public” land. Their customary land rights over these lands could become little more than permissive use rights on public land for as long as the government allows. Governments captured the rising values of these, depriving the indigenous populations of a capital base from which to escape poverty or to cope with social transformation (Wily 2006). The development rights in what was seen as being public land could be allocated by governments to outsiders and investors in the interests of generating revenue or economic development for the country as a whole (Royal Commission 1996, volume 1 chapter 11).

Starting in the 1970s in countries like Canada a series of watershed legal decisions and legislation have brought about the reversal of this trend. For example, the Canadian Supreme Court in the *Calder* Case in 1973 ruled that aboriginal title had not been extinguished and did not depend upon a sovereign grant, but on occupancy. The 1982 Constitution Act recognised and affirmed the existing aboriginal and treaty rights of the indigenous peoples (Royal Commission 1996, volume 1 chapter 7). This has brought about an attempt to provide a comprehensive settlement of land claims, including claims to natural resources. A similar process has been at work in Alaska with the Alaska Native Claims Settlement Act 1971. The recognition of land rights of indigenous peoples over specific areas of land, including through collective title, enables indigenous peoples to collect rents for access to land and royalties on the exploitation of mineral resources. Even if mineral rights are not owned, the ability to deny rights of access or exploration through the ownership of surface rights can enable indigenous peoples to negotiate a share of the economic benefits from mineral extraction. In Russia the situation is different because of the collectivisation of land after 1917. The Bolshevik revolution ended Tsarist tributes, the supervision of the life of indigenous communities by the Russian police, and debt slavery to traders, and can be argued to have produced a more favourable position for groups like the Yakut in the USSR during the first half of the twentieth century compared with that of the indigenous population of North America (Hobden 2007).

Development rights tend to be under the control of public governments. Their spatial planning powers give them leverage in the negotiation of planning gains in return for granting planning consents. At issue therefore is the governance structure and the extent to which it is

accountable to the local population. The powers of local planning authorities can be harnessed to appropriate part of the value added by mineral extraction on behalf of local communities. They can also levy taxation on mineral extraction, processing and ancillary servicing activities. Public governments cannot be reserved for those of a particular ethnic or other group as this would be discriminatory and contrary to notions of human rights. However, a public government can be created for an area in which a particular indigenous people happen to form a demographic majority. There are three examples in the Far North of public regional governments dominated demographically by indigenous groups: Greenland, which is part of the Danish Realm; Nunavut, which is a territory with similar powers to a province in Canada; and the Autonomous Republic of Sakha (Yakut), which is part of the Russian Federation. In the cases of Greenland and Nunavut public governments were deliberately created by the state for geographically defined areas in which indigenous peoples formed the overwhelming majority of the population. For Sakha, this has come about demographically. The Yakut fell from being 57% of the population in 1939 to 33% in 1989. However, since 1989, the Russian population has declined, so that the Yakut have become the single largest ethnic group in the Republic, with 46% of the population in 2002, compared with 42% who were Russian. In Alaska there has also been the creation of public governments for areas dominated by indigenous groups, but this has been at the local rather than at a senior government level. Smaller indigenous groups in Russia, associated with the Russian Association of Indigenous Peoples of the North, have argued in favour of solutions closer to the Canadian and Alaskan models with the groups having reserves or areas under their ownership or control and looking towards the development of ideas put forward in legislation in the early 1990s (Etylin 1995). This is the approach adopted in Khanty-Mancy, though there is a gap between the intentions, as set out in federal legislation, and the means of implementation.

4. GREENLAND

Greenland is a part of the Danish Realm. It was a colony of Denmark but since 1979 has enjoyed home rule. It has a population of approximately 57,000 of whom 87% are from the indigenous population. Therefore, de facto, Greenland's home rule grants an element of self-determination for the Inuit population although, technically, it is the whole population of Greenland that enjoys the benefits of local autonomy. The 1978 Home Rule Act created an elected assembly (the *Landsting*) and an administration (the *Landsstyre*) headed by a chairman elected by the Landsting. The Home Rule government is responsible for trade, the development of economic activity, social welfare, education, health services, transport, agriculture, fishing and hunting, taxation, conservation and the protection of the environment, spatial planning and local government. The Danish government is responsible for areas such as defence and foreign affairs, including treaties. A protocol governs consultation with the Home Rule Government about legislation and treaties affecting Greenland. The Home Rule Act provides for the protection of both the Greenlandic and Danish languages. There are those in Greenland who would like there to be full independence from Denmark. Their argument is that Home Rule recognises the people of Greenland as a special people with rights only to internal self-governance, in other words as a minority within a state rather than as being a people with the right to full self-determination (Commission on Self-Governance 2003). A

central aspect of this debate concerns the financial viability of Greenland. Currently the Home Rule Government receives an annual grant of £300 million from the Danish Government. In addition, Greenland suffers from an imbalance of trade with Denmark.

Greenland has an economy that is heavily dependent upon public administration with 33% of the active population employed in this sector. A further 34% work for enterprises owned by the Home Rule Government (Greenland Home Rule Government 2002, 2007). A number of activities are subsidised and local businesses have problems in competing with Danish ones because of a lack of education and limited volumes in the home market preventing economies of scale. Moreover, the exploitation of natural resources, like fisheries, can result in significant parts of the value added in production being transferred elsewhere. There is the potential exploitation of hydro-electricity by Alcoa for an aluminium smelter and the possibility that there are diamond deposits. There is also the possibility of offshore oil deposits. Exploration licenses have been granted in South West Greenland and the Disko West areas¹. The companies include the Canadian ones, Husky and EnCana, and the British Cairn Energy. Oil exploration started in the 1970s. Nunaoil A/S plays an important part in the process. It is owned by the Greenland Government and has a share in all licenses.

Section 8 of the Home Rule Act of 1978 provides that “the resident population of Greenland has fundamental rights in respect of Greenland’s natural resources.” However, this does not give the Home Rule Government control over all natural resources. Rather, for minerals preliminary study, prospecting and the exploitation of resources is regulated by agreement between the Danish Government and the Landsstyre. The Act provides for the Landsting to determine that the Landsstyre may not consent to an agreement. Resource administration is within the jurisdiction of the Bureau on Mineral and Petroleum which is within the Landsstyre and grants many of the permits. A Joint Committee on Mineral Resources was set up under the 1978 Act to recommend licenses to the Danish and Home Rule Governments. The Bureau is the executing link but does not have access to data, which is held by the Danish and Greenlandic Geological Surveys and the Danish Environmental Protection Agency (Commission on Self-governance 2003). The Bureau and Danish Energy Authority individually and in parallel consider all applications for pilot projects, exploration, and utilisation because any concrete decisions about approval must be dealt with centrally. Home Rule has given Greenland’s government control over most of its natural resources, for example, fishing, hunting and agriculture. However it does not have full control over mineral resources, although the Home Rule Act recognises the rights of the population over its natural resources.

¹http://www.nanoq.gl/English/Nyheder/2008_jan_New_licenses.aspx;
http://www.nanoq.gl/English/Nyheder/2007_junolie_gasser.aspx; both accessed 10 April 2008

5. NUNAVUT

European exploration and settlement of the Arctic territories of the Canadian Inuit probably dates from the fifteenth century. In 1670 the British king Charles II granted the Hudson Bay Company a charter giving it a trading monopoly over an area known as Rupert's Land. In 1870 the Northwest Territory was passed to Canada and in 1880 the Arctic islands. The Inuit were not conquered militarily or coerced into ceding land rights. Nor did they enter into treaties or agreements with the British or Canadian governments as other aboriginal groups did by which land was surrendered in exchange for reserves and annual subsidies. There has been little encroachment by European settlement north of 60 degrees latitude. It could be argued that aboriginal title has never been extinguished. The creation of Nunavut was part of the process to resolve the outstanding land claims made by the Inuit as part of the comprehensive land settlement process sparked off by the *Calder* case.

Nunavut was established and its system of government set up by the Nunavut Act of 1993 and came into existence in 1999. It is the area that lies to the north of Hudson Bay and covers 23% of Canada's land mass. About 85% of the population is Inuit. Its creation involved the surrender of aboriginal land claims in exchange for an aboriginal homeland with autonomous government, something that other indigenous groups who do not form a demographic majority in their traditional lands are less comfortable with (Palmer & Tehan 2006). The boundaries can be regarded as artificial and a political compromise, and do not embrace the whole of traditional Inuit lands or significant Inuit populations in Northern Quebec and Labrador (Hicks & White 2000).

The government consists of an executive officer or premier (commissioner) appointed by the Governor of Canada, who appoints an executive council. The commissioner manages Crown lands within Nunavut. Most Crown land in Canada is managed by provincial governments rather than the federal government (McKellar 2006). The legislative assembly is elected by universal suffrage and has similar powers to those of the Canadian provincial legislatures. It can pass legislation in a wide variety of areas that apply to Nunavut, including education, health care, municipal institutions, companies, agriculture and game, or of general application in respect of Indians or Inuit but not about Indians or Inuit hunting on unoccupied crown lands for food since this would infringe proclamations made by the Crown protecting such access to these lands that are the basis of a number of land claims by other aboriginal groups. The Act provides for the use of the Inuktitut language as long as this does not diminish the status of English and French.

The government of Nunavut is a public government and not exclusively an aboriginal government. It does pursue some affirmative action policies such as a contracting preference policy, the *Nunavummi Nangminiqagtunik Ikajuuti* (NNI Policy) for government contracts. These are designed to promote the economic well-being of the Inuit population. As in Greenland, there is a high level of dependence on public sector employment and problems in establishing and developing Inuit businesses. The policies are permitted under the Nunavut Human Rights Act of 2003, which outlaws discrimination but does not preclude affirmative action programmes aimed at the amelioration of conditions of disadvantaged individuals. The

policy appears to be having an effect by increasing the value of contracts won by Inuit firms and increasing the number of Inuit firms on the approved supplier list (Nunavut Government 2003). The policy was revised in 2005 to reduce the emphasis on Nunavut and Inuit status relative to local status (Nunavut Government 2005). There also a policy of encouraging employment opportunities in government for the Inuit population. This is required by article 23 of the Nunavut Land Claim Agreement. It is important in view of the significance of public sector employment in the region. It has been estimated that the government in Nunavut generates 55% of domestic demand. Moreover, Inuit unemployment in Nunavut in 1999 was estimated at 36% compared with 3% for the non-Inuit population (Conference Board of Canada 1999). There has been some success with this policy though as in 2006 91% of administrative support staff in public service were Inuit though only 20% of professional staff (Nunavut Government 2006).

Although the Nunavut Government has considerable control over many of the natural resources in the area, what degree of control can it exercise over the mineral wealth? There are potential mineral resources in the form of gold, diamonds, platinum, lead, zinc, and copper. The exploitation of these depends on the ownership of sub-surface property rights. Land in Nunavut falls into three categories.

- **Crown land.** This accounts for most of Nunavut (80%). The Crown owns the surface and sub-surface rights on this land. These are administered by the Department of Indian Affairs and Northern Development (DIAND) and are governed by Canadian Mining Regulations.
- **Inuit-Owned Land (IOL) where there are Inuit surface rights and Crown mineral rights.** There are 944 parcels where this applies. DIAND administers the mineral rights. The surface title belongs to one of three Regional Inuit Associations (RIA) and collective Inuit title to these lands is vested in these. Their permission has to be obtained before exploration activity, including prospecting, can take place.
- **Inuit-Owned Land where there are Inuit surface and sub-surface rights.** This amounts to just 2% of Nunavut and applies to 144 parcels. The sub-surface rights are held by Nunavut Tanngavik Incorporated (NTI), the body set up to implement the Nunavut Land Claims Agreement. It has a Land and Resources Department to administer the mineral rights. There are similar requirements to those of DIAND. Permission for access must be obtained from the relevant RIA. Mineral rights that predate the signing of the Nunavut Land Claims Agreement continue to be administered by DIAND until they terminate or the holder transfers them to the NTI regime. There are annual fees for exploration agreements. On the commencement of production, the lease has to be surrendered and a 21 year lease granted. Royalties are payable to NTI of 12% of the net profit. In order to ensure that there is a minimum net profit, eligible deductions are capped at 85% of the annual gross revenue ensuring a minimum royalty to NTI of 1.8% of the gross revenue. The Mineral Exploration Agreement cannot apply to oil, gas or specified substances, such as construction materials.

No major mining project can take place on IOL without an Inuit Impact and Benefits

Agreement concluded with the RIA. Companies seeking to exploit mineral resources on IOL are subject to planning gain through agreements on matters such as Inuit training, preferential hiring, Inuit business opportunities, and the protection of wildlife.

6. ALASKA

Alaska became a state of the USA in 1958. In 1968 oil was discovered on Alaska's North Slope. Unlike Nunavut and Greenland, the indigenous population is in a minority although it forms an overwhelming demographic majority in local areas. This means that the approach to land and mineral rights has been a different one in Alaska than Greenland and Nunavut since the only public governments that can be created with a demographic indigenous majority are local authorities. Among the indigenous groups are Indians, Inuit, and Aleuts and account for nearly 86,000 people. As Alaska has long been a centre for oil extraction and because of its strategic position during the Second World War, the infrastructure is highly developed. The Transcontinental Alaska 1,280 km oil pipeline system (TAPS) was built and financed by private companies in 1974-77. There is a good network of regional pipelines of more than 3,000 kilometres and 28 processing plants. There are nearly 800 kilometres of roads with a stable solid cover and 20 airports. During 1975-2003 90% of indigenous settlements were improved.

The Alaska Native Claims Settlement Act (ANCSA) of 1971 created 12 native regional corporations (NRC) and 200 village and urban corporations as vehicles for indigenous development. The State was divided into 12 areas on historic ethnic tribal lines and each NRC was established as a for-profit business corporation (Simpson 2007). Each Native alive in 1971 received 100 shares in the appropriate NRC. If they came from villages or urban areas with corporations, they received a further 100 shares in these. The corporations are 100% owned by Native shareholders. Shares can only be disposed of by bequest or gift inter vivos to close relatives. Shareholders elect boards of directors to manage the corporations.

The land claims were settled by the transfer of 44 million acres in fee simple to the ANCSA corporations with the area each received being approximately based upon the number of Native shareholders. Under the Alaska National Interests Lands Conservation Act 1980 the US Federal Government owns 60% of the land, the State of Alaska 28%, and Alaska Native Corporations 12% (Caulfield 2004). The land held by the corporations is not reserve or trust land but held in fee simple. This means that it can be sold, mortgaged or developed. The NRCs own surface and sub-surface rights. They also own the sub-surface rights to the lands conveyed to the village and urban corporations. The corporations have built up investment portfolios outside of mineral resources and own subsidiary businesses. Many of the latter are service businesses in areas like minerals and tourism and generate employment for indigenous peoples. Although Alaska is rich in mineral resources, these are not evenly spread throughout the state. The NRCs pool 70% of the net revenues from natural resource, including timber as well as minerals, which are shared according to their populations.

There are four ways in which the State of Alaska derives an income from oil-gas exploitation.

- Property taxes on equipment for extraction, processing, and transportation of oil and gas. The rate is 2%. In 2007 this generated \$65.6 million.

- Tax on the oil extraction. This was 12.25% during the first five years and 15% during the subsequent years. The rate can be less for less profitable layers, but not less than 80 cents per barrel. There is a payment for environmental damage because of the danger of oil spillage at a rate of 3 cents per barrel. In 2007 this generated income of £2,292.3 million. In 2007 the tax was changed from being a Petroleum Profits Tax to one based upon Alaska's Clear and Equitable Shares (ACES). Essentially it falls on the value of production less eligible costs. The production tax value is multiplied by 25% to arrive at the base tax.
- Royalties for extraction rights including bonuses, rents and interest. Its rate is the 12.5% of the extracted oil costs. In 2007 these produced \$1,613 million.
- Tax on corporations' profit. The rate is the 9.4% of the income on the territory of the Alaska, and total clean income in other countries. In 2007 this produced revenue of £594.4 million.

Unlike Nunavut and Greenland, Alaska is not dependent upon federal grants for its budget. In 2007, 25% of state revenue came in federal grants. By contrast oil revenues generated 59% of revenues with just 16% coming from non-oil taxes, rents and other charges (State of Alaska 2007). Whilst NRCs are able to raise revenue from rents and other payments for access to mineral land, it is also possible for communities to become incorporated as boroughs to regulate town planning and zoning and also levy local taxes like property taxes on mineral extraction. For example, on the North Slope the NRC is the Arctic Slope Regional Corporation but there is also there is also North Slope Borough, a regional public government with development control and tax raising powers.

6. RUSSIAN FEDERATION KHANTY-MANCY AND SAKHA (YAKUT) REGIONS

Both the Khanty-Mancy and Sakha (Yakut) regions are under legislative regulations of the Russian Federation. Natural resources regulation is the responsibility of the Russian Federation Ministry for Nature Resources. This includes problems of geological research, industrial use, and environmental protection. There are four special Federal Agencies: minerals, forests, water resources, and environmental protection. The Federal Mineral Agency's responsibilities include organising geological research, providing expertise on geological projects, economical analysis and financial appraisal, organisation of state auctions and bidding for rights for prospecting and industrial use, expertise on geological information and extraction projects, and granting permission for the mineral activities. The main priorities and regulations in the mineral business development are under federal jurisdiction.

Russian Federal Law *About guarantees for indigenous population* (1999) states that the population shall be able to continue in their traditional living places and have rights for compensation for environmental infringements by the physical or juridical persons. But there are no methods and procedures for the calculation of compensation. A significant change has taken place recently with a number of new federal laws being approved. Among them are the *Law about guarantees for indigenous small groups of populations of the North, Siberia, and Far East* (1999), the *Law about territories of traditional use by indigenous small groups of populations of the North, Siberia, and Far East* (2001), and the *Law about general principles*

of community organisation for indigenous small groups of population of the North, Siberia, and Far East (2000).

There are the following sources of income flows from oil-gas enterprises for official budgets.

- Payments for participation in auctions for licensing for rights for prospecting and industrial extraction.
- Payments for geological information from the state database.
- Single and regular tax payments for using the sub-surface area.

The total payments for 2006 were more than \$12 billion, a growth of 19.7% compared with the 2005. Majority of payments go to the federal budget, for example, 100% of gas extraction payments. The same 100% rule takes place for the single and other payments for using the sub-surface area and auction incomes.

There are some specific Khanty-Mancy regulations in addition to those of the Russian Federation. Amongst the most important are special regional laws, such as the *Law about mineral use* (1996 with the last edition of the 2001), the *Law about oil-gas extraction on the territory of the region* (1999), and the *Law about stimulating oil layers being put into exploitation on the Khanty-Mancy territory* (1999). The laws detail region's mineral regulations.

There are the three groups of indigenous peoples in the region: Khanty, Mancy, and Forest Nenets, which total approximately 30,000 people. The Khanty-Mancy regional government has approved special laws and legislative norms for the protection of their interests. Any company making a bid must calculate and confirm the interests of the local population. Relations between companies and the indigenous population are regulated on a civil contract basis. For example the indigenous population's interests are protected through the special *Law about land sites removal and conceding a right on the territory of the Khanty-Mancy*. Corresponding norms in the regional laws about sub-surface and land use were approved. Special protected zones were defined on the territories of the indigenous groups. The zones were claimed as zones of traditional use and they are under regional legal regulation. As a result 477 indigenous communities (or *Clan lands* for 3,610 persons) were formed on the Khanty-Mancy territory covering 24% of the Khanty-Mancy region. A number of mixed commissions of federal and regional authorities have been formed for licensing, the regulation of mineral use, and checking conditions of contracts. Among members of the commissions provision is made for representatives of regional governments, which are responsible for the protection of the interests of the indigenous population.

There are 31 layers for prospecting for oil and gas on the territory of the Republic Sakha (Yakut). It is estimated that reserves are: natural gas 9,400 billion cubic metres, oil 2.4 billion tonnes, and gas condensate 409 million tonnes, with more than 1,000 billion cubic metres of natural gas ready for industrial extraction. Relationships between the Federal Government and the Region are regulated by a special agreement of 2000, signed by Presidents of the Russian Federation and Republic Sakha (Yakut). The agreement has a conceptual character with general formulations. There are no concrete mechanisms to provide solutions to the

problems of rational use of the regional mineral potential, environmental protection, or protection of the interests of the local population. The corresponding regional legislative system is absent or needs to be developed in detail. However, the region was successful in securing a share of the gold and diamond revenues from the Yeltsin government.

The territory of the Sakha is very large and accounts for approximately one-fifth of the territory of the Russian Federation. The transport network is isolated from the main system for the Russian Federation. The main roads are seasonal in use, as are the water ways. The infrastructure is weak. There are two transcontinental pipelines oriented towards oil and gas exports. One of them - the East Siberia-Pacific Ocean oil pipeline involves more than one thousand kilometres through the Sakha territory is in a state of active realisation. These major infrastructure projects are essential if the region's natural resources are to be commercially exploited and are needed to support the industrial development and the residential and social facilities that the workforce require. To illustrate what is involved, installing a local gas network in the Yakut region between 2006 and 2010 will require 3,324 kilometres of regional and local gas pipelines, including 1,400 kilometres of regional gas mains and 1,800 kilometres of local branch pipelines and pipelines between settlements in order to link 117 settlements, including 15,500 residential blocks. The cost of this is put at \$800 million. There are two active regional gas mains networks, which are technologically and geographically divided into independent Central and Western parts. Often the local pipelines are overloaded, badly deteriorated (nearly 50% deterioration and 107 accidents during the last 15 years), and in need of modernisation.

All the main regulations for environmental protection area are federal ones. The Russian Federation government bodies set out:

- ecological and other environment protection programmes
- ecological standards
- orders for organisational procedures for standards, including for projects of natural resource and mineral use and the renewal and confirmation of the standards
- methods of calculation of and sizes of payments and penalties for infringements.

- Federal bodies carry out the following functions:
- the provision of state ecological expertise for all the investment projects, programmes and other economic decisions,
- checking ecological impacts and the supervision of the use of natural resources.

The functions of the regional authorities are a residual and lack financial provision.

There is some experience of public involvement in large-scale projects realised on Sakha territory, for example with the transcontinental pipeline *East Siberia-Pacific Ocean* project. Meetings took place with the local population and communities along the line of the pipeline route. More than 300 suggestions were made by the population but only small part were taken into consideration in the final version of the project, and their realisation is still less. Both processes of taking into the calculation and realisation were outside of the control of public or regional authorities. In spite of the centralisation of the main payments for oil and gas

activities on the regional territory to the federal budget, the region has number of opportunities both during the building and exploitation processes. Among the potential incomes there are tax-payments according to the federal tax regulations, including real estate tax payments, payments for land use as rent payments or access agreements, and the possible assignment of financial results of enterprises. There are also indirect economical interests, including increased employment, incomes of local companies and workers, and local infrastructure development.

7. CONCLUSIONS

The efficient assimilation of the Far Northern regions and their rich natural resources depends on a multitude of factors. The increasing demand for oil and gas and rising prices, and rapid progress in technology has opened the way for financially feasible large-scale mineral extraction and transcontinental transportation projects. The social and cultural protection of indigenous populations and the natural environment play an ever greater role. An important place belongs to harmonious real estate infrastructure development as the main basis for supporting modern life in the region. As a result modern society demands not only efficient mineral regulation but more fundamental and complex regulation of the assimilation of the region into the social economy and of business processes.

Comparative research identified two issues. The first is that there are number of policies aimed at achieving the desired business and social harmony. They include how surface and sub-surface property rights are distributed, town planning regulations, and the distribution of financial flows between central, regional and local budgets. There are mechanisms concerned with social responsibility of corporations and the culture of natural resource use. There are positive results from forming special investment and other funds for social support and development of indigenous and other local populations and open discussions and public involvement in the mineral project plans. The spectrum of regulation opportunities provides a good basis for regional and local authorities to find balanced solutions in their interaction with central authorities and fuel-energy and other corporations and similarly for the stakeholders in new projects.

Secondly the countries reached different solutions for balanced mineral and social regulations. From the point of surface and sub-surface property rights distribution and inter-budget flows and size, especially with respect to rights and financial provision for indigenous people, better progress has been achieved in Alaska. Greenland and Canada have followed a similar path with different successes in urbanising and providing infrastructure for their indigenous populations. The Far Northern regions of Russia have different advances too. The better results are in the more experienced regional legislation of the Khanty-Mancy region. Sakha (Yakut) is at a more modest stage. It is important to emphasise that all of the above ways for achieving balanced solutions to complex problem of mineral and social regulations are better than those of earlier times. The collective experience of all the Far Northern regions can be analysed, adapted and used beneficially in other regions.

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