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**Indigenous Peoples and Development of the
Yamal Peninsula**

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INSROP International Northern Sea Route Programme



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INSROP is a direct result of the normalization of the international situation and the Murmansk initiatives of the former Soviet Union in 1987, when the readiness of the USSR to open the NSR for international shipping was officially declared. The Murmansk Initiatives enabled the continuation, expansion and intensification of traditional collaboration between the states in the Arctic, including safety and efficiency of shipping. Russia, being the successor state to the USSR, supports the Murmansk Initiatives. The initiatives stimulated contact and cooperation between CNIIMF and FNI in 1988 and resulted in a pilot study of the NSR in 1991. In 1992 SOF entered INSROP as a third partner on an equal basis with CNIIMF and FNI.

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Introduction

The Yamal Peninsula is the central homelands of the Nenets whose total population (approximately 35,000) spans four administrative okrugs: the Nenets Autonomous Okrug (AO) west of the Ural Mountains along the coastal plain of the Barents Sea, the Khanty-Mansiisk AO east of the Urals, the Yamal-Nenets AO to the north bordering the Kara Sea, and the Dolgan-Nenets AO reaching the Taimyr Peninsula. See Map 1. The Yamal Peninsula is the heartland of Nenets culture. There, 4,500 of the 9,000 indigenous inhabitants continue a nomadic life dependent on large herds of semi-domesticated reindeer. Yamal also contains immense natural gas fields, gas condensate, and oil. See Map 2. The competing interests of the reindeer based economy and the gas and oil based economy raise serious questions over management of the lands and waters of Yamal and over the timing, scale, and conditions of industrial development.

Although extensive gas fields of Yamal have been mapped and explored, transport to bring the supergiant Bovanenko field and others into production is not expected to be available for at least a decade and possibly not until 2030. In the 1980s, Gazprom anticipated production of Yamal gas by 1997. In today's market, the cost to develop either a pipeline from northern Yamal or an LNG (liquid natural gas) port at Kharasavei would undermine the competitiveness of Yamal gas with natural gas available from northern Norway and more southerly sources. Other INSROP researchers have calculated potential costs of LNG transport from the Kharasavei area of the Yamal Peninsula to Rotterdam in comparison to costs from competing areas (Backlund 1995) and have discussed the problems involved in transporting oil and gas condensate from Yamal and other West Siberian fields to markets and the potential for use of the NSR in such transport (Kryukov et al. 1995). While these studies indicate a significant role for the NSR in eventual transport of gas, gas condensate and oil from Yamal, engineering and environmental as well as commercial and political obstacles must first be overcome, before significant hydrocarbon production on Yamal becomes a reality. Thus, a window of opportunity exists to clarify land ownership, address aboriginal rights, and work out a management system that

comports with international and national laws protecting aboriginal rights and interests. This paper provides background information on the geography, history, prehistory, demography, peoples of Yamal, and property rights issues necessary to begin the dialogue necessary to prepare for the coexistence of oil and gas production and herding, hunting and fishing activities on Yamal. Previously published works by members of this research team provide more expanded discussion of property rights systems on Yamal (Osherenko 1995a and b), the material and spiritual culture of Yamal Nenets (Golovnev 1995), and leadership among native peoples of Northwest Siberia (Golovnev 1997).

Geography

The Yamal Peninsula is located to the north of the Western-Siberian plain. It extends along the 70° meridian between the Arctic circle and the 73° parallel. The Peninsula is 750 km long; its width varies from 140 to 240 km.

The Yamal Peninsula is composed of marine sands and clays. It is part of the Western-Siberian plain which in geological times was immersed in the sea and has now risen above sea level. The peninsula's low, flat shoreline is engulfed by the tides in some places. Moving from the coastline to the interior, the elevation of the Peninsula increases along wide terraces to a maximum elevation 70 meters above sea level. Located in an area of significant permafrost, the depth of the seasonally melting layer of ground ranges from 0.2 meters in the northern part of Yamal to 2.0 meters in the southern parts of the Peninsula. (Zapadnaya Sibir' 1963; Yamalo-Nenetskii...1965; Priroda Yamala 1995).

The climate of the Peninsula is affected by both arctic marine and continental air masses. Summers are short and cold; winters are windy and frigid. The average annual temperature in southern Yamal (near the city of Salekhard, for example) is -6.6° Celsius (20° F), while on the northern edge of the Peninsula it dips to -10.2° C (14°F). Due to the relative high humidity, coastal districts experience a high degree of cloudiness. In the areas of Yamal adjoining the Kara Sea and its gulfs there are roughly 80-90 days per year of dense fog: on an average of ten days per year this fog is so dense as to be very dangerous, with visibility at less than 100 meters. The total amount of annual precipitation fluctuates

from 230 to 400 mm. Precipitation falls primarily during the summer in the form of drizzling rain (sometimes mixed with snow). The average annual wind speed is 7 m/sec; during storms it can reach 15 m/sec. Snowstorms on Yamal occur on roughly 140 days per year. Local snowstorms and frequent surface winds under clear skies serve to the redistribute the snow cover across the Peninsula (Priroda Tyumenskogo Severa 1991; Priroda Yamala 1995; Zapadnaya Sibir' 1963). The maximum wind speed during the navigation period does not usually exceed 25 m/sec.

The Yamal Peninsula is bordered on the north and west by the Kara Sea and Baidarata Bay; in the east by the Ob Bay. Broad continental shallows surround the Peninsula: forty percent of the Kara Sea is less than 40 meters deep. The Yamal coastline is washed by tidal waters ranging from 0.2 to 1.0 meters, and winds can raise the tides by 2-3 meters. Ice forms in the sea along the coastline of Yamal in the second half of October and begins to break up at the end of May or beginning of June.

Surface water, in the form of rivers and lakes, predominates on Yamal. The rivers on the Peninsula are divided between two drainage systems/basins. The watershed traverses the Peninsula from north to south roughly along the center of the Peninsula, therefore the flow of the rivers is divided relatively evenly among numerous branches/arteries. The largest rivers are the Yuribei (450 km in length), the Mordyyakha (about 300 km), the Kharasavei (300 km), and the Seyaha (about 165 km). These rivers are relatively flat with slow currents. Their beds meander making broad curves in the wide, sandy valleys. The rivers of Yamal have facilitated human movement of the local population as well as explorers and early traders who used a river network to transit Yamal rather than navigate around the treacherous waters of its northern tip.

More than 50,000 lakes dot the Peninsula: most are small, with diameters up to several hundred meters. The two biggest lake systems are Yarato in the south of Yamal and Neito in northern Yamal. While all of the freshwater lakes and rivers of Yamal are important for subsistence fishing, these two lake systems are especially significant. Today

the Yarato cluster also supports a commercial fishery. The large lakes are ice-free only in the middle of summer and freeze by the second half of October (Dobrinskii 1995).

Ecology

The ecology of Yamal varies with the geography of the Peninsula as one moves from north to south. A gradual transition from arctic tundra in the north to woody-shrub tundra in the south can be traced along the length of the Peninsula. On most of Yamal forests are absent. In southern parts of Yamal, woody vegetation of a northern taiga type intrudes into the tundra landscape in the valleys of the Khadytayakha, Yadayakhodayakha, and other rivers. The watersheds are covered with lichen and moss tundra. In the river valleys sedge (*Carex chordorrhiza*) swamps prevail. In the summer the arctic tundra is intensively used for pasturing domestic reindeer, primarily due to the lack of mosquitoes in the area.

Only 26 mammal species live on Yamal. Several of these migrate across the territory of the Peninsula sporadically: lynx (*Lynx lynx*), otter (*Lutra lutra*), brown bear (*Ursus arctos*), fox (*Vulpes vulpes tobolica*), caribou or wild reindeer (*Rangifer tarandus*), wolverine (*Gulo gulo*), and elk (*Alces alces*). Polar bears (*Ursus maritimus maritimus*) are encountered infrequently. Two types of lemmings (*Lemmus sibiricus* and *Dicrostonyx torquatus*) play a crucial role in the functioning of the ecosystem on Yamal; due to their abundance and range, many larger species are dependent on them for food. Fox cycles are closely tied to lemming population cycles: normally their populations will peak (along with raptors) one year after a lemming peak (Bruce Forbes, email communication to Osherenko). The domestic reindeer and Arctic fox (*Alopex lagopus*) are the most significant species economically and ecologically. Domestic reindeer herds are so large that they affect ecosystem structure and function. Decades of high levels of reindeer grazing and trampling has reduced lichen cover and increased grass cover, thus contributing to the scarcity of winter pasture. The muskrat (*Ondatra zibethica*), white hare (*Lepus timidus begitschevi*), and ermine (*Mustela erminea tobolica*) also have economic importance.

Seals haul out on the beaches north of Baidarata Bay and on the northern banks of Ob Bay on both the Yamal and Gydan peninsulas (Vilchek 1992: 75). Nenets have hunted the bearded seal (*Erignathus barbatus*) on the Arctic coastline and at sea, in part as an excellent source of material for making reindeer harnesses (Golovnev 1995: 62, 63). The INSROP GIS data base contains additional information on important marine resources throughout the Northern Sea Route including waters surrounding the Yamal Peninsula.

Bird species found on Yamal number 186, of which 103 species regularly nest on the Peninsula. One special characteristic of the bird population is the predominance of water and shorebirds. The most varied concentration of species is found in southern Yamal where 89 different species nest. Thirty-two species of birds nest in northern Yamal. Several species of waterfowl have economic significance: species *Anser* and *Anas*, *Clangula hyemalis*, *Somateria spectabilis*, the white partridge (*Lagopus mutus*) and others.

Thirty-two species of fish have been identified in Yamal's lakes and rivers: 26 of these species are commercially significant. The most numerous fish are sigs (*Coregonus*). The most varied concentration of fish species (26) is found in Ob Bay. The rivers and lakes of northern Yamal are home to only eight species of fish. (On the ecology of Yamal, see Dobrinskii 1995, Chernov 1985; Danilov 1966; Kalyakin 1985; Zapadnaya Sibir' 1963.)

Archeological Resources

Prehistoric and historic period archeological sites are scattered throughout the Yamal Peninsula (see Map 4). More than 80 sites dating from the Neolithic and from more recent periods relevant to the development of indigenous cultures have been identified to date. Some of these sites (Yarte, Tuimei-Sale, Ust'-Polui) are characterized by exceptionally rich material inventories. They are extremely valuable for research addressing the origins of Siberian peoples and the processes of cultural formation. See Golovnev 1992.

On the shores of Yamal can also be found numerous evidence of past explorers and their expeditions, such as the memorial pole of the Evladov expedition (1928-29) and Kotovschikova's grave (1929). On the crest of the Yamal watershed is *Yarakhoi*, the ancient portage site across Yamal which was used by Russian merchants and traders to move goods

and people between Ob Bay and Mangazeya in the Middle Ages. In the southern part of the Peninsula are the remains of Stalin's camps, created at the end of the 1940s to house the prisoners who built the Yamal railway, "*Stroika* (Construction) 502."

Historical Background on the NSR

A brief history of Soviet interests in the Northern Sea Route (NSR) as it relates to Yamal is presented here as background to present day discussions regarding further development of the NSR. For a more detailed presentation of the development of Siberia and the NSR see Forsyth (1992), *Istoriya Sibiri* (1968), Slezkine (1994), as well as INSROP Working Papers No. 84 (Bulatov 1997) and 93 (Osherenko et al. 1997).

The Northeast Passage greatly interested Russia's rulers, traders and merchants before the Soviets came to power. The transportation route from the Barents Sea to the Kara Sea and then into Ob Bay was known to the Russian *pomor*y (coastal dwellers) in the 15th and 16th centuries, and was probably known to the Vikings even earlier. Russian tradesmen and merchants preferred a land crossing, however, traveling over the middle of the Peninsula along the watershed of the Seyaha-Mutnaya river, portaging up to two kilometers across the mountains, and then continuing along the Seyaha-Zelenaya river. Travel on the Arctic seas was outlawed in 1620 "because merchants buying furs from northern natives impeded the collection of taxes [*yasak*]" (Abramov 1857: 426).

A century later interest in the Northern Sea Route reemerged. At the beginning of the nineteenth century several expeditions searched for the shortest route across Yamal. These journeys were followed by a series of voyages through the Arctic seas and toward the beginning of the twentieth century the idea of mastering the Northern Sea Route became the subject of both collaboration and competition between American and Russian politicians.

The "Northern Sea Route" encompassed far more than just the sea coast: it was envisioned as a massive communication and transportation network joining the seas of the Arctic Ocean with the Siberian rivers (the Severnaya Dvina, Pechora, Ob, Yenisei, Lena, and other rivers) that flowed into the Arctic Ocean. The organization of water transport in the Ob North, via the Kara Sea and likewise along the Ob and Irtysh rivers was

accomplished in two stages. The first stage (1920-1932) consisted of expeditionary work conducted under the aegis of *Komsevmorput*. (*Komitet Severnogo Morskogo Puti*, Committee of the Northern Sea Route) which was established in 1920 by the Siberian Revolutionary Committee (*Sibrevkom*). The second stage (1933-1938) focused on the development of transportation and other branches of the northern economy: this stage was directed by the territorial divisions of *Glavsevmorput*.

Komseveroput and early scientific and trade expeditions (1920-1932)

In March of 1920 the Supreme Council of the National Economy (*Vysshy Sovet Narodnogo Khozyaistva*, VSNKh) created the "Northern scientific-trade expedition" as a permanent body to "wake up the economic forces sleeping in the North and to prepare them for practice use" (*Izvestiya VTsIK*, 25 December 1921). The research was headed by several famous scientists-- academician A.E. Fersman, and professors V. Yu. Vize, B.M. Zhitkov, I.M. Klipovich, R.L. Samoylovich, Yu. M. Shokal'skii-- who directed teams of researchers in field exploration. Between 1920-1924 the Northern expedition discovered fields of maxite and apatite in the Khibiny tundra, located deposits of coal and oil in the Pechora valley, surveyed the fish and sea mammal resources of the Barents and Kara Seas, and conducted systematic studies of the atmosphere, the arctic waters and the polar tundra. Another foci of their work was the culture of the indigenous peoples in the polar region. In the words of academician Fersman, "in studying their lifestyle, the Northern Expedition saw in the peoples of the North one of the productive forces of the country on which should be supported a new economy" (*Izvestiya VTsIK* 1921, 25.12). The results of the Northern expedition were published in 60 volumes (Slavin 1982:5).

In 1925 the Northern Scientific-Trade Expedition was reorganized into the Institute for studying the North, under the auspices of VSNKh. On the basis of this Institute arose the Arctic Scientific Research Institute (ANII) in 1930. Directed by academician O.Yu. Shmidt, the ANII became the leading scientific center for the study of the Northern Arctic Ocean and contiguous territories of the Russia polar region.

Meanwhile, Komseveroput' continued work on the project to develop a communication-transport system in the Ob-Enisei North. On April 8, 1921 the Council of Labor and Defense of the RSFSR (*Sovet Truda i Oborony, STO RSFSR*) decreed that "In light of the urgent need to create the Great Northern route from Siberia to Europe, and taking into account the forthcoming colossal colonization of Siberia" the following measures were to be taken: 1) The VSNKh was to organize a Yamal expedition. 2) The Yamal expedition was entrusted with the exploration of the Yamal and Mangazeisko-Turukhanskii water routes and the approaches to those routes via the Ob, Baidaratskoi and Tazovskoi bays; and likewise with the construction of railways and cart transport routes across local waterways. 3) The VSNKh was to equip the scientific posts and trading stations within the area of the expedition's work (TsGAOR, f.130, op.6, d.866, l. 11).

The work of the expedition was directed at the fulfillment of a development plan designed by I.I. El'port. El'port's project proposed the construction of channels along the routes of ancient portages- across the Yamal Peninsula from the western coast of the Kara Sea, along the Zelekhaya and Mutnaya rivers, through Lake Neito to Ob Bay, and then further along the Taz and Turukhan rivers to the Enisei River. The plan was to construct a single water route which would decrease the sailing distance through the Kara Sea to the Lower Ob and Enisei by 2,000 km. The expedition, led El'port, included engineers, hydrologists, topographers, and construction workers. Also in attendance were komissar I.I. Vasil'iev, and L.A. Korobov, the authorized agent of the All-Russian Central Executive Committee (*Vserossiiskii Tsentral'ny Iсполnitel'ny Komitet, VTsIK*). The latter remarked that "all supreme central establishments of the VSNKh, and the chairman of the VTsIK, M. I. Kalinin responded to the decree of the STO with the highest attention, thanks to which the Yamal expedition was superbly organized" (TsGAOR, f. 130, op. 6, d. 866, ll. 33, 61).

The administrators of river transport in Omsk, however, viewed the project with coolness, delaying the expedition's departure by one month. El'port had to appeal directly to the chairman of the Council for Labor and Defense, V.I. Lenin, for support. Lenin in turn demanded that the leaders of the Siberian Revolutionary Committee assist "the departure of

the expedition in military order” (TsGAOR, f. 130, op. 5, d. 845, ll. 25,28). But valuable time had been lost: part of the expedition left for Yamal at the end of August, while the remainder did not depart until September, the end of the Arctic navigational season. The expedition reached its destination, Novyi Port, on September 20; however, being unprepared to work in winter conditions, it returned south to the forest tundra area at the mouth of the Ob. The affair ended with the wintering over of engineer Platon’s research team in the village of Puiko, in southern Yamal. Support bases were established in Obdorsk, Samarov, Dem’yansk and Tobol’sk for future work. The best results were obtained by the Enisei group of researchers headed by the engineer G. H. Denisovyi. He was successful in collecting cartographic materials on the Turukhansk *krai* (province) and also in describing the hydrology of the Turukhansk and Taz rivers (TsGAOR, f. 130, op. 6, d. 866, ll. 2,9).

The director of affairs H. P. Gorbunov sent a report of the Yamal expedition to experts at the scientific-technical department of the VSNKh, to the Main Administration of the fishing industry and to the scientific consultant of the Council of Peoples Commissars (SNK), professor N.M. Klipovich. At a specially convened meeting, the experts agreed that “the idea of exploring Yamal and the possibility of uniting the lower Ob and Enisei rivers by canals represents a task of enormous state significance” (TsGAOR, f. 130, op. 6, d. 866, ll. 4, 5-6, 32). Nevertheless there were opponents of the project. The commission of experts which included academician V.A. Obruchev, professor B.M. Zhitkov and the leading specialist of the Committee of the Northern Sea Route, A.N. Shol’ts, worked out a “compromise” solution, which effectively defeated El’port’s plan. On January 22, 1922 the STO left the equipment of the expedition on Yamal with the vague prescription that it was “for scientific and practical research on the Far North in connection with the Northern ocean route” (TsGAOR, f. 130, op. 6, d. 866, ll. 26, 32, 33). No real interest in further scientific exploration remained.

Trade expeditions carried out under the aegis of *Narkomvneshtorg* (Peoples’ Commissariat of External Trade) and *Komsevmorput* were much more successful. The first

Kara trade expedition was conducted between June and July, 1920. More than 9,000 tons of wheat and 5,400 tons of raw materials were exported to England and Germany from Siberia, via the Irtysh and Ob rivers (*Izvestiya VTsIK*, 1920, 28.10). In 1921 *Narkomvneshtorg* concluded an agreement with a Swedish trading firm for the delivery of industrial goods valued at seven million gold rubles. Five commercial ships and one ice-breaker were employed in shipping the cargo from England. The caravan of vessels went to the east along the arctic route under the command of the famous Norwegian polar explorer Otto Sverdrup. The Ob-Irtysh portion of the expedition was headed by former tsarist admiral A.I. Osipov and komissar I.Ya. Kozhevnikov. Two thousand agricultural machines were brought to Siberia from England and Germany; 14,400 tons of foods, fur, skins, flax, and other goods were sent in the opposite direction, from Siberia to Archangel. The two caravans of ships met at Novyi Port on Yamal. The newspaper *Sovetskaya Sibir'* (Soviet Siberia) reported on 26 November 1921:

In Novyi Port, in the Far North the honorable Red banner of the VTsIK will be raised.

It is a sign of merit not only to the commanders of the ships, but also to every

longshoreman, sailor, and stoker who helped navigate through the ice of the Arctic

Ocean making a path for relations between the countries of the world and Siberia.

In the second half of the 1920s, timber (softwood species) became the main item for export from Siberia. Over the course of nine years (1920-28) the Kara expedition prepared and exported 77.8 thousand tons of raw materials and goods from Siberia and imported to Siberia 68.1 thousand tons of goods (Sibirtsev and Itin 1936).

In 1928 *Komseveroput* was reorganized into the Northern-Siberian state stock company of industry and transport. Its sphere of activities included forestry in the Enisei and Ob river basins; coal and graphite mining; the development of fishing and sea mammal hunting in the Gydan bay and the Ob inlet; the supply of manufactured goods to the residents of the polar regions; and the export of forest products to the European market (Shevelev 1985).

In the spring of 1932 *Gosplan* USSR (State Planning Commission) organized the first All-Union conference on the problems associated with the distribution of the new productive forces in the North. The conference was held in Moscow, where two proposals were debated: one advocated the immediate development of the Northern Sea Route; the other proposed the construction of a transcontinental railway from Murmansk to the port of Ayan, on the coast of the Sea of Okhotsk (*Problemy Severa* 1933; Slavin 1972). On the eve of the 1932 navigational season, the polar expedition under the leadership of O.Yu. Shmidt, traveling on the ice-strengthened ship “Alexandr Sibiryakov,” confirmed that through-passage along the Northern Sea Route was possible, supporting its further development. Advocates of the Northern Sea Route were victorious at the conference, and plans for development proceeded.

Glavsevmorput

On December 17, 1932 *Glavsevmorput* (Main Administration of the Northern Sea Route) was established within Council of Peoples’ Commissars. Its main purposes were to definitively establish the Northern Sea Route from the White Sea to the Bering Strait, equip and maintain the route in proper working condition, and provide for safe navigation along the route (*Resheniya partii...*1967:408). On July 20, 1934 the Council of National Commissars, SNK SSSR, and the Central Committee of All-Russian Communist Party (of Bolsheviks), TsK VKP(b), issued the joint decree “On measures for the development of the Northern Sea Route and Northern economy” (*Resheniya partii* 1967:481-486). The sphere of *Glavsevmorput* activity encompassed the whole territory of the Asiatic North above the 62nd parallel. Included in its purview were industrial enterprises of all-union significance, river and transport operations, geological survey organizations, state farms (*sovkhozy*), scientific stations, trade networks, integral cooperatives, and professional schools. *Glavsevmorput* received monopoly rights of ownership and disbursement of the basic means of production, sharing authority with the peoples’ committees for the fishing industry and internal affairs, whose enterprises were likewise occupied with exploiting the natural wealth of the North.

At the same time, the sole administrative committee that had responsibility for policies regarding native peoples of the North since 1925, commonly known as the Committee of the North, was abolished. The VTsIK SSSR issued a decree (August 10, 1935) “On the liquidation of the Committee for assistance to the peoples of Northern peripheries and the transfer of its functions to *Glavsevmorput*” (*Sbornik zakononii RSFSR*: 1936:27). For more information about the “Committee of the North” refer to INSROP Working Paper 93 - 1997 (Osherenko et al. 1997).

In 1935 regional administrations of *Glavsevmorput* were established throughout the Asiatic North. The Northern Ural Trust was reorganized into the Omsk territorial administration of *Glavsevmorput* with its center of operations in Tobol'sk. Most of the Trust's work was in the Yamal-Nenets National Okrug, although some of its divisions were located in Ostyak-Vogul (Khanty-Mansi) National Okrug, Omsk, Tiumen, and Tobol'sk. The structure of the administration included the Obdorsk political department and subdivisions for managing transport, agricultural and industrial economies, capital construction, supply and marketing, trade and procurement, scientific research work, culture, and enlightenment.

The investments of *Glavsevmorput* in cultural and economic development in the Ostyak-Vogul and Yamal-Nenets okrugs were dispersed in the following manner (Figure 1).

Figure 1. *Glavsevmorput* investment, Yamal-Nenets Autonomous *Okrug*

Object of Investments	Sum of annual investments per year (thousands of rubles)					
	1933	1934	1935	1936	Total	% of total
Scientific research	104.7	65.2	290.0	989.0	1,448.8	6.1
Fishing	n.a.	173.4	218.0	1,080.7	1,472.1	6.2
Sea-mammal hunting	n.a.	24.0	104.0	n.a.	128.0	0.05
Water transport	47.7	202.0	471.0	2,366.2	3,086.9	13.1
Construction of trading stations	190.8	145.0	30.0	216.8	582.6	2.4
Reconstruction of the Tobol'sk shipyard	57.5	119.0	69.0	n.a.	245.5	1.1
Housing-civic construction	283.0	13.0	n.a.	2,030.8	2,326.8	9.7
Other investments ²	937.5	1,099.6	2,332.0	10,087.8	1,4456.9	61.35
Total	1,621.2	1,841.2	3,514.0	16771.3	23,747.6	100.0

¹ Figures not available.

² "Other" investments were made in the timber industry and production of construction materials, communications, air transport, preparation of cadres, establishment of administrative apparatus, etc.

Source of data: GAOO, f. 437, op. 9, l. 42.

On the whole, the expenses of *Glavsevmorput* for industrial and social needs in the Yamal-Nenets *okrug* comprised roughly 65% of the entire budget of the *okrug*.

In the 1930s several ships were able to establish regular transportation and communication routes between western Siberian cities and the polar regions. In 1938 the ship "Anastas Mikoyan" visited the polar trading stations and winter bases in Napalkovo, Gydoyamo, Tambei, Cape Drovyanoi, and the islands of Dikson, Belyi, Vise, Shokal'skii. In these early years ships brought 2855.7 tons of freight to northern outposts and settlements, and returned to their home ports with more than 300 seasonal workers, large stores of furs and fish (*Udarnik Arktiki* 1938).

In Tobol'sk and Omsk bases were built for wintering-over, and for the construction and repair of boats and ships suitable for navigation in northern waters. In addition to water transport, air transport was established. In 1935 the passenger airline Tiumen-Obdorsk was opened, and hydroplanes made several experimental flights to Aksarka, Novyi Port, Yar-Sale, and Khal'mersede. Meteorological stations were established to aid in safe water and air transportation. Also in 1935 the Arctic Institute organized the Obsko-

Tazovskaya and Gydayamo-Yamal'skaya expeditions for the purpose of studying the productivity of the fishing, fur hunting and trapping, and sea mammal hunting industries. Biological (commercial), reindeer herding, agricultural, veterinary-bacteriological, and hydro-meteorological stations were opened in Salekhard. When the republican reindeer trust was abolished, the Omsk administration of *Glavsevmorput* was given responsibility for three of the trust's state farms: Nadymskii (Kutop'yuganskii), Purovskii, and Saranpaul'skii. These *sovkhozy* were the first in the North to conduct massive inoculations of reindeer against Siberian ulcers, and measures were tested to protect the herds from hoof-and-mouth disease ("kopytki") and gadfly (*Udarnik Arktiki* 1935).

By January 1, 1936 the Omsk administration of *Glavsevmorput* was operating thirteen second-order meteorological stations, seventeen hydrological stations (of the first, second, and third order), two aero-meteorological stations, seven observation points, two informational bureaus, and seven radio stations. In 1936 new hydrometeorological stations were opened at Cape Drovyanoi, Tarko-Sale, on the Nadym and Pur rivers, and in the Polar Urals. In order to study the water and ice regimes of the Ob River and its tributaries, hydrological stations were equipped in Repolovo, Tundrino, Samburg, and in the lower Taz River (*Udarnik Arktiki* 1936).

Beginning in 1936 the Omsk administration of *Glavsevmorput* assumed responsibility for the hunting industry on Yamal. Operations were directed from the previously established fur office in the *okrug* center and from the industrial-biological scientific-production station. Norms for the conduct of hunting and fishing were defined and instituted to protect valuable and rare types of local fauna. The Yamal industrial-biological station set catch limits and seasons in accordance with the population size and migration routes of fur-bearing animals. In places of intensive fur trapping – Poluiskaya and Purovskaya – trade-hunting stations were established. Beavers, imported from America, were acclimatized and reintroduced on the Polui and Pur Rivers where they had been hunted to extinction in the first third of the 17th century.

In an effort to expand the lucrative business in furs and provide further hard currency for the state's coffers, the Yamal fur office launched a new economic activity - fur farming. In 1936 the first Yamal fur farm was opened near the village of Katravozh in Shuryshkary *raion*. The farm began with a base herd of 40 silver-black foxes, obtained from the Pushkin fur *sovkhoz* in Moscow *oblast*. After one year Katravozh farm had increased its herd to size to 143, and it began to place foxes in other farms within the Yamal-Nenets *Okrug*. *Glavsevmorput* opened 18 trading stations in the Yamal-Nenets *Okrug* (in Gydoyamo, Drovyanoi, Napalkovo, Seyaha, Tambei, etc.) to conduct fur preparation, and to supply Natives with hunting and fishing equipment. Fur production from trapping and hunting was valued at 600,000 rubles in 1932, rose to 1,934,000 rubles in 1934, 4,047,900 rubles in 1936; and for 1938 – 4,512,800 rubles (*Tridtsat' let...1960:26-37*). Sea mammal hunting stations were opened on the coasts and islands of the Kara Sea to support beluga whale hunting.

When the Committee of the North was abolished, its *kul'tbazy* (cultural centers) became the responsibility of *Glavsevmorput*. In general, the *kul'tbazy* were supposed to provide medical, educational, veterinary, and other services to the indigenous population. Their purpose was to introduce natives to Communist doctrine and teach them how to become "modern" members of the socialist labor force. *Kul'tbazy* were also expected to eliminate illiteracy, teach "modern" hygiene, and introduce other western (i.e. Russian) norms for behavior and lifestyle. The Kazym *kult'baza*, located on the Amnya River, was active among the Khanty, forest Nenets, and Komi of the Kazym area. The Sos'va *kul'tbaza* operated in areas inhabited by Mansi and Komi. The Yamal *kul'tbaza*, stationed in the *raion* center of Yar-Sale, worked with Nenets reindeer herders. The Taz *kul'tbaza*, located in the village of Khal'mersede, covered the territory of Tazovskii *raion* where Nenets and Sel'kup lived. Thirty-two percent of the indigenous people in the Yamal-Nenets and Khanty-Mansii *okrug*s lived within the territories of *kul'tbaza* activity. The success of individual *kul'tbazy* varied, although reports of their work rarely failed to record success in

glowing terms, all in keeping with the political imperative that nothing could possibly fail in the course of building socialism.

The activities of the Northern-Ural Trust and the Omsk administration of *Glavsevmorput* in the Ob North encompassed practically every sphere of economic and social activity. In 1938 a new decree by the Council of People's Commissars (August 29, 1938) instructed *Glavsevmorput* to focus its attention on resolving its primary objective – making the Northern Sea Route a consistent, reliable transportation route. Its work in providing economic and cultural services to the indigenous peoples were placed in the hands of local soviets (councils) and other organs of administration. Territorial administrations, such as the Omsk administration, were abolished and the supervision of enterprises and institutions was transferred to whichever ministry was deemed most appropriate. The six-year period of *Glavsevmorput's* involvement with the peoples of the North was thus ended.

In the following years the mining and geological branches of *Glavsevmorput* continued to conduct surveys on Yamal and Taimyr. In 1942 geologists discovered and described the Taz mountain structures as having good prospects for gas and oil development (RGAE, f. 9570, op.2, d. 343, l. 28). The Arctic Institute continued its research on the economic and social position of the indigenous people. The conclusions, which included an account of the period during which *Glavsevmorput* was in charge of native affairs, were documented in the 1946 report "Data on the contemporary conditions of the peoples of the Far North." In summary, the report found that the transfer of authority from the Committee of the North first to *Glavsevmorput*, and later to local soviets and other organs of power, had been unsuccessful. Neither *Glavsevmorput*, nor the local authorities had been able to provide the attention or services needed by native peoples. Medical services and personnel were sharply curtailed with the result that large numbers of native peoples died. Educational and other cultural opportunities ceased to exist. Indigenous economies based on hunting, fishing, and especially those dependent on reindeer suffered serious downturns. The number of reindeer in the whole of the Russian Far North

decreased from 2.1 million head in 1926 to 178,000 in 1945 in no small measure due to confiscation or forced sale of reindeer to support the war effort. By the end of the World War II, the neglect of the northern nationalities was apparent. The Arctic Institute researchers reported:

It seems to us, that the northern peoples are not catching up to the other peoples of the Soviet Union, but are instead falling behind. The paradox is in the rapid growth of the productive forces of the Far North, and the consequent high increase in the population from outside. It would seem that these rates of growth would benefit the nationalities. But this is not so. The flow of population and the demands on local authorities have grown so quickly and become so complicated, that the Soviets of nationalities of *okruga* and *raiony* have put their work with the indigenous peoples in the background (RGAE, f.9570, op.2, d.1447, ll.2-171).

The Human Geography of Land Use

Land use on the Yamal Peninsula can be roughly divided into activities dependent upon renewable resources and those dependent on non-renewable resources. Non-renewable resource use on Yamal revolves around the industrial exploitation of natural gas and oil. The traditional economic activities of the native peoples – hunting, fishing, gathering and reindeer herding – all have important seasonal aspects. As discussed above, the "traditional" activities of herding as well as trapping, hunting, and fishing continue as subsistence activities that provide food, clothing, shelter, and other material needs of the indigenous population, but these activities have been altered by outside institutions in order to meet the needs of a wider population. Sometimes referred to in the Russian lexicon as industrial fishing or industrial herding, these activities have prominent features of modern commerce interwoven with traditional practices.

Until the late 18th century, the Yamal Nenets practiced small-scale reindeer breeding primarily for transportation, and focused their subsistence efforts on hunting and foraging. Beginning in the late 18th century, radical changes in this lifestyle began to occur, and in a relatively short period of time, 150-200 years, the tundra Nenets had

transformed their economy and attendant lifestyle to incorporate large-scale carnivorous reindeer breeding to replace hunting as a basic means of providing subsistence meat and goods. Krupnik (1993) has explained this transformation as a result of the convergence of ecologically and socially favorable conditions which both caused and made possible the successful transformation of cultures and economies. Golovnev, on the contrary, concludes that social pressure of Russian conquest and colonization perhaps combined with adverse ecological conditions (relative warming) pushed Nenets further north out of the forest tundra where they needed larger numbers of reindeer for transport and food (Golovnev 1993: 92,93; 1995: 195). These explanations of the shift to large-scale reindeer herding as well as those of other scholars are discussed at greater length in Golovnev and Osherenko (forthcoming, Chapter 1). Whatever its cause, this rise in large-scale reindeer herding reduced or even eliminated seasonal food shortages and enabled the West Siberian Nenets population to expand three fold between 1695 and 1939 from 4,000 to 12,000 (Krupnik 1996: 74). At the same time, the Nenets population of the Yamal Peninsula doubled from 1,500 to at least 3,000, due in part to migration of Nenets families from the Urals and the European tundra pushed east and north from their homelands as Russian colonization pressed Komi, Khanty, and other Nenets northward (Krupnik 1996: 81).

Today, large-scale domestic reindeer herding remains the backbone of the Nenets economy and culture in the Yamal-Nenets A.O. Roughly half the native population of Yamal (4,500 Nenets and a few Khanty) leads a nomadic or semi-nomadic life in *Yamalskii raion*. They live in canvas and reindeer hide tents and move with their families and herds to designated pastures in a six season rotational cycle (Osherenko 1995).

Fishing and sea mammal hunting had for centuries been a way of life for part of the Nenets population living in dug outs along rivers and the sea coast. Commercial fishing activities arrived with Soviet authorities; industrial scale fish processing today occurs at three fishing plants at Novyi Port (*Novoportovskii*), Puiko (*Puikovskii*), and Aksarka (*Aksarkovskii*). The areas of most intensive fishing activity are located on the eastern shores of Yamal, near Novyi Port and Yaptik-Sale.

Figure 2. Occupations of the Workforce of Yamal

Branches of Economy	Number of enterprises	% of total number of working persons
Industry*	961	15.3
Agriculture*	1,824	28.9
Transport	476	7.6
Communications	115	1.8
Construction	1,235	19.6
Trade	377	6.0
Information and statistical services	4	0.1
Housing and basic domestic services	91	1.4
Health care, sports, and social services	288	4.6
Education	630	10.0
Culture and arts	81	1.3
Crediting bureaus	25	0.4
Administration	96	1.5
Cooperatives, small and private enterprises	98	1.5
Total	6,301	100

* Industry enterprises are mostly fishing brigades and fish factories; some of these include reindeer herds and fur farms controlled by fish enterprises. Agriculture is primarily reindeer herding but includes some hay production and dairy farming in southern Yamal as well as fur farms within the sovkhozy.

Source: Data from Gosstatistiki; employment data current as of July 14, 1992.

Beginning in the 1960s, the exploration and exploitation of gas and oil fields on Yamal have gained in importance at both the national (Soviet/Russian) and international levels. In 1964 the Novoportovskoe gas-condensate field was discovered, and between 1964 and 1990 Soviet oil-gas surveying expeditions discovered 21 important fields on Yamal: 15 gas and gas condensate fields and six oil-gas condensate fields. Oil and gas exploration in Northwest Siberia was shifting north to Yamal after extensive exploitation throughout the rest of the region.

Northwest Siberian oil workers had produced the first million tons of oil in 1965. In five years production had risen to 28.5 million tons, by 1975, to 143.2 million, and by 1980 to 307.9 million tons. Gas production, which had totaled 3.3 million cubic meters in 1965, rose to 9.5 million cu. m. in 1970, 38 million cu. m. in 1975, and 160 million cu. m. in 1980. Thousands of miles of pipelines, roads and railroads cut across the tundra and taiga. Annually about 1 million tons of oil spill out into the environment from pipeline

accidents in the Ob River basin. By 1988, eleven million hectares (42,460 square miles) of reindeer pasture in the Yamal-Nenets and Khanty-Mansiisk okrugs had become unusable according to widespread reports (Aipin 1989: 140). This figure includes destruction of pastures on the Taz Peninsula due to development of the Yamburg gas fields. By 1988, 594,000 hectares (2,293 square miles) and 24,000 reindeer had been lost by the five state reindeer farms of the Yamal Nenets okrug due to partial construction of the Labytnangi-Bovanenko railroad (Vahktin 1992: 24 citing *Severnye Prostory*, no. 6, 1988: 11).

In addition to oil and gas development industrial and military installations both within and beyond Northwest Siberia polluted the tundra and taiga. Persistent organic pollutants (POPS), heavy metals, and radioactivity have been transported via air and water from mining, metallurgical, chemical, nuclear and military sites to the south in Ekaterinburg, Chelyabinsk, Ust'-Kamenogorsk, Omsk, Barnaul, Biisk, Novosibirsk, Kemerovo, and Tomsk, as well as more distant locales. These sources contribute to the water pollution carried by the Ob River north into Ob Bay and the Arctic Ocean. According to a United States Government report:

...the largest releases of radioactive wastes in the world have been recorded over the last few decades at sites including Chelyabinsk [and] Tomsk ...[on rivers that flow into the Ob and at Krasnoyarsk on the Yenisei]. Wastes totaling more than 100 million curies were discharged into lakes and rivers at one site, and billions of curies have been injected directly underground (*Nuclear Wastes*...1995: 8, 30).

In the waters of the Kara Sea surrounding Novaya Zemlya to the northwest of Yamal, the Soviet Union dumped containers and barges, as well as ships and submarines containing nuclear reactors both with and without spent fuel: the dumping occurred in the 1960-1980s (*Nuclear Wastes* ...1995: 28, 29). Between 1954 and 1990, the Soviet military also conducted 132 nuclear tests on Novaya Zemlya; these included 87 tests in the atmosphere, three underwater, and 42 underground (*Nuclear Wastes* 1995: 34). While the government report indicates that most fallout from nuclear tests was distributed globally, it does not rule out the probability that "close-in fallout may have been deposited over the

Kara Sea" and perhaps by extension over the Yamal Peninsula as atmospheric transport generally moved eastward (*Nuclear Wastes* 1995: 34). In addition, in the middle Ob basin 15 underground nuclear explosions were employed during the Soviet period in attempts to increase the productivity of oil fields. Work at Woods Hole Oceanographic Institution has attempted to identify the sources and mechanisms of transport of nuclear contaminants in the Ob River (Sayles, et al.1997).

Political Geography

Yamal, like most other parts of the former Soviet Union experienced numerous political and administrative changes during the early years of Soviet rule as more "modern" forms of government were introduced among the indigenous peoples. The territorial division of the Far North into ethnic or national regions (demarcating ethnic boundaries) began in 1926. National *raiony* (districts) were created for the Nanai, Ul'chi, Chukchi, Eskimo, Aleut, Tofalar, Even, Evenk, and others. In 1930 the Presidium of the VTsIK passed a decree on "the organization of the national units in regions settled by the Northern minorities." Eight National Okrugs were established, two of which were the Ostiak-Vogul National Okrug (now Khanty-Mansiisk Autonomous Okrug) and the Yamal National Okrug (now Yamal-Nenets Autonomous Okrug) (Sergeev 1964: 501). National okrugs were intended as a transitional step from "patriarchal-clan self-governance to socialist statehood, skipping all the intervening stages of development" (Zibarev 1968). In practice, however, the national okrugs (since 1977 the autonomous okrugs) were secondary administrative organs, subordinated to *oblast* (regional), federal (republic) and supreme authorities.

The Yamal Peninsula lies within the northern part of Tiumen *Oblast* that encompasses the Yamal-Nenets Autonomous Okrug, whose administrative center is in Salekhard. The Autonomous Okrug is composed of five smaller administrative *raiony*: Yamalskii, Priural'skii, Tazovskii, Nadymskii, and Purovskii. Yamalskii *raion*, with its administrative center in the town of Yar-Sale, covers most of the Peninsula. Priuralskii *raion* (administrative center - Aksarka) includes only a small portion of the Peninsula: on

the north it is bordered by Baidarata Bay, while its northeastern and eastern sections extend into the foothills of the Polar Urals (Osherenko 1995).

Figure 3. Administrative Divisions and Population of the Yamal Nenets AO

Administrative Units	Year Formed	Population 1992	Population 1993
Yamal-Nenets AO	1930	479,000	464,800
Taz region	1930	17,600	16,700
Pur region*	1930	57,600	54,100
(Novo-Urengoi Gorsovet*		101,000	96,600
Noiabr'sk Gorsovet*	1982	94,100	94,100
Nadym region*	1930	26,300	25,900
Nadym Gorsovet*	1972	51,100	49,100
Yamal region	1930	14,300	13,700
Priural region	1930	6,800	6,800
Labytnangi Gorsovet*	1975	34,400	32,400
Salekhard Gorsovet* ¹	1938	30,800	29,900

* These administrative units do not have borders directly on the sea coast.

¹ Salekhard city was founded in 1595.

Demography

Two indigenous groups –the Nenets and the Khanty – call the Yamal Peninsula “home.” The Nenets language belongs to the Samoyed group of the Ural language family. Their nearest neighbors territorially and relatives linguistically are Samoyedic-speaking peoples: Enets and Nganasan (living on the Taimyr Peninsula) and Sel'kup (living in the middle Ob River and on the Taz and Turukhan Rivers). To the south, Khanty and Mansi (Ugrian peoples of the uralic language family) live in the forest (taiga) territory of the middle and lower Ob Rivers. See Map 3.

Small groups of Khanty live in the southern portions of the Yamal Peninsula. Even in antiquity, Khanty and Nenets peoples were neighbors along the border between the taiga and the tundra. Before the Soviet period, the Nenets whose summer pastures were on the western bank of the Ob river and of Ob Bay were identified by Russians as the *Kamennye Samoyed* (Stone Samoyed) or Samoyed of the Ural (Stone) Mountain Ridge, while Nenets

who moved to pastures east of the Ob River and Ob Bay were known as the *Nizovye Samoyed* (Krupnik 1996: 72).

The earliest data which are relatively complete regarding the population size and clan composition of the "Stone Samoyed" are found in a revised census from the second half of the 18th century. The gradual growth of the tundra Nenets population can be seen in data from the nineteenth century as well (Figure 4).

Figure 4. Nenets population at the end of the 18th and first half of the 19th centuries

Clan Name	Number of Individuals (Males and Females)				
	Year				
	1763 Males Only	1783	1795	1816	1858
Kharyuchi (Karacheya)	340	909	997	1,332	2,020
Ezyngi (Ezynrei)	129	256	260	334	152
Vanuita (Vaniuty)	238	430	488	685	622
Ngano-Khariuchi (Anu-Karacheya)	87	144	156	317	127
Yaptik (Yaptikov)	80	145	151	166	177
Murtiuki	88	191	160	229	168
Total	962	2,075	2,212	3,063	3,266

Source: Data from Vasil'ev 1979: 92, 157, 165-166.

In the early years of the twentieth century the Yamal tundra was relatively isolated from direct contacts with Russians, and those contacts that existed were not so intensive as to have promoted wide use of the Russian language (Figure 5).

Figure 5. Indigenous population of Yamal from the 1926-1927 census

Number of households	Total number of males	Males in the age group, 18-59 (of this number those not able to work)	Total number of females	Females in the age group, 18-59 (of this number those not able to work)	Total number of individuals of both sexes	Number of households where Russian was spoken
612	1643	859 (2)	1590	772 (2)	3233	8

In some cases the data from the 1926-1927 census are in dispute, however, and should probably be viewed as incomplete. For example, in 1928-1929, V.P. Evladov lead an expedition to Yamal at which time he counted 1,243 Nenets families, in contrast to the

612 families counted in the census. Similar discrepancies in the total population as well as in the number of reindeer can also be found (Dolgikh 1970: 66-67). In the decades that followed, the Nenets population on Yamal increased, despite the hardships of a nomadic lifestyle and the imposition of Soviet social, economic, and political institutions (Figure 6).

Figure 6. Population of Yamalskii raion 1964-1994

Year	Number of Families	Russians	Nenets	Khanty	Total Population
1964	2,256	2,376	5,552	168	8,778
1974	n.a.	3,222	6,223	260*	10,263
1984	4,249	4,449	6,507	290	13,303
1994	4,559	4,392	8,636	341	15,507

* approximate

Source: Data from *Gosstatistiki Yamal-Nenets A.O.*, Yarsale archive of raion administration.

The population of the Polar Urals must also be considered with the Peninsula proper. This population was divided under the Soviets into two village councils (*sel'sovety*): Baidaratskii and Laborovaya. The population administered by the Baidaratskii village council is concentrated in Shchuch'ya village. Its total population in 1994 was 381 individuals (77 families): of 377 native residents, 367 were Nenets and 10 were Khanty. Also in 1994, the Laborovaya village council encompassed 564 individuals (107 families): the majority of the population was Nenets (561 individuals in 101 families), with only three Russians resident in the village. There were thus 9,564 Nenets living on the Yamal Peninsula at the beginning of 1994. Nenets families tend to have many children, and thus the natural growth of the indigenous population continues to be evident. At the same time, the non-native population was leaving the Peninsula for the "big land" (*bol'shaya zemlya* – the more southern, central parts of the country) in the crisis period of the early 1990s. This out migration was not so marked as in Chukotka, and some have even returned.

Outsiders arrived in the region in two great waves in the 1930s and 1940s. The first coincided with creation of the Northern Sea Route: between 1930 and 1934 more than 50,000 peasants from Azovo-Chernomorski, Volga, Ural, and the southern Siberian provinces were deprived of their property and resettled onto areas of Khanty-Mansiisk and

Yamal-Nenets Okrugs. These *spetzpereselentsy* (special resettlers) were directed to the areas of new construction and were obliged to do compulsory work. They build the okrug center Khanty-Mansiisk, the Belogorskii wood-processing plant, the Obdorsk and Samarovsk fish-processing factories and other enterprises. Another influx of non-natives arrived between 1940 and 1949 as massive deportees came to the Ob north from Leningrad, Pribaltika, the western provinces of Ukraine, Belorussia, Bessarabia, and the Volga region.

Ethnography and the Native Economy

Today, Nenets society on Yamal may be roughly divided into two groups – nomadic and sedentary. About half the indigenous people of Yamal are nomads living on tundra and keeping their traditions while the other half are villagers living on the line between indigenous tundra and urban societies. Although administratively, each nomad family is listed as belonging to a particular village or settlement, most move with the herds, living in tents on the land. The sedentary population lives permanently either in small villages of 200-500 people or in the larger administrative or economic centers. In the villages natives hold jobs related to fishing and fish processing industry or work for one of the cooperatives, the state farms, or the government. Only tiny minorities of non-natives live in the small settlements, but they frequently hold the leadership posts and top-paying jobs. Summer tents are a common sight close to or even in the villages, as settled Nenets families expand their cramped quarters with the traditional form of mobile summer home. The non-native population of Russians, Ukrainians, and others live primarily in the district center, Yar-Sale, in towns tied to fish factories or oil and gas development – Panaevsk, Novyi Port and Mys Kamennyi. Most settled Nenets families have relatives and ties to tundra families and, like their nomadic relatives, define their culture in terms of reindeer herding, not life in the settlements.

Most nomadic Yamal people, and especially the aged, follow numerous traditional practices in ritual and everyday life (see Golovnev 1995). Space, roles, and spheres of

activity are delineated along lines of gender. For a Nenets herder, a woman (usually a wife, mother, or sister) makes life on the tundra possible. In 1994, over half the nomadic population was female indicating the strong tradition of families nomadizing together. The herding life on Yamal continues to attract girls and boys in about equal numbers. Within the *chum* (Rus.) or *mya* (Nenets) space is divided into male and female domains, though to some degree, the whole *chum* belongs to the women. The space of the home is the woman's sphere of action; the open tundra is the man's. When the migration begins, traditionally a woman leads the caravan, while a man drives the reindeer herd and chooses the route. A man determines the site for a new camp; the woman sets the first object – sheet iron for the hearth – on the tent foundation. The woman conducts all rituals connected with the domestic fire and the sacred pole in the tent. She is the keeper of the holy fire and of smoke rituals. She tends the guardian spirits of the home and family. The sacred sites on the tundra are the sphere of men, and women must not approach a sanctuary. This leaves an impression that the "high" religious sphere is that of men and a set of minor (domestic) superstitions, that of women. In Nenets spatial beliefs, however, a tent is no less important than the expanse of tundra. In some respects the tent is more significant; it is "near" rather than "far". (The concepts of gendered space and sacred power are developed in greater detail in Golovnev and Osherenko, forthcoming.)

According to data from the 1926-27 census, out of 612 Nenets families on Yamal, 603 families were nomadic reindeer breeders. Herd sizes varied: in northern Yamal the average size of a family's herd was 238 reindeer, in the central regions, 217 reindeer, and in the southern areas 76 reindeer. There were also differences in herd size from east to west, with larger herds in the eastern and central portions of the Peninsula than in the west. Families in the west, with small herds of reindeer relied heavily on other activities – sea mammal hunting and fishing – to provide for their nutritional and material needs. A variety of seals and walrus were hunted along the arctic coast and in Ob Bay; fishing activities were most intensive at the mouths of the Mordyyakha and Yuribei rivers in the western tundra. In the east and south the fishing grounds of Novyi Port, Yar-Sale, Puiko, and the

numerous other streams and branches entering Ob Bay provided were important resources for the Nenets people. The Nenets also hunted fur bearing animals and waterfowl.

Residents of the northern tundra periodically hunted wild reindeer, of which there were small herds on the arctic coast and on Belyi Island. Families with small herds of reindeer frequently sent their deer to pasture with the larger herds of nomadic families, and in exchange for this service, provided fish and sea products to the herders (*Tobol'skii okrug* 1928; Golovnev 1993).

As with population data from the earliest years of the Soviet period, economic data must also be viewed as potentially incomplete. Nevertheless, Figure 7 provides a general picture of the relative importance of traditional subsistence activities to the Native population of Yamal before collectivization.

Figure 7. Occupation of Native peoples in Yamal, 1927-28 census data

Occupation	Number of working individuals in the household (the number employed outside)	Reindeer herding	Fishing	Sea-mammal hunting	Hunting fur-bearing animals	Transportation
Males	1040 (27)	1001	810	79	754	5
Females	799 (1)	781	150	0	16	0

Reindeer herding is a collective activity, which requires significant cooperation between both family members and between families who move their deer over vast stretches of territory. Under some circumstances herds might be pastured together for ease in supervision, in others when pasturage was bad, herds might have to be split and moved to new locations more frequently. Treatment of disease and protection from predators also required the cooperative efforts of herders.

The Collectivized Farm System

The 1926-27 census reported 126,966 semi-domesticated reindeer in the Yamal tundra. On October 5, 1929 the first collective farm (*kolkhoz*) on Yamal was created with six Nenets households in Yar-Sale. In 1935 in Yamalskii raion there were five *kolkhozy*,

encompassing 104 families and 2,815 communal reindeer (GAYaNAO, f. 690, op. 1, d.7). In 1941 there were 20 *kolkhozy*. The years surrounding World War II were a time of serious crisis for the native peoples. Collectivization and resettlement were carried out by force. Mass confiscation of private reindeer herds by the Soviet state often resulted in the mass destruction of those herds and the collectivized herds by the herders themselves in protest against Soviet actions (Figure 8). In 1943 the northern Yamal and Polar Nenets peoples staged a revolt, demanding that the confiscation of reindeer cease and the *kolkhozy* be abolished. This rebellion in which over 150 men took part, was incited and organized by the Yamal district KGB office itself. The authorities violently crushed the rebellion, killing seven, wounding seven more and imprisoning 50 of those who did not escape. (A full account of this and earlier rebellions is provided in Golovnev and Osherenko, forthcoming). Only at the beginning of the 1950s did the reindeer herds in these areas begin to recover.

Figure 8. Dynamics of the reindeer population on Yamal in the 1940s

Number of reindeer	1941	1942	1943	1944	1945	1946	1948	1949	1950
Communal property	20,865	34,377	43,766	34,493	34,363	36,413	42,919	34,735	45,169
Private property	122,080	81,903	43,962	40,183	34,427	31,059	21,552	25,683	22,412
Total	142,945	116,280	87,728	74,676	68,790	67,472	64,471	60,418	67,581

Source: The data were collected from the archive of the Yamalskii raion committee of the Communist Party, housed in the Yamal Regional Museum in Yar-Sale. The designation of "communal property" includes both reindeer in the *kolkhozy* and reindeer belonging to state enterprises. The designation "private property" includes both reindeer belonging to *kolkhoz* members and reindeer belonging to independent (non-collectivized) households.

After World War II, Soviet officials closed eight collective farms that had been established in northern Yamal and relocated over 300 households to the southern part of the peninsula (Vostriakov and Brodnev 1964: 25). In the early 1950s, Soviet authorities began the consolidation of *kolkhozes* in the *okrug*, and finally in 1961, reorganized the remaining collectives into a dozen large state farms (*sovkholy*) (Khomich 1980: 72). Three of these state farms were established in the Yamal district: Yamal'skii on the northern tundra (administered from Seyaha), Yarsalinskii on the central and southern tundra (with its center

in Yar-Sale), and Rossiya on the western tundra (with its center in Panaevsk). As part of this reorganization portions of the *kolkhoz* herds were transferred to two fishing plants: one at Novyi Port (*Novoportovskii*), the other at Puiko (*Puikovskii*). Families, forced by loss of their herds and administrative pressure after the Second World War, were settled in coastal villages to provide labor for the fish plants. Non-natives are employed in and often still hold the top positions in the commercial fishing and reindeer herding trades.

In the mid-1980s the fishing plants turned their herds over to the *sovkhozy*. In the 1980s the strict regulation on the size of private herds was abolished. As a result, private herds have rapidly increased in size, with substantial decreases in the size of collectivized herds on the *sovkhozy* (Figure 9).

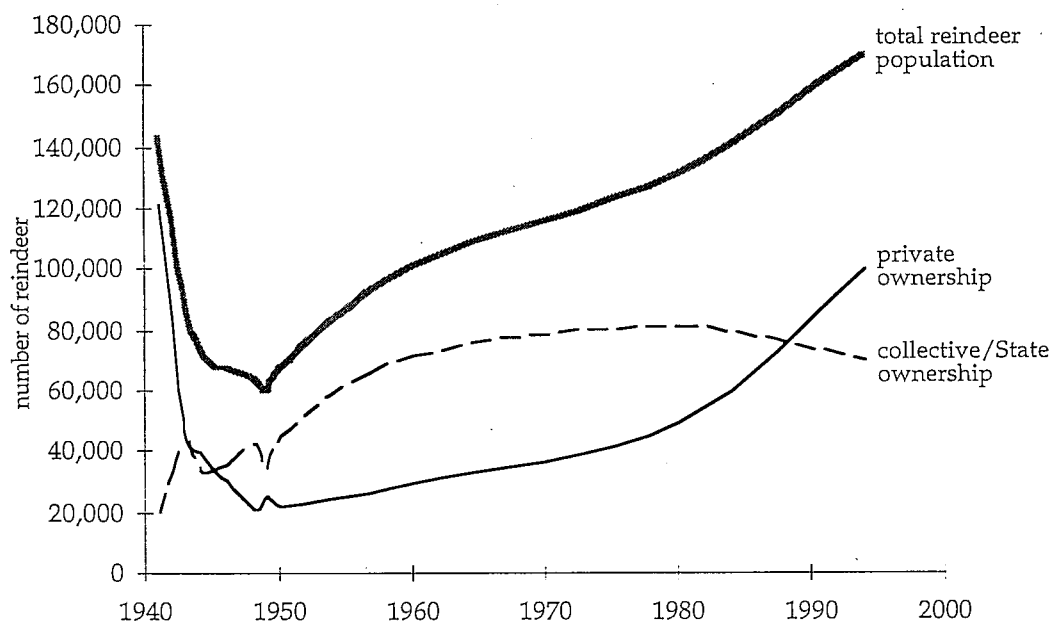
Figure 9. Number of semi-domestic reindeer on Yamal, 1960-1994

Reindeer herd owners	Year - 1960	Year - 1980	Year - 1994
Sovkhoz "Yarsalinskii"	16,372	28,500	36,756
Sovkhoz "Yamal'skii"	3,899	18,000	15,787
Sovkhoz "Rossiya"	15,175	16,520	17,513
Novoportovskii fishing plant	24,111	12,552	--
Puikovskii fishing plant	12,229	5,546	--
Total state-owned reindeer	71,786	81,118	70,056
Total privately-owned reindeer	29,720	50,070	100,021
Total number of reindeer in Yamal'skii raion	101,506	131,188	170,077

In contrast to most of Russia where collectivization lasted long enough to suppress the rural economy, on Yamal it lasted only a decade. Stalin's death in 1953 ended the epoch of open violence against traditional economies, and herders on Yamal found ways to save their herds even though the reindeer were officially delivered to collectives and later to state farms. The total number of reindeer on Yamal increased by more than fifty percent from 1950 to 1960 and had nearly doubled by 1980 (figure 10). Chronic underreporting to authorities of actual herd numbers has the potential effect of distorting the actual number of

both collective and private herds (as shown in Figures 8 and 9); nevertheless, the tables are useful to show relative size of the herds over the reported time.

Figure 10. Reindeer population and ownership (1941-1994)



Source: This graph is constructed from data in figures 8 and 9 above.

In the 1990s, reindeer breeding in Yamal may have again entered a period of crisis. In the opinions of both agricultural experts and the herders themselves, the number of reindeer in Yamal has reached, if not exceeded, the carrying capacity of the available pasturage. The state farms of Yamalskii *raion* have 10,478,000 hectares of land allotted to them for their use: eighty-seven percent of this land is used for reindeer pasture. All of the pasturage is used intensively at various seasons of the year. Under such intensive usage, pastures are being progressively degraded: seventy percent of the pasturage is now considered to be of the poorest category of suitable forage. Along some migration routes as well as in areas around settlements, the lichens which are an essential component of the reindeer diet (especially during the winter months) have been replaced by moss and

Labrador tea. Pastureland is also degraded by road and rail construction and other facilities related to the development of gas and oil; damage to vegetation from industrial activity occurs well beyond the specific lands allocated to industrial interests (Vilchek 1992, Vilchek and Bykova 1992, Forbes 1995). The loss of pasturelands to development combined with a dramatic shift from state owned to privately owned reindeer and consequent rise in herd size has created a serious threat to herds on Yamal.

Property rights in the post-Soviet period

The system of property rights that emerges on Yamal in the 21st century will have a powerful impact on the culture and economy of the Nenets. It will determine, in large measure, whether the Nenets have a say in or even benefit from development of the super-giant gas fields on the peninsula. As potential western investors know from experience elsewhere in the Circumpolar North, the vast energy resources of Yamal could be developed in a more secure political environment with (rather than without) the support of indigenous residents. Experience in Alaska and the Canadian North demonstrates that according substantial property and even political rights to indigenous peoples does not create a barrier to larger national agendas for development of oil and gas resources. Recognition and implementation of indigenous property rights would allow the indigenous population to participate meaningfully in decisions regarding the timing, manner, and conditions of development (Osherenko, 1995a and b).

Rights to ownership of land and reindeer as well as a significant role in management decisions are crucial to the local reindeer herding economy predominant on the Yamal Peninsula. The most pressing question, however, is the future existence and structure of the state farms (*sovkhozy*) on Yamal. Three basic options are:

- (1) reconfiguration as cooperatives with herder families as members succeeding to rights and responsibilities of the *sovkhov*,
- (2) elimination of *sovkhozy* and transfer of their property rights, including rights to use the land for traditional activities, to private individuals or families, and

- (3) restructuring sovkhozy as subsidiaries of the existing Russian oil and gas enterprises.

The first option, reorganization of the productive arrangements under herder cooperatives, offers the greatest opportunity to continue traditional use, regulate herd size, and protect traditional land and culture. This option would eliminate the state as a dominant figure in the structure. Members of the cooperatives would have increased ownership rights rather than status as workers only. Membership might be limited to tundra families with restrictions on disposition rights designed to retain pasture land to support continued herding, hunting, fishing, and gathering. This approach would further self-determination by Nenets and Khanty of the peninsula.

Enormous problems of financial solvency and ability of the successor entities to survive in times of the shift to a market economy make a transition to herder cooperatives precarious. And for this reason, the option of protection under the umbrella of a "wealthy" gas company has been seductive. Insolvency problems of cooperatives, however, could be addressed through small scale loans by international and multilateral lending institutions and donor nations. Cooperative entities, once formed, could become successors not only to the land use rights of the sovkhov but proprietary, exclusionary, and limited disposition rights as well. How extensive the rights might be would depend in large measure on the authorizing legislation of the Russian Federation or resolution of land rights by the courts. With an increased bundle of rights over land, members of a cooperative would be in a strong position to negotiate with oil and gas companies over the conditions of industrial use and to collect rents and royalties from industrial use of the land. Such rents or royalties could be used by indigenous cooperatives to capitalize improved meat storage and processing, develop broader national and international markets, and provide for the needs of their members. A favorable arrangement regarding disposition of rights to land would be critical to the success of herder cooperatives.

One of the most difficult issues to resolve is the relative rights of indigenous peoples who have settled (both forcibly and voluntarily) in the villages in contrast to those

who continue to derive their livelihood from herding and hunting. Arguably, all indigenous residents should share in increased rights to historic homelands and to the economic rent derived from lands transferred to industry. In the villages, commercial fishing enterprises, meat processing, fur farming, and other state owned or operated businesses might similarly be converted to cooperatives and capitalized with a share of "rents" paid by industrial interests for access to oil, gas, and mineral reserves.

A variation on this option might employ corporate, rather than cooperative, structures of ownership. Some form of corporation with shareholders limited to members of the indigenous minorities who live on the relevant lands may be as successful a structure as the cooperative model. The agreements negotiated between the Canadian government and the Inuit in the Canadian Arctic (the Inuvialuit Final Agreement resulting from First Nation land claims in the western Canadian Arctic or Mackenzie Delta region and the more recent Nunavut Agreement covering claims in the eastern Canadian Arctic) provide useful models for the Russian North (*The Western Arctic Claim*, 1985; the Nunavut agreement, 1993).

In contrast to the Canadian models, the Alaska Native Claims Settlement Act (a legislated resolution of aboriginal land claims rather than a negotiated settlement) created for-profit Native owned corporations. Creation of for-profit (as opposed to non-profit) corporations would mark a drastic change in the incentive structure and value system of Nenets tundra society. In its pre-Soviet form, Nenets society was highly stratified. Krupnik describes a society with people of high, middle and low wealth, with wealth enumerated in herd size. Nevertheless, the purpose of that accumulation of capital on the hoof was and is quite different from accumulation of capital in a for-profit corporation. In the former, the goal is to sustain the family and community, and to reproduce and continue the reindeer herding culture. Even production for commercial sale outside native communities is linked to sustaining the family and community. In earlier times among some indigenous cultures of Alaska, the purpose of accumulation of wealth by individuals was for distribution to show rank and power within the community. Under the corporate system

now in place in Alaska, incentives of many Alaska Natives have changed to fit the new institutions created by the Alaska Native Claims Settlement Act. Accumulated wealth is no longer spread or redistributed widely within the community. In the case of a for-profit corporation, the purpose of capital accumulation is the growth and continuation of the corporation, and profits (in the form of dividends) pass to individuals rather than the group. Leaders in these new corporate structures assume new roles that reshape their goals and tend to create intra-community conflicts. Ultimately, the structure of increased indigenous rights to land and resources will affect the ability of indigenous people to continue their traditional occupations and move to a more diversified economy. These are crucial issues to be resolved in restructuring property rights, and they are best resolved with the full participation of the indigenous population .

The second option, division and privatization into individual or family farms, is the least likely and most impractical of the three options. Some marginal areas may be separated from the state farms and become financially stable private farms, tourist bases, or other enterprises, but the central migratory routes and core pastures cannot be divided into individual or family plots while still maintaining the large-scale herding practiced by Nenets today. It would be enormously difficult to divide all lands among households due to the complexity of pasture allocation and overlapping migration routes. This option is also historically unlikely. Traditional activities of the small numbered nationalities (herding, hunting, and trapping) have been accorded special protections in the law prior to and throughout the Soviet period. Although implementation and enforcement of such laws has been weak, abandoning these protections is not popular. And allocation of individual, as opposed to communal, rights is not widely favored in the Yamal-Nenets Okrug.

The third option in which *sovkhozy* become subsidiaries of oil and gas enterprises, in the short run, would allow the farms to survive financially and enhance prospects for processing and marketing of reindeer products. For these reasons, this option has been adopted by some state farms in the okrug. Under it, however, the interests of the reindeer herders are likely to be subordinated to the parent oil/gas company's primary interests.

Long term protection of grazing land and the reindeer herding lifestyle would be uncertain. Following privatization of the gas companies, the herders' interests may be further diminished as private individuals and entities would control almost half the shares, diluting the voice of the central government which (though not benign) at least has a history of policies protective of the interests of numerically small nationalities. If the subsidiary reindeer farms are not independently productive (or even profitable by capitalist standards), oil and gas enterprises may not continue to subsidize them from profits of other business activities. As Russia's monopolistic regional gas enterprises are forced to become more efficient in order to compete in the international market, their incentives and policies could change to the detriment of the reindeer herding subsidiaries. At a minimum, if reindeer herding farms become subsidiaries of other enterprises, the contractual agreements should commit the parent company in writing to continue support for the herding economy.

As we have elaborated the issues of property rights in other publications, we will not explore these further here. The essential point is that the economic reforms in Russia need to be supported by a clear elaboration of rights to property. Those engaged in development of the Northern Sea Route in and around the Yamal Peninsula, should encourage further research into and discussion of the design of property rights systems appropriate to conditions on the Yamal Peninsula. It is not in keeping with principles of indigenous self-governance for outside researchers to make specific recommendations for creation of new institutions or redesign of existing ones. Rather, we should help to arrange fora in which the local population can examine reasonable alternatives and devise their own strategies.

In summary, restructuring property rights to strengthen the local economies and cultures of indigenous peoples of the Russian North such as those of Nenets and Khanty reindeer herders of Yamal is likely simultaneously to facilitate Russian and international interests in sound economic development of energy resources. Those involved in delivery of aid to and reform of the economy of Russia should focus on the design of equitable political and legal institutions that will sustain the indigenous economies that evolved and

persisted over centuries. These economies could survive well beyond the life of the oil and gas fields, which is reason enough to assist rather than undermine them.

Protests of the 1980s and 1990s: Native Leadership

As the era of *glasnost* arrived in the late 1980s, those ready to test the parameters of the new openness in the Soviet Union began with environmental issues. Khanty writer Yeremei Aipin penned a passionate and moving report of environmental destruction of the taiga by oil, gas, and timber interests, recounting how oil workers had stolen his father's boots leaving the old man to trudge home on a January night in his socks; how loggers had taken his father's sledge and dogs (his only transport) another winter; and finally "cut down all the trees on the tribal cemetery thus ruining [his father's] final resting place...." The article appeared in *Pravda* in June 1989 and later in English, drawing worldwide attention to the appalling destruction of indigenous lands in Northwest Siberia (*Pravda* 1 June 1989: 5; Aipin 1989: 136-43). The pleas of indigenous writers were supported by ecologists, geographers, and sociologists who had worked in Northwest Siberia and seen firsthand the impacts of oil and gas development. The crisis on Yamal thus became a focal point for the new environmentalism in the early stages of *glasnost* before the demise of the Soviet Union. In 1989, indigenous people established a regional native association, Yamal for Our Descendants, Yamal *Potomkam*, to oppose the ecological destruction of the Yamal Peninsula, improve economic and social conditions, and increase self-government. Together with the newly formed State Committee on Environmental Protection, environmental organizations, scientists, and local administrative agencies, indigenous people pressed the government to halt development of the Yamal gas fields. In 1989, the government declared a temporary moratorium on full scale development of Yamal gas and called for environmental and social impact studies. (See Vitebsky, 1990; Chance and Andreeva 1995: 226-229.)

In the 1990s, the government commissioned environmental and social impact assessments of alternative pipeline routes to move gas south from the west central part of the peninsula. The moratorium on construction was never seriously implemented, but

construction of the pipeline was delayed while, for the first time, alternative routes were examined and their environmental, social, and economic impacts, risks, and costs compared. Before the protests, plans called for gas deliveries to begin in 1991. By 1989, the deadline was pushed back five to seven years. Originally, engineers planned ten parallel pipelines transecting the peninsula from Bovanenko to Novyi Port, cutting across the core pasturelands and valuable fishing grounds. Today, plans have shrunk to hopes to construct three parallel pipelines (and possibly a "spare" fourth in case of loss of one the others). The preferred route has shifted to cross Baidarata Bay, avoiding the central pastures (compare Vitebsky 1990, with Andreeva et al. 1995). Although construction of the railroad and road as well as pipeline engineering studies have continued, lack of financing has indefinitely postponed construction of any pipeline on Yamal.¹ Given the fact that Nenets and Khanty compose only a small minority in their regions, they were able at the end of the Soviet period to tap into national and international public support that gave them political clout far beyond their slim numbers.

There are other small signs of reemerging leadership seeking protection of grazing lands and fishing grounds, and revitalization of indigenous self-government. Native associations and communities are also calling for return of local education to the villages and small settlements so that the children will not be removed from their parents at an early age. On Yamal, authorities finally agreed to open a primary school in the small fishing community of Sunaisale in 1994, after many years of requests from the local parents. In April 1990, Nenets herders on the Yaptik-Sale tundra objected to the placement of an exploratory drilling rig near the headwaters of a fish spawning stream that originates in

¹ In his review of this paper (appended to this report) Bruce Forbes notes that Gazprom officials were undecided (as of December 1997) on the proposed pipeline route. Additionally, they claim to have secured gas sales from the Yamal project. Officially, the government selected the Baidarata Bay route as the preferred alternative, but many circumstances have changed since 1995 and are likely to change further prior to development of any pipeline or of an LNG alternative. To the best of our knowledge, no development of a transport system on Yamal to deliver Yamal gas is likely before 2005. Therefore, we expect the alternative methods of transport and proposed routes to be reevaluated in light of commercial and economic circumstances sometime in the next century.

Yarto lake. At a local council meeting, Anatoly Hudi explained, "If [the rig] is not delivered to another place, the water in the river will be polluted and all the fish from there reach Ob Bay. Besides, we think in summertime, there wouldn't be a possibility to use tractors there along the tundra or our reindeer would be disturbed" (Minutes of *sel'sovet* (village council) meeting in Yaptik-sale, April 1990). The drillers did in fact move the rig to the opposite side of the lake away from the headwaters of the stream where the potential for pollution was reduced though not eliminated. It was a small victory, but one that might not have occurred only a few years earlier. In July 1992, Osherenko and Golovnev visited the then abandoned drill rig, traveling 40 kilometers through winding streams to reach the headwaters, a small blue lake on the far side of which the metal hulk loomed on a bank surrounded by sand and drill tailings. A strange colored pond lay behind the rig holding the liquids spewed up from the test well. Makeshift metal huts remained. An occasional magazine photo flapped from the patterned wallpaper of shacks in which the well drillers had briefly lived. These recent remains lay within sight of much more ancient remains of earlier nomads who had left a more subtle record of their regular presence on the banks of the lake in occasional places of exposed dark sediment.

To the south, forest Nenets and Khanty protested destruction of their homelands by oil development. Over a twenty year period, the traditional lands and waters of Khanty and forest Nenets had been plundered by oil pollution and thousands of newcomers who helped themselves to wild mushrooms and berries, game and fish while the indigenous people were forced to survive in increasingly marginal circumstances. Thirty people and many reindeer had been killed on the heavily used road between Raduzhny (an oil town in the taiga ironically named "Rainbow City") and the western Variogan region. Finally, in the summer of 1990, an oil truck hit and killed an old Nenets man's reindeer – his only means of transportation to hunting and fishing grounds, triggering a response that resonated around the world. Families from five clans in the area constructed a tent in the middle of a bridge that blocked trucks and machinery in both directions. Reports and photos of the protest reached Moscow and beyond. Native leaders from Moscow and Khanty-Mansiisk,

Vladimir Sangi, Evdokia Gayer, and Yeremei Aipin, appeared at the blockade. The locals told how reindeer had not only been struck accidentally but intentionally, decapitated and the carcasses left to rot. They gave accounts of the desiccation of a Nenets grave and told how trucks had terrorized an entire native camp destroying its storehouse, salted fish, and winter clothing (Svarovskii 1991: 18-22; photo reprinted in Slezkine 1994: 336).

"Compensation" for damage and destruction of lands and resources consisted of a bus and yearly payments of 300 thousand rubles to the Yariogan village council. Yuri Vaella Aivaseda, a forest Nenets poet and local leader, became the spokesperson for the protest. He rejected offers of financial compensation and asked rather that the destruction cease. Aivaseda, who edited a local newspaper in forest Nenets, has been in the forefront of a cultural revival in his homelands on the Agan River, now surrounded by oil and gas fields.

From the end of the 1980s, a revival has taken place, but its direction is still unclear. The official leaders of the new movement for ethnic/cultural revival are often the people who had been brought up in accordance with the Soviet value system. For such persons political goals are more important than the preservation and revival of the traditional native culture. Another major problem for Nenets leaders is to find ways to mediate between the nomadic and settled population. On Yamal the settled and semi-nomadic people reside in compact groupings, consisting of a so-called "ethnic village" and its surrounding areas and governed by a rural council (Russian *sel'sovet*). While the local administration of the villages is also the local government for the nomadic herders (who are registered in that *sel'sovet*), the more important administrative office for herders is that of the state farm (*sovkhoz*) which may be located in a different village or town. The Yamal tundra is now divided into several "tundras" —Yap'tiksale, Seyaha, Novyi Port and others.

For Nenets reindeer herders, sedentary life in Soviet-style villages contradicts the essential principles of their traditional lifestyle; moreover, in their indigenous philosophy, sedentary life is regarded as a sign of bad luck, misery, and a lack of freedom. In former times, only failed herders and families who had lost their herds became village dwellers. At the same time, during the Soviet period, some villagers acquired new skills and higher

education or technical training. Because of that the village community acquired a new and, in some respects, higher status vis-a-vis the remaining nomads. As in earlier times, however, the tundra has remained the main production base and the source of traditional values and practices. Over the years, Nenets villagers have developed a new type of community, where the way of life differs considerably from the tundra one. Here, new clan formations have grown and occupied important places in the village social hierarchy.

Contrary to what one might have expected, our observations suggest that there are no sharp contradictions between the tundra and the village. In various respects they complement each other, exchanging useful goods and ideas. Although there has been competition for prestige between the tundra and village communities, both have produced their own cohorts of Nenets leaders.

The Soviet socialist state is at least partly responsible for the creation and rise of the current indigenous leaders. Almost all of them are, or at least used to be, residents of large villages or even towns. They are formally-educated and incorporated into the governmental system and are fairly comfortable in the modern world. From the point of view of their own peoples, they are to a large extent the leaders-on-behalf-of-the-state. From the point of view of the Russian authorities, however, they are the leaders-on-behalf-of-the-natives. It is hard to imagine today how these opposing views could be reconciled. One might conclude that their function is to be the intermediaries between the two opposite sides.

The most fundamental obstacle in developing the native institutions of leadership today is the adjustment of the traditional sociopolitical organization to the modern industrial, financial, and administrative institutions. For Yamal Nenets, this is evident in the opposition between the clan leadership and that of the modern village.

A major challenge for the native leaders themselves is how to reconcile the interests of the outsiders, with which they themselves partially identify, with those of their own more traditional people. At the time of our research, two Nenets leaders, Nikolai Khariuchi and Miron Yamkin, headed district (*raion*) administrations. Two other Nenets, Nikolai Ngokateta and Alexander Anagurichi, headed local administrations in Seyaha and

Sunaisale, in the Yamal district. All of them maintain close ties with the reindeer-herders, including their own relatives.

Some shamanic features of leadership still exist among Nenets. The works of Nenets novelist, Anna Nerkagi, and Nenets poet, Yuri Vaella-Aivaseda (both of whom are leaders who have gone back to the "wilderness") attempt to create a new native mythology which still echoes the old shamanic mythological world view. And what about "military leadership"? While there is no chance any more for native people to engage in military confrontation with the authorities, there is still a great deal of potential for other forms of confrontation. Thus, in 1991 both Yuri Vaella-Aivaseda and Anna Nerkagi headed protests against the industrial invasions of their areas, Variogan and the Polar Urals, respectively. Both of them had to decide whether the relationship between the protesters and the authorities were going to be more confrontational or more cooperative. Eventually both of them decided to avoid any actions that might have led to an eruption of violence and thus not to repeat the terrible consequences of the armed rebellions of the 1930s and 1940s.

Representatives of Nenets have recently, and not accidentally, become national and even international leaders of indigenous organizations, not only because of their own capabilities but that high respect with which other people treat Nenets. In June 1997, Sergei Khariuchi, deputy chair of the Yamal-Nenets Okrug State Duma [Okrug Parliament] was elected president of Association of Indigenous Minorities of Russia. In this post, he will not only represent all the so-called "small numbered peoples" of Russia in national fora, but will represent them in international bodies such as the Arctic Council and the World Council of Indigenous Peoples. Another Nenets, Dimitri Khorolia, Director of the *Yarsalinskii sovkhov*, was recently elected president of the Association of World Reindeer Herders. In the 1990s, Nenets leadership is once more demonstrating its flexible and democratic nature as Nenets themselves move into important positions in regional, national, and even international arenas.

Forecast of NSR Impacts in the 21st Century

The fate of the NSR as an international commercial route is closely tied with the fate of the indigenous population of Yamal. Increased shipping could lead to environmental impacts (oil spills, damage to marine resources) and consequent damage to resources upon which the indigenous populations relies. Increased tourism in the NSR could also bring positive economic opportunities for trade as well as damaging impacts on resources and communities. These impacts are not always simple or obvious. The following six points attempt to forecast impacts (both positive and negative) of NSR development in the coming decades.

(1) **Widespread impacts.** The Northern Sea Route is not only a "sea" route but also a "river" route. The largest industrial centers in Western Siberia (e.g. Tyumen, Omsk, Novosibirsk, Tomsk, Surgut, etc.) are far inland from the sea but are likely to dominate economic affairs of the region and continue as key links to international trade. Thus, the impact of expanded use of the NSR is likely to spread, as it has in the past, over the whole area of the Middle and Lower Ob River basin including the homelands of Nenets, Sel'kup, Khanty and Mansi. Increased domestic and international use of the NSR will increase transport via the Ob and Irtysh rivers and, in turn, enlarge trade circulation throughout the tributaries where native peoples live. In contrast to water transport, railroads and airports tend to be distributed mostly away from indigenous villages. Increased use of the NSR and related waterways has both positive and negative impacts on the indigenous population. On the one hand, developing trade may increase material well-being as supply of fuel, food, and other goods could become more steadily available, and markets and distribution networks for native products (reindeer meat, furs, etc.) become more accessible. On the other hand, internationalization of markets tend to devour national/ethnic traditions. The latter tendency is already evident in forest regions (among Sel'kup, Khanty, and Mansi) and may become more pronounced.

(2) **Increased dependence of herding economy on the oil and gas industry.** The invasion of the oil and gas industry in recent decades repeats, in many

respects, the coming of the NSR Administration (*Glavsevmorput*) in the 1930s. Both have effected almost all spheres of economic, social, and cultural life of the local population. This is evident today in the tight cooperation between Nadymgazprom (the regional gas company monopolizing the oil and gas activity on Yamal) and the Yamal sovkhozes. In post-Soviet Russia, the sovkhozes, faced with decreasing control over reindeer herding, tightened relations with Nadymgazprom in order to survive and preserve the herders dependence on centers of power. Industrial preferences are likely to win in the competition between modern and traditional economies.

(3) **Decentralization of power.** Enterprises developing oil and gas resources on Yamal have been engaged in a struggle between oil and gas monopolism (Nadymgazprom) and competition or diversity. Geological survey expeditions, such as Kara Oil-Gas-Survey Expedition (operating in Kharasavei), Yamal Oil-Gas-Survey Expedition (Mys Kamenniy), satellites of Nadymgazprom, and others either have or are trying to convert themselves into legal entities with resource use rights. NSR development and concomitant industrial activity on the peninsula will encourage the growth of competition for local oil-gas fields. In the current conditions, Nadymgazprom is the one umbrella for maintaining a single, peninsula-wide resource regime over hydrocarbon resources and reindeer systems. Although the struggle between monopolism and competition will not be decided by the herders, they do play a minor role. NSR development could play a positive role enhancing opportunities for villages to forge new ties that decrease their dependence on a single, central power.

(4) **Fisheries impacts.** Among "traditional" branches of the economy, the fisheries could benefit from increased NSR transportation. In the mid 1990s, fish factories in Novyi Port and Puiko and their local subdivisions in Yaptik-Sale and Salemal, stood on the edge of collapse due to decreased trade and transportation. Historically, Novyi Port had been the transition point for sea/river transport. Prospects for revival of NSR transport could strengthen the economic position of Novyi Port. Thus, all the south-eastern coastal fishery areas are interested in NSR development. On the other hand, increased

opportunities to market fish for high prices outside of Russia has led to increased illegal fishing in the estuaries near Yaptiksale. Monitoring and control of fishing operations needs to be increased alongside transport development to avoid damage to the resource and to ensure that benefits accrue to the residents of Yamal.

(5) **Trade networks.** On the opposite side of the peninsula along the western Yamal shores, commercial fishing never developed. In the northern area (Mordy-yakha River), the period for fishing was too short. In the southern area, sand banks in the Yuribei gulf made shipping too difficult. Transportation development on the western shore, especially near Kharasavei and Marre-Sale) though oriented toward oil and gas development, might provide growth of a local fishery and related trade. Creation of trade posts on the Yuribei River and restoration of the trade post on the Mordy-yakha would benefit herding families by providing access to food and technology while providing an outlet for reindeer meat and other local products.

The trade post system in operation on Yamal for a short period in Soviet history provided convenient points of connection between nomadic Nenets and modern cultures. If revived, they could provide stabilization of trade and supply, relatively quick communications in case of accidents, and prospects for the revival of small ("nomadic") schools. One serious concern of Yamal Nenets is the separation of the children from the family for eight months of the year (to attend boarding schools in distant towns). Increased use of the NSR could improve living conditions as well on north-eastern Yamal (Seyaha and Tambei villages) and might lead to the renewal of the Drovyanoi trade post.

(6) **Communication across Nenets homelands.** The division of the Nenets nation into three Subarctic administrative regions (autonomous okrugs) results in lack of communication and transportation with each other except by reindeer sleds. The three administrative centers –Naryan-Mar, Salekhard, and Dudinka – are not even connected by regular, scheduled airline transport. The NSR could provide a permanent route to maintain interrelations among the separate Nenets communities and could reconnect their economic, cultural and political activities.

Recommendations

For the Northern Sea Route is to become a significant international transport route, an international institutional framework should be established to address economic, security, environmental, social and cultural issues common to the entire route. The reviewer of this report, Dr. Bruce Forbes, correctly called attention to lack of enforcement of environmental protection regulations on Yamal, to "violations by petroleum crew workers... atrocities ...directed at pastures, rivers and lakes, rather than directly at reindeer or the Nenets themselves." He recommends "creation of an international body responsible for: (a) the promulgation of relevant regulations in direct consultation with and response to the indigenous peoples; (b) receiving first-hand reports of violations of these regulations; and (c) meaningful enforcement of these regulations." (Forbes' review is reprinted in the Appendix to this report.) We generally concur in his recommendations insofar as they address issues that are properly international in scope. The indigenous population should be directly involved in developing regulations for use of the NSR. And steps to increase the transparency of operations in the NSR such as public reports of regulatory violations would enhance compliance. Monitoring and enforcement can be built into insurance arrangements as well as international agreements for cooperation among nations in expanding use of the NSR. INSROP Working Paper No. 93, "The Northern Sea Route and Native Peoples: Lessons from the 20th Century for the 21st," discusses the importance of shaping new institutions for the Russian North and creating international institutions that not only stimulate trade and transportation, but also serve the interests of the local and especially indigenous population living in the areas affected by the NSR. The reader should refer to the recommendations in Working Paper No. 93 at pages 59-70.

In order to foster the trust of indigenous and local residents of Yamal, those who would encourage development of oil and gas on Yamal should insist on vigorous implementation and enforcement of existing regulations to protect grazing lands and fishing grounds. Experience elsewhere in the Circumpolar North, however, has demonstrated the difficulty of policing vast, remote, and sparsely populated northern lands. Our emphasis

here on restructuring property rights addresses this problem by shifting control and management of lands to those with the greatest interest in protecting the natural resources. Increasing the role of local and indigenous users in the management of Yamal land and resources is likely to result in improved environmental safeguards and enhanced compliance with measures to protect the environment and the livelihood of reindeer herders without precluding non-renewable resource development.

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GAOO- Gosudarstvennyi arkhiv Omskoi oblasti. (State archive of Omsk oblast.)

GAYaNAO- Gosudarstvennyi arkhiv Yamalo-Nenetskogo avtonomnogo okruga. (State Archive of the Yamalo-Nenetskiy Autonomous Okrug.)

RGAE- Rossiskii gosudarstvennyi arkhiv ekonomiki. (Russian State archive on economics.) Moscow.

TF GATO- Tobol'skii filial Gosudarstvennogo arkhiva Tyumenskoi oblasti. (Tobol'sk filial of the State Archive of Tyumen Oblast'.)

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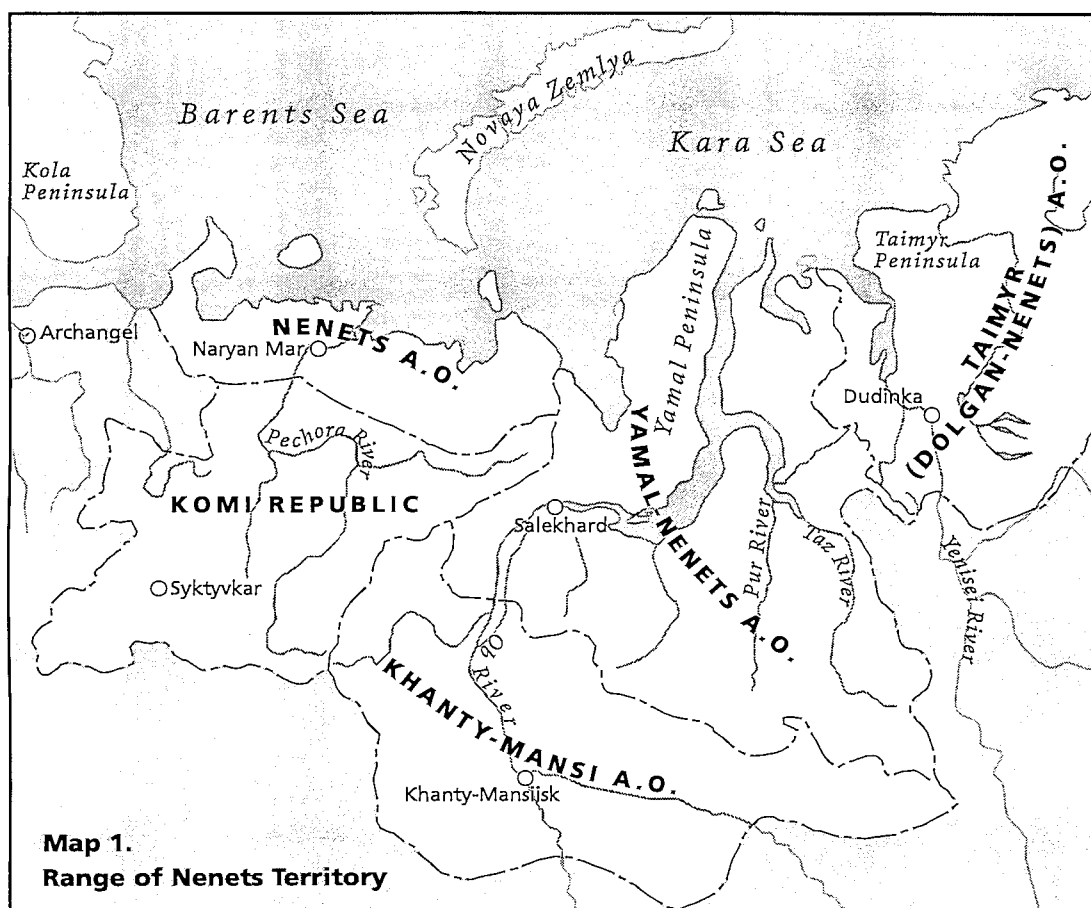
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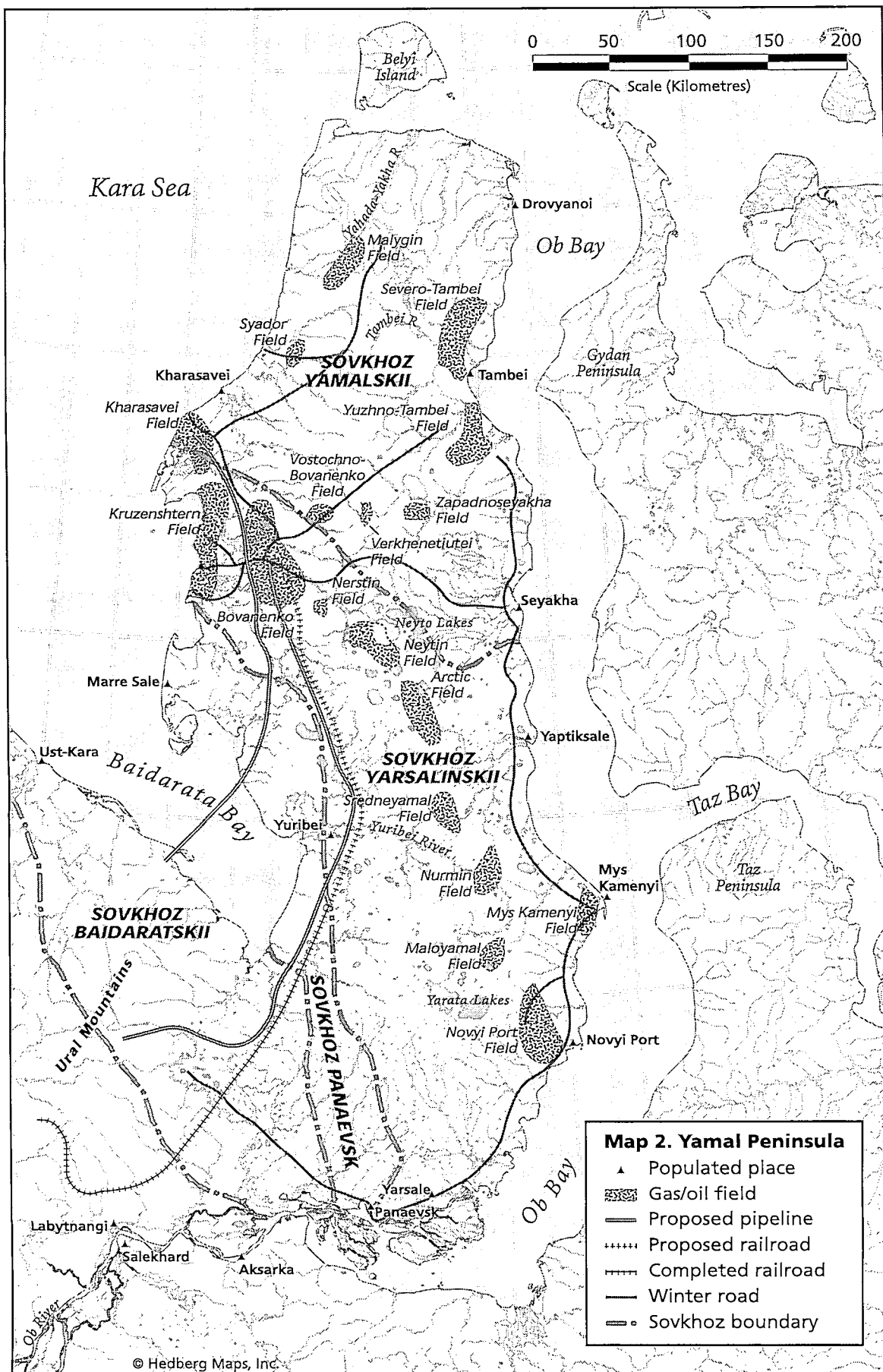
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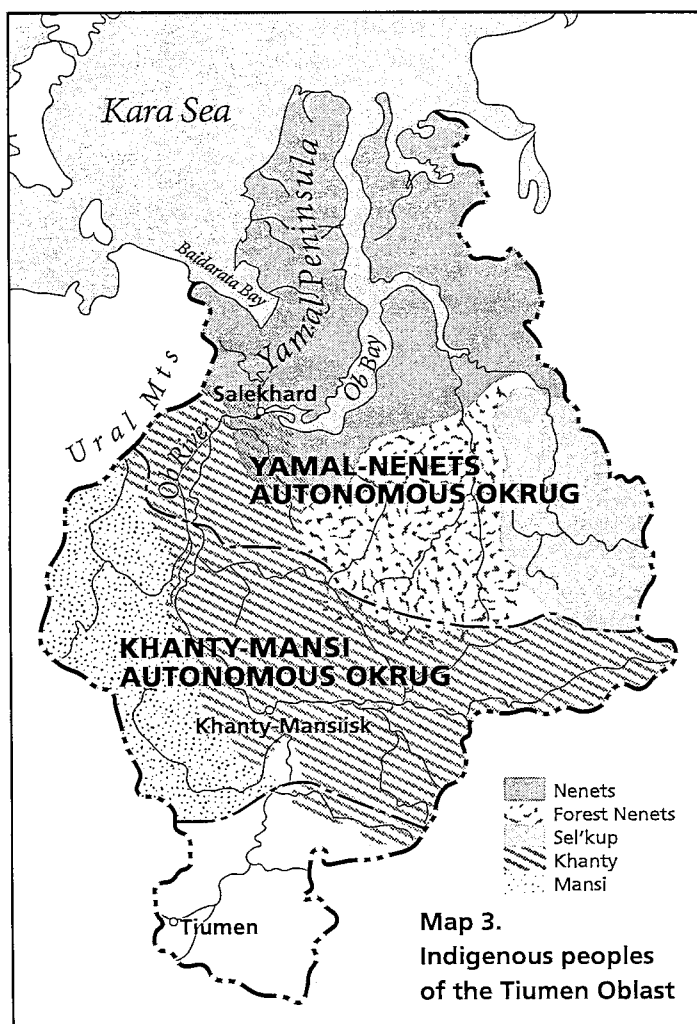
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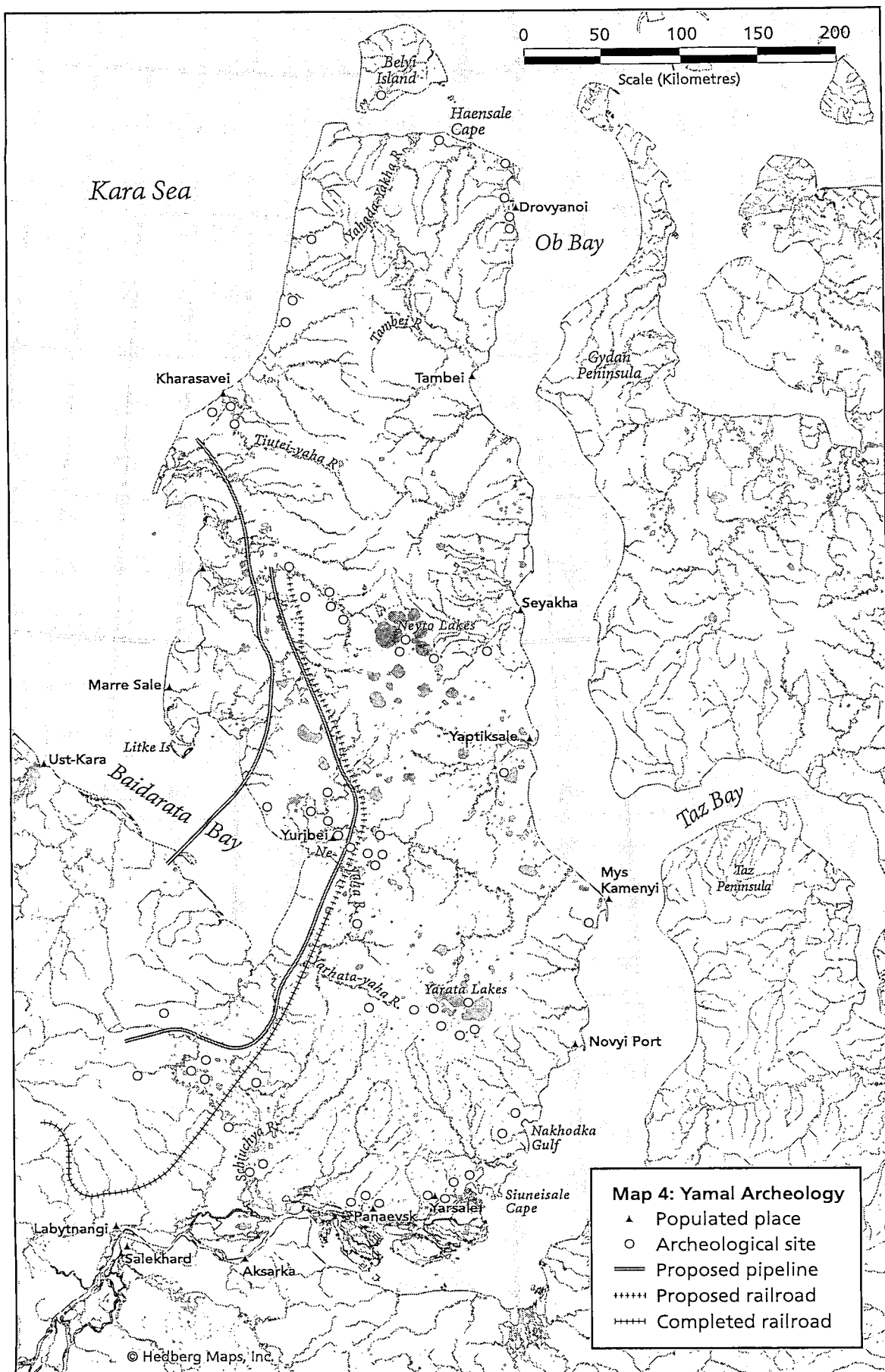
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Map 5. Trade posts on the Yamal Peninsula 1935-1936

REVIEW OF
INSROP DISCUSSION PAPER IV.4.1 'INDIGENOUS PEOPLES AND
DEVELOPMENT OF THE YAMAL PENINSULA'
FROM A.V. GOLOVNEV et al.
by
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This report is of great relevance due to the high cultural and economic stakes of further development in the Yamal-Nenets region, not to mention the rest of the Northern Sea Route. I found the historical data and other background information to be particularly informative and useful for forecasting potential trends in market development within the region. I had not realized the extent of efforts by previous governments to open the sea route, nor of the trans-peninsula trade. Other strengths include the documentation of resources - past and present - on Yamal Peninsula, and the patterns of productivity over time. This is the clearest picture I have seen yet regarding the trends in overall reindeer herd size and ownership on Yamal. Another strength is the discussion of property rights and the elucidation of scenarios for future arrangement under which petroleum development and the indigenous economies may (or may not) continue. The report rightly emphasizes that the maintenance of the Nenets livelihood will depend in large part upon protection of and access to grazing lands and fishing areas.

The faults in the report are not so much 'weaknesses', to my mind, but rather points which need reworking or different emphasis and/or checking of facts. First, it is not enough to secure access to 'protected' fishing grounds and pastures if the resources themselves are already irreversibly degraded. The Nenets and others who have protested loudly against the problems already manifest on Yamal have a point: before the development proceeds any further, there needs to be better regulation of the parties already active in the region. I have seen violations by petroleum crew workers similarly grievous to those described in the report. However, the atrocities I witnessed were directed at pastures, rivers and lakes, rather than directly at reindeer or the Nenets themselves. If the Northern Sea Route is to be a truly international endeavour, then I would like to see the report go further in recommending the creation of an international body responsible for: (a) the promulgation of relevant regulations in direct consultation with and response to the indigenous peoples; (b) receiving first-hand reports of violations of these regulations; and (c) meaningful enforcement of these regulations. Having had access to many areas outside of the usual places where 'Westerners' are allowed, and where the existing (inadequate) regulations are openly flouted, I cannot in good faith accept that Gazprom or other 'companies' associated with the NSR will effectively regulate themselves.

Second, I am uncertain about the accuracy of certain points regarding the building of the gas pipeline(s) from Bovanenkovo given on p. 40. The latest information I have from Gazprom (December 1997), indicates that they are still undecided on the route of the proposed pipelines and it is not clear that the Baidaradtsk Bay route is preferred. Also, they claim to have secured gas sales from the Yamal project worth US\$32 billion over the next 20 years. This at least implies that there is not a lack of financing holding back the Yamal project, as indicated in the INSROP report. They further

claim that Yamal is being postponed until significant gas volumes can be sold from their existing field base (with RD Shell JV) in Northwest Siberia.

Other data that would be worth including, if available, are reindeer herd trends from before WW II, as charted for the post-1940 decades in Fig. 10. In this context, it would be prudent to qualify the existing herd statistics by noting the potential effect of buffering due to chronic underreporting by Nenets to the authorities both within and outside the collective system. A similar situation has prevailed in northern Fennoscandia for centuries, so that no one really knows how many animals there are at any one time.

Finally, a small point pertaining to my own research. The trends on lemming and fox/raptor population cycles mentioned on pp. 4-5 were personally communicated by me but do not appear in my 1995 paper which was cited as a source.



**Ship & Ocean Foundation (SOF),
Tokyo, Japan.**

SOF was established in 1975 as a non-profit organization to advance modernization and rationalization of Japan's shipbuilding and related industries, and to give assistance to non-profit organizations associated with these industries. SOF is provided with operation funds by the Sasakawa Foundation, the world's largest foundation operated with revenue from motorboat racing. An integral part of SOF, the Tsukuba Institute, carries out experimental research into ocean environment protection and ocean development.



**Central Marine Research & Design
Institute (CNIIMF), St. Petersburg, Russia.**

CNIIMF was founded in 1929. The institute's research focus is applied and technological with four main goals: the improvement of merchant fleet efficiency; shipping safety; technical development of the merchant fleet; and design support for future fleet development. CNIIMF was a Russian state institution up to 1993, when it was converted into a stock-holding company.



**The Fridtjof Nansen Institute (FNI),
Lysaker, Norway.**

FNI was founded in 1958 and is based at Polhøgda, the home of Fridtjof Nansen, famous Norwegian polar explorer, scientist, humanist and statesman. The institute specializes in applied social science research, with special focus on international resource and environmental management. In addition to INSROP, the research is organized in six integrated programmes. Typical of FNI research is a multi-disciplinary approach, entailing extensive cooperation with other research institutions both at home and abroad. The INSROP Secretariat is located at FNI.

