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INTERNATIONAL ECONOMIC COOPERATION OF THE ARCTIC REGIONS

ABSTRACT. The paper discusses the levels and intensity of economic cooperation of the Arctic countries and regions. There has been unprecedented economic interaction between the Polar countries over the last 20 years. The paper identifies the fundamental principles of international economic cooperation in the circumpolar area. It describes scenarios of development of the Russian Arctic to the year 2020, which vary depending on the intensity of economic cooperation in the circumpolar area.

KEY WORDS: international economic cooperation, circumpolar area, levels, fundamental principles of Arctic cooperation

INTRODUCTION

The volume of the Arctic economy in 2009, measured as GDP, amounted to about 180 billion USD, which is comparable to that of the economies of Finland, the Philippines, Nigeria, and Singapore; it generates 7% of the economy of the Russian Federation. In per capita terms, the Arctic is the world's leading economy: in 2009, the per capita GDP of the Arctic population was around 50 thousand USD. Population of no country in the world has such a high per capita GDP¹.

Although the Arctic economy is part of the national economies of very different levels of socio-economic development and political organization, it has the essential features which, on the one hand, distinguish it from other territories such as moderate or tropical zones, and, on the other hand, there exists supranational unity of the Polar territories of different countries and continents. All this creates objective preconditions for increased

economic cooperation in the Polar regions and countries, which has been progressing over the past two decades. There is strong evidence that this modern growing trend will keep its intensity in the future.

DATA AND DISCUSSION

Three sectors of the Arctic economy – three directions of economic cooperation in the Polar regions and countries.

The Arctic economy is formed by three essentially different, but closely interacting with each other, globally oriented sectors: global resources, transfer economy, and traditional economy². The globally oriented resource sector supplies the world markets with diamonds, gold, oil, natural gas, nonferrous metals, and biological resources.

However, after all, doesn't the traditional sector, involving the indigenous small peoples of the North, concentrate around natural resources too? Yes. However, if the first one is focused on external supplies, the second one serves domestic needs of the local population, enhances its food self-sufficiency, and supports the age-old tradition of reindeer husbandry and traditional industry (fishing, hunting fur animals, gathering, etc.).

Of particular importance is the traditional sector in rural and peripheral areas of the Arctic. For example, studies show that in the mid-1980s in the ethnic villages of northern Canada, real income of the indigenous people from hunting fur animals was higher than income from employment in the budgetary or market sectors. More than

¹ Estimates of my foreign colleagues Ilmo Mäenpää and Lee Huskey.

² The concept of the three-sector Arctic economy belongs to Lee Huskey (Professor of University of Alaska, Anchorage) – a bright scientist with a rare talent to express complex scientific issues in an easy and accessible way.

80 percent of Alaska households use fish and wildlife resources.

The transfer sector provides local economy with fiscal resources from all levels of government – federal, regional, and municipal, which guarantees a minimum set of services to local residents and often significantly raises local income of households in the Arctic.

The three-sector structure of the Arctic economy defines the cooperation between the participants of the economy of the Polar regions and countries. This involves cooperation in implementing resource mega-projects that target export markets; cooperation of governments, for example, in implementing international infrastructure projects, resource management, state and municipal management; partnership of budgetary research and educational institutions; collaboration of numerous non-profit organizations of the small-numbered peoples of different Polar countries for direct (through income and employment) and indirect (in the form of conservation as an integral part of traditional culture and the foundation of modern economy) strengthening of the role and value of the traditional economy (reindeer herding and traditional crafts). Economic cooperation is taking place simultaneously in the Arctic territories within major projects and initiatives and small, but very significant for the preservation of cultural identity, initiatives and projects (e.g., national small business).

Knowledge and experience is shared between the Polar economies through cooperation in the transfer and resources sectors. International cooperation of the structures of the indigenous small-numbered peoples of the North is occurring through fusion of culture and economy.

The Arctic as the zone of intense international economic cooperation. Arctic peoples for centuries have been involved in trade and information exchanges with each other implemented very often “above” the

national borders. In the XXth century over the decades of the cold war and the superpowers’ military confrontation, the intensity of the international economic cooperation of the Polar regions and countries was very weak.

However, after the period of the Arctic military confrontation in the early 1990s, economic cooperation of the Polar countries has increased unprecedentedly. Its most important modern feature is that it now goes without regard of proximity: earlier in economic history, the interaction of Polar territories always followed the laws of distances: the closer, the more intensively.

Today, due to emergence of new international economic and political institutions in the last 20 years, international cooperation in the Arctic is significantly freer from the pressure factors of proximity than ever before. Of course, this is also promoted by new telecommunication technologies that allow easy communication between the participants of economies and large and small firms of the most remote Polar regions.

With some exaggeration, it is possible to call the modern Arctic the unified area of economic cooperation. Here, it is appropriate to recall a statement by A. Marshall on the industrial regions where “atmospheric” phenomena of the geographic localization emerge, leading to increased productivity as a result of rapid pick-up of new ideas from each other: “The secret of trade is no longer a mystery, but as if in the air... Good job is correctly evaluated, inventions and improvements in the overall business processes and organization are appreciated, if one person starts with a new idea, it is embraced by others and is combined with their own reasons, and thus it becomes a source for new ideas” [Marshall, 1993].

The crucial difference in the Arctic is that these effects there are achieved not by a localized high density of interaction of participants in the economy – in sparse polar environment there are no conditions for this, but by networking of close and

distant participants and by their intensive internal and external communication in the same networks. Another difference is associated with the fact that this economic cooperation has not been yet implemented and joint projects and initiatives are only being discussed. The number of planned projects certainly dominates over already implemented. However, the unprecedented affinity for Polar cooperation of many participants of the economy of various countries and regions is meaningful.

In 2011, the author attended the Russia-Canada-Norway business forum at Carleton University in Ottawa and was taken aback by the variety of business ideas for building, strengthening, and broadening cooperation in the Polar areas: cross-polar flights, sled dog racing, Arctic ecotourism, including icebreaker to the North Pole, a local heat supply technology, etc.

In hindsight, in the period of the development of an enticing and romantic concept of the Arctic region, there is a temptation to “rediscover” history of economic cooperation in the Arctic so that only the period that falls out of it, as not fitting in the general trend, is the cold war of the XXth century. However, it would be contrary to the truth. Periods of confrontation in the Arctic, existed previously.

It will be very instructive to refer to the X–XV centuries’ history of colonization of Greenland by Norwegian Vikings. The major cause of the disappearance of the colony of Vikings was their lack of cooperation with the local Inuit. The Vikings of Greenland had a wonderful opportunity to survive, if they would have learned techniques of hunting and fishing (which Eskimos managed to do, having learnt from Vikings the technique of knives making) and would have traded with the Inuit [Diamond, 2006, p. 255]. The cultural barriers to intermarriage were a significant economic loss in viability of the local colony and, eventually, caused its disappearance. Irony was that the Vikings were dying of hunger in the presence of significant food resources that they did not use for reasons of religious taboos [Diamond, 2006, p. 274].

Levels of international economic cooperation in the Arctic. Economic cooperation today is interconnected and simultaneous on several levels: the Arctic countries, regions, municipalities, individual businesses, non-profit organizations, and individuals. The structuring of international economic interaction is not specific to the Arctic zone and can be applied to any country of the world. The characteristic feature of the Arctic is substantive content of each level of international cooperation.

The critical nature of *inter-State* economic interactions of the Arctic countries is the participation of the unitary countries, fully or partly included in the Arctic zone (for example, Iceland and Greenland are fully in the zone, while Norway, Sweden, and Finland are only partially there) and the federated countries, e.g., United States, Canada, and Russia. Impetus for cooperation and its character in federated and unitary countries and in unitary countries fully or partially within the Arctic zone vary inevitably. Thus, in federated countries, as shown by the realities of the early years of the culmination of the cold war in the early 1990s, incentives to economic and humanitarian cooperation are seen coming more from below, at the level of the subjects of the economies of the Polar regions and municipalities, than from federal centers physically and mentally removed from the Arctic. Here, the lead of the booming “people’s diplomacy” over more inertial official *inter-State* economic partnership is much stronger.

This contrast does not exist in the entirely unitary polar countries, where rate, interests, and the nature of *inter-State* cooperation, at the civic level and at the level of participants of the economy, often coincide. This conflict of interest and the two rates of economic cooperation, i.e., of the official top-down and of the bottom-up, are more evident in the unitary countries that are only partially in the Arctic zone. However, even there, it does not have the sharpness characteristic of the Northern federations.

Of course, the political structure of a country and its economic-geographical location in

Table 1. International cooperation in the functions of GosComSever of Russia³

	1999	1998	1996	1992	1991
Provision of proposals on international cooperation in the Arctic and the North, participation in their implementation	x	x	x		
Analysis of foreign experience of economic and social development of the Northern revival, culture, and traditional way of life of indigenous peoples				x	x
Promotion of foreign economic ties, expansion of the export base of the regions of the North, bringing in foreign investment, establishment and operation of joint ventures					x
Cooperation with international and foreign organizations and research centers, resource management, and restoration of indigenous peoples of the North				x	
Issuing of permits to Russian and foreign individuals and legal entities for tourism business in marine areas close to the northern coast		x			

the Arctic zone (completely or partially) define the accessibility and speed of the country's involvement in the international economic cooperation. In Russia, ideas and projects of economic cooperation in the Arctic were especially successful in the 1990s during the period of substantial decentralization of the federal power. Specifically at that time and at the federal level, the State Committee on the North (GosComSever) has been established. One of its functional responsibilities was participation in international economic cooperation in the North and the Arctic. Among more than 60 functions mentioned overall in all five governmental statutes on GosComSever (during the 1990s, the Committee was established, dissolved, and re-established five times), five related to international cooperation (Table 1).

In the course of establishment of the hierarchy of federal power in the 2000s, GosComSever of Russia was eliminated, the grass-roots initiatives gave way to more inertial development of inter-State Arctic initiatives of the Russian Federation in international structures of the Arctic Council, the International Arctic Science Committee, and other Arctic associations and councils.

In the past five years, the issues of international cooperation, including economic, are

defined in most Arctic policies of the Polar countries. However, most clearly this theme (international economic cooperation) was developed in the Norwegian document [The Norwegian Government's High North Strategy, 2006]. This document discusses numerous directions and structures of such cooperation and the ways of filling it with more innovative and knowledge-based substance.

The authors talk about the multilateral economic cooperation with Russia in matters of fisheries, oil and gas production, creation of special institutions and structures of international economic cooperation in the form of an industrial cooperation zone encompassing Russian and Norwegian waters and land, and establishment of an innovation center and a business-incubator for Norwegian companies involved in such cooperation. The document also talks about interdisciplinary cooperation between Arctic researchers and the institutions of Norway and Russia in sociology, law, and natural sciences for the sake of knowledge sharing. The document speaks about sharing of competency and practice in creation of an offshore oil cluster, including industrial associations and networks of suppliers established in the course of shelf hydrocarbon resource development. It also talks about feasibility of participation of Norwegian sub-contractors in the development of the Russian hydrocarbon fields on the Barents Sea

³ The Table was compiled from the analysis of the five official statutes on GosComSever of Russia approved by the government of the Russian Federation in different years.

shelf. The government of Norway declares its support for creation of the Norwegian-Russian network of sub-contractors in the oil sector. The document lists programs that carry the mission of promoting international cooperation in the Arctic. These include the European Development Co-operation Instrument, the Kolarctic Programme, the Northern Periphery Programme, and some programs of the European Union.

A special place in interaction of Polar federations (United States, Canada, and Russia) is occupied by a *regional* level of international economic co-operation. For example, during a major decentralization of economic and political power in Russia in the 1990s, it was the northern and Arctic regions that were the main initiators of the joint projects of enterprises and of economic and cultural activities with foreign partners in the Arctic – initially, through cross-border cooperation, but, later, in a much wider area. The author had an opportunity to participate in scientific cooperation between the North-East of Russia and the State of Alaska in the first half of the 1990s and, then, to participate in a joint three-year-long project funded by the Eurasia Foundation on the transfer of experiences of socio-economic development of the State of Alaska as the northern territory for application in the Russian northern and Arctic regions.

During this time, the leaders of the Russian Arctic regions were clearly divided into those who were open to international economic cooperation and ready for a wide partnership with foreign partners and those who were not receptive to such cooperation in the name of protection of geopolitical interests of Russia and who attempted to limit its format and content in the Polar territories to the maximal extent possible. The contrast between these models of governments was especially apparent when, in the same region (for example, in the Chukotka Autonomous District) during ten years, there were two teams of governmental leaders adhering to absolutely different philosophy in respect to international economic ties. Despite all

the risks of the first model of the regional government (for example, a possibility of penetration of foreign partners in defense-sensitive territories and regions), it allowed gaining new experience, knowledge, competency, and technologies for the development of the Russian Polar region.

Let us look at a concrete example of the northern region of Russia to demonstrate how international economic cooperation with other northern regions of the world was deploying. The initial formulation of policy in the sphere of international economic relations of the region began with a moment of radical economic reform and political decentralization, i.e. from 1992 onwards. The subsequent 20-year period of the international economic cooperation can be divided into three phases.

The first phase – 1992–1997 – *the establishment and expansion* of international relations in all areas: increase in the number of foreign partner-regions, growth in the number of structures involved in cooperation of regional authorities, and first international contacts of municipal entities. During this period, a special unit responsible for external economic relations was created within the regional government. Similar developments were taking place in many other Arctic and northern regions of Russia. Because of active building of first contacts with international organizations in the northern and Arctic regions, Russia has joined the International Association “the Northern Forum.”

The second phase – 1998–2002 – *the deepening* of the region's external relations after the adoption of the basic regional laws, intensive work of the Committee on International Relations with customs offices, and active work on entering into and providing reviews of international contracts financed from the regional budget. In this period, there began international training programs, for example, a Russian-Canadian program INRIPP “The Institution Building for Northern Russian Indigenous Peoples Project” in the Yamalo-Nenets and Khanty-

Mansi Autonomous Districts. The specialists of the regional and municipal authorities and members of public organizations received training in Canada. The result was the creation of a regional national corporation of indigenous small-numbered peoples of the North.

The third stage – from 2002 onwards – *the significant increase* in international cooperation and diversification of many old and new tracks. There is an urgent need to “recycle” international relations of the Arctic regions of Russia into a dynamic sustainable development turning them into an active factor of progressive structural change and technological upgrading, ensuring through optimization the increase in the number of participating companies, types of export activity, and volume of attracted foreign investment, opening new markets and technological and institutional innovation, effective for rooting on local soil.

Many of Russia’s Polar regions, even those actively involved in international economic cooperation with other Polar territories, have insufficient economic returns from external links in the form of foreign direct investment, new jobs, increasing income of the regional budgets, and the real income of households. In view of the enormous value of international relations for the open economy of the Arctic regions of Russia, it is particularly important to widen interpretation of the notion of “international relations” as much as possible – not just as foreign trade, but as material, energy, financial, and information flows (of migrants, products, resources, energy, and information) taken as integrity and collectively.

One of the main areas of attraction of foreign investments into the economy of the Arctic regions of Russia is the establishment of enterprises with foreign investments in the form of equity participation. Most large enterprises with foreign investments are usually created in the resource sector of the Arctic. The value of enterprises with foreign investments is not limited to quantitative

indicators of employment and tax payments to local budgets. They facilitate the transfer of new knowledge to production and process of learning; they represent knowledge-based conductors to the basic sectors of the economy in the Arctic regions of Russia.

Common shortcomings of international economic cooperation of the Russian Polar regions, as the experience of the last two decades demonstrates, are: mono resource-based structure of the export economy, the lack of involvement in the sphere of international economic activity of enterprises of small- and average-size business and poor information support for their work on the part of the government, the lack of a list of investment projects developed in accordance with international standards and industrial zones that have developed infrastructure ready to host foreign investors with medium investment costs of projects, the lack of a quality control system similar to ISO-9000+ and the global certification of goods and services (no targeted actions in this area), the lack of international relations specialists (managers, logisticians, engineers, lawyers with knowledge of foreign languages, marketing, etc.) and, as a result, the lack of experience of successful implementation of big investment projects with foreign capital participation in most Polar regions.

There are several priorities in international economic cooperation in the Russian Arctic regions. It is necessary to orient this work toward pragmatic solution of their acute economic and social problems. It is very important that this cooperation works toward building their positive image and strengthening of investment attractiveness. The work of foreign economic relations must be well coordinated at the regional level by the special structure of the regional authorities. However, this requires constant improvement of professional skills of the staff in charge of international relations and external communications infrastructure. The problem here is that regional structures (Chamber of Commerce, Entrepreneurship

Support Fund, University, Statistical Board, etc.), which could potentially enter into a network of partners and become part of a unified infrastructure of international economic cooperation, in reality interact among themselves and with regional authorities, responsible for international relations, on an irregular and spontaneous basis.

For many Polar regions there is a challenge of systematizing of yet scattered data into a unified integral data base and of arranging sample surveys of international activities – via telephone and by mail with survey questionnaires as is customary in the activities of foreign and some Russian regional committees on external relations. Of course, the most important task is improving the effectiveness of budget expenditures in implementing international relations and ensuring the economic security of the Polar regions in international relations.

It appears that *the municipal* level of international economic cooperation has the greatest role and importance and the most developed in the unitary polar countries. In federated countries, it is typically constrained (is in the “shade” of partnerships of the Arctic regions). That is why we will review in greater detail the potential of the international economic cooperation of Russian Polar cities that remain unrealized.

In the Russian Arctic, one can distinguish three types of cities: large administrative centers with diversified economies, developed educational and scientific structures, the mid-tier industrial segment, and a substantial local budget; company towns of various sizes with significant volumes of industrial production; and port cities that are much weaker economically. For large administrative centers, it is important to become productive innovation and university centers, capable of dissemination of innovations within substantial surrounding territories. For company towns, it is important to overcome the industrial

legacy, to enhance comfort and diversify the local economy and social environment, and to make socio-economic development more sustainable. For port cities, it can be feasible to create intelligent logistics facilities and comprehensive security centers along the Northern Sea Route, including forecasting service. Specifically these objectives should be targeted in the development of urban foreign economic relations of the Russian Arctic.

Despite the existence of the three types of the Russian Arctic cities, with their individual distinct characteristics, they have common problems of small business development and economic diversification; the task of reduction of the proportion of temporary and shabby housing and temporary housing using new technologies and materials; massive introduction of effective thermal technologies into the municipal sector; and adaptation of the urban economy and the social sphere for the inevitable process of aging of the population.

In the conventional cities, small business was traditionally understood as a guarantee of employment, flexibility, and, in some cases, the innovation potential of the local economy. However, for northern company resource towns, its role is different. Small business there is the key to diversification of the local economy and creation of a new face and new image of the town. Its development encounters certain local barriers associated with salary contrasts between large and small enterprises, greater loyalty of local authorities with regard to the core business (and not to small businesses), and the selfish and dominant economic behavior of the town-forming enterprise not willing to cede market share to small participants of the economy. As demonstrated by the border northern Russian regions, international cooperation in the transfer of advanced technology, infrastructure, finance, institutional support of entrepreneur could significantly advance the level of their development.

Table 2. Rating of the regions by the level of small business development in 2009

Region	Rank	Value index
Krasnodar Krai	1	10
St. Petersburg, Russia	2	8.9
Moscow	3	8.1
Kaliningrad oblast'	4	7
Stavropol Territory	5	5.2
Sverdlovsk oblast'	6	4.7
Sakhalin Oblast	7	4.6
Khanty-Mansi autonomous district-Yugra	8	4.6
Magadan oblast'	9	4.4
Moscow oblast'	10	4.2

Thus, as a result of a long-term education in the area of entrepreneurship development and support by technical experts from Alaska in Magadan in the Russian-American Scientific Educational Center for Business in the 1990s⁴, the Magadan region (where the bulk share of small businesses is being formed in the regional center Magadan), according to the NISIP⁵ rating, was among ten Russian leading companies in terms of small business development in 2009 (Table 2).

Another priority area for cooperation of the Russian Arctic cities is new technologies and materials for residential construction. Housing in an Arctic city has an exceptional role. It is directly linked to the domination of either temporary or long-term residency in the city. If the share of dilapidated housing is large, i.e., almost no individual residential construction, this could be a sign of the dominance of temporal residency. On the other hand, this situation can be changed toward more permanent residency of the population with enhancement in the housing quality and availability in the local community. The Canadian experience (for example, the Housing and Development Corporation in Yellowknife) suggests

that housing construction, including timber houses and small hotels, in the circumpolar and northern cities of Russia is essential for the formation of comfortable urban environment. It needs to expand geographically and with application of other new technologies of Arctic construction used in foreign polar cities.

Russian polar cities have significant potential (reserves) in reducing the costs of heat and energy and strengthening thermal efficiency of the local utilities and the public sector. This includes a system of process, institutional, and financial activities aimed at reversing the trend in the wasteful use of imported, from hundreds of kilometers away, energy carriers and heating fuel and shifting to local sources of heat and energy where possible and economically justified. Such system has already been built in many foreign cities and it is feasible to be gradually implemented it in Russia.

Recently, Russian and foreign cities have encountered similar demographic problems of progressive ageing of the population, increase of the prevalence of female population of 40 and older yrs., and decrease in the population due to a negative migration balance not compensated by the natural increase. In the future, it is reasonable to expect growing trends toward increase of ageing population over the working age due to the growth of the number of retiring baby-boomers born in the postwar 1950s-1960s, growth of their life expectancy, and decrease of the population entering the working age group due to low birth rates of the 1990s. Practice of foreign, primarily, of Scandinavian periphery northern cities, in providing services to older citizens (e.g., in the Kiruna municipality) may prove to be very beneficial in Russia.

Common problems of the Russian and foreign Polar cities, even considering their differences caused by decades of development in industrial economies based on different systems of property rights to basic material and natural assets,

⁴ This experience was presented in detail in a monograph by Pilyasov, A.N. and Talanov, S.G. *Small business of the Magadan region (assessment of conditions, sectorial structure, and support options)*. Magadan: Russian-American Small Business Support Center. 1997. 50 p.

⁵ Institute of Business Studies.

maybe addressed using institute of twin-cities in enhancing international economic cooperation. Unfortunately, this instrument of forming partnership networks at the municipal level has yet to be used to its full capacity. Even powerful, in terms of budgets, Russian Polar cities rarely have twin and long-term partnership relations supported by agreements with foreign Arctic cities. Meanwhile, this format of relations brings international cooperation of Russian cities to a new, more comprehensive, systematic, and integrated level.

The *primary or atomic* level of international economic cooperation in the Arctic is primarily partnership of non-for-profit entities and individuals, business, and corporate structures. In view of the special role played by universities (innovation and knowledge) in the new economy, we will review their international cooperation in more detail.

Russian Polar universities of Murmansk, Norilsk, and Yakutsk undertake cooperation in education, science, and culture with international scientific and educational organizations and with the University of the Arctic. Exchange of experience takes place during collaborative projects and international seminars. However, it appears that the potential of the form and depth of international cooperation is not limited by these activities only. Universities are able to inject a new quality of relations of Arctic cities and regions through non-formal and confidential communication with foreign partners on their sites (which is not possible, for example, within formal government structures) and to increase the power of partnership activities.

A very instructive example of the *atomic* cooperation at the level of individual Arctic structures is a two-decade-long international cooperation of the Russian Association of Indigenous Peoples of the North, Siberia, and the Far East, which promoted emergence of dozens of small national businesses (communities, farms, etc.) and adoption

of foreign equipment and technology for support of businesses of indigenous people in Russia.

Another example of the *atomic* cooperation of individuals is the discovery by a Russian geologist Nikolai Pokhilenko in 1994 of a diamond field near Snap Lake in the Northwest Territories of Canada. This representative of the Russian geological school helped increasing the revenues of the local community multifold and changed the structure of the world diamond market.

A Norwegian-Russian logistics company "Tschudi" with its headquarters in Kirkenes and Murmansk specializes in international Arctic transportation and customs clearance. It has been very constructive in promoting the Northern Sea Route as an attractive transit route for regular transport of energy and mineral resources between Europe and Asia. The company pragmatically uses recent objective trends: reduction of the area of sea ice in the Arctic Ocean under the influence of climate warming of the last two decades, the high prices of natural resources and global territorial imbalances between the areas with the growing potential of energy production and of the growing consumption (i.e. circumpolar and Asia-Pacific regions), and the growing threat of piracy in the Southern Ocean with the alternative transit routes of hydrocarbon to Asia. The company concentrates its efforts on simplifying the institutional barriers to international transit traffic along the Northern Sea Route and on the gradual formation of a global market of Arctic transit.

On the Russian side, these same objectives are the target of a non-commercial partnership "Association of Users of the Northern Sea Route," which is marketing the route to major international corporations engaged in exploitation of natural resources in the Arctic (e.g., Corporation "Nana" at the Red Dog field in Northern Alaska) in order to reorient their cargo flows from the traditional indirect routes to a shorter route via the Arctic Ocean.

Table 3. The ratio of incoming and outgoing mail flows of the city Gubkin, Yamalo-Nenets Autonomous District

Indicator	Unit of measure	2007	2008	2009	2010	2011
<i>Incoming flow:</i>	<i>Pieces</i>	2 056 874	2 298 634	1 638 351	426 234	500 322
ordinary letters	– “ –	1 805 988	2 095 092	1 469 475	263 729	337 841
first-class mail	– “ –	212 028	158 920	132 031	127 198	125 578
registered mail and letter packets	– “ –	13 313	16 654	13 157	12 164	12 079
parcels	– “ –	25 545	27 968	23 688	23 143	24 824
<i>Outgoing flow:</i>	<i>Pieces</i>	266 964	202 985	234 440	268 462	232 806
ordinary letters	– “ –	124 720	111 208	136 825	178 027	145 633
first-class mail	– “ –	132 157	79 785	85 136	77 651	72 740
registered mail and letter packets	– “ –	5702	7101	7159	7012	8103
parcels	– “ –	4385	4891	5320	5772	6330

Unfortunately, little is known about international cooperation of large resource corporations in the Arctic, even though the example of the Shtokman project, with expected participation of Norwegian and Russian corporations in the development, represents a positive example and is a pilot project for the Russian Arctic.

Fundamentals (specific character) of Arctic cooperation.

It seems that materialization of V.V. Mayakovsky's ideal of "a world without Russia, Latvia, and life as a single human home" is most likely in the Arctic region. In comparison with other macro-regions of the world in the past two decades, international cooperation is occurring here most actively and effectively. What features of the Arctic and of its communities have secured the latest success of economic (and increasingly, humanitarian) partnerships in the Polar regions?

First, this is the common features of the economic behavior of local communities: reliance on non-market factors of trust, social capital in business transactions, and business-to-business contracts. In the world of low-density spaces and of extreme natural conditions, cooperative values, not competition, receive priority value. Our study of the folklore of the small-numbered indigenous peoples of the Russian North has identified the unconditional value of generosity, donating,

and gifting and the taboo on greed, which imperatively sounds in many fairy tales, stories, and poems of these peoples⁶.

The initial openness of Arctic communities to distant relation and external information and tolerance to new migrants are extremely important for international cooperation. For example, the postal statistics of the northern and Arctic cities reveals a significant preponderance of incoming over outgoing correspondence everywhere (Table 3).

Second, as the history of humankind shows, international economic cooperation within the same latitudinal zone is always inherently embed objective favorable conditions in contrast, for example, to the cooperation of peoples and nations living on the same meridian. This drew the attention of J. Diamond in his book "Guns, Germs, and Steel." The orientation of the continental axes influenced the speed of propagation of economic and technological innovations: domesticated plants and animals, the wheel, writing, etc.

The sites located at the same latitude, in the East and the West, have similar day length

⁶ The general features of the economic behavior of the Arctic communities are described in Pilyasov, A.N. The Arctic Mediterranean: Conditions for Formation of the New Micro-Region. EKO. 2010. N 10. pp. 54–75.

and seasonal variations of temperature and precipitation, and often similar types of vegetation; therefore, the speed of diffusion of agricultural and technological innovation from their origin was high in the Eurasian continent. On the other hand, differences in climatic conditions, vegetation, and wildlife prevented penetration of innovations from the South to the North and vice versa within the meridionally positioned Northern and Southern Americas (Diamond, 2005, p. 188).

The natural affinity of the Arctic communities makes it easier to transfer technology, competency, and institutes from one country to another. Modern circumpolar cooperation and broad international knowledge transfer might be analogous to agricultural and technological cooperation of Eurasian peoples in antiquity.

If the peoples and states are located along the same meridian, it is simply impossible to complete agrarian cooperation: to perfect and implement innovations, it is necessary to have several independent pilot sites, in each latitudinal zone. For example, in the Altai Kray located in seven landscaped areas, individual crop-research test sites are needed in each region.

Third, the Arctic international partnerships are promoted by the low number of Polar countries (and countries of the Arctic Council): there are only eight. With this number, negotiability of the participants greatly increases and communication can be conducted on a consensual basis, that is coming to an agreement on all proposed international norms and rules. For international relations, numbers seven or eight are like a Dunbar number that defines the limits of the population in a settlement when every person knows another and, therefore, there is no need for public institutions of enforcement and control (police, fire protection) – forces of self-organization of the local community are engaged.

Economic effect of the Arctic international cooperation is hard to assess using formal methods only. Within the framework of the *The Strategy for the Development of the Arctic*

*Zone of the Russian Federation*⁷, we attempted to identify this effect as the difference between innovation and inertial scenarios. The specific feature of our approach was that we defined this difference between the two trajectories of the development of the Russian economy not in terms of “lower-greater” for the growth of the economy, gross regional product (GRP), and employment, but as comparison of two ideological and value positions: “For or against the Arctic Mediterranean?” We assumed that the success of the modern economic development in the Arctic depends greatly on the international economic cooperation resulting in fruitful transfer of technologies, competency, and institutions. The scenario “For the Arctic Mediterranean” meant that Polar countries follow the policy of partnership and cooperation in the circumpolar zone. “Against” meant that the trends of confrontation and isolated development of individual Polar countries prevail.

Key external factors that have an important impact on the development of the Russian Arctic in the forecast period up to the year 2020 is the degree of its involvement in the system of global trade and information exchange and migration flows, conjuncture of the world energy markets, connection to the Russian intellectual centers, the overall macroeconomic situation in the Russian Federation, and actions of the federal social and fiscal policy and policy on subsurface resource management; and activities of Russian and foreign resource corporations.

Key internal factors are the dynamics of natural resources, human capital, the structural change of the economy of Russia’s Arctic territories, infrastructure security, the system of resettlement, and demographic and ethno-cultural situation.

The *inertial scenario* assumes a conflict of interests of the Polar countries and increasing competition between them in relation to the rich natural resources in the

⁷ The author thanks his colleagues V.N. Razbegin, A.M. Konovalov, I.V. Grishina, V.I. Pavlenko, etc., for their contribution to the development of this document.

disputed areas. Pressure intensifies on the Russian presence on the Svalbard archipelago. Russia's attempt to obtain legal recognition of its new northern boundary on the Arctic Shelf fails. The conjuncture of the world prices for the main natural resources extracted in the Arctic remains favorable, but fragile.

This scenario represents the prolongation of the modern trends in the key sectors of the economy of the Arctic and is based on conservative estimates of forecast growth of key indicators of the Arctic zone. For reasons of timing delays of mega-projects, they have very little impact on the economic development of the Russian Arctic.

It is likely that the rate of the growth of the gross product of the territories in the Arctic zone (for 2010–2020 are assumed to be **lower** than for Russia on average, as defined in the Concept for the Long-Term Development of the Russian Federation), of real per capita income of the population, and of federal expenditures will lag behind the trends of the Arctic development that have formed before the world crisis of 2008–2010; and the expected structural changes in the Arctic economy will occur slowly.

Of all the major construction projects of the national and world importance in the zone of the Arctic Shelf, the projects of the Shtokman and Prirazlomnoye oil fields development projects will be implemented much later than expected today. Other projects, for reasons of lack of funding from the federal budget and major domestic and foreign institutional investors, will be deferred in the forecast period.

The decrease of the population size due to the outflow of the working age population and retirees will continue. Unemployment in the Arctic regions estimated using the International Labor Organization (ILO) methodology will increase and reach 12–14%. Contrasts in the development of the dynamic Western and depressive Eastern sectors of the Arctic will increase substantially.

The *innovation scenario* for the development of the Arctic Polar countries involves close collaboration in the joint development of large fields of the Russian Arctic offshore and, therefore, a substantially faster, compared to the inertial scenario, pace of development. The world energy markets conjuncture is favorable with the upward trend in the price of oil and gas during 2010–2020.

This scenario is based on optimistic assessments of the development of key industries and sectors of the economy of the Arctic and reflects the implementation of major investment projects in the energy sector and transport infrastructure. The scenario is based on the hypothesis of the implementation of the plan of strategic actions in extremely favorable internal and external conditions – high world energy prices, the dynamic development of the national economy, successfully implemented modernization of enterprises of the core, infrastructure, and services sectors in the Arctic regions in the direction of post-industrial environment, and the economy based on knowledge. The implementation of the innovation scenario utilizes a strong inflow of foreign investment by attracting funds of domestic and foreign corporate investors and of resources of development institutions.

The characteristic features of the innovation scenario will be, on the one hand, consistent implementation of existing competitive advantages based on the rational use of the natural resource potential of the Arctic territories and, on the other hand, a new quality of economic growth based on the impact of new technologies in various sectors of the economy and the rapid development of information technology and the sub-sector of the Arctic intellectual services.

The rates of the development in the Arctic zone will be **higher** than the Russia's average because of the implementation of several major industrial and transportation mega-projects. The development of the Shtokman and Prirazlomnoye oilfield-giants will begin; there will be also developments of the Pomorskoye, Dolginskoye, Varandey-

Table 4. Inertial and Innovation Scenarios (2020)

	Inertial	Innovation
External conditions:		
The annual growth of the national economy, %	2.5	5.0
Annual inflation, %	4.0	3.5
The price for a barrel of oil Urals, USD	Below 50	Above 75
Internal condition:		
GRP growth to the level of 2008, % (in comparable prices)	125	185
Oil production on the shelf, mln. tons	3–5	10.0
Production of gas, bln. m ³	1.5	40.0
Northern Sea Route traffic load, mln. tons	5–7	30–35
The population of Arctic Russia, thous. people	1500.0	1650.0
Unemployment rate (ILO methodology), %	More than 10.0	5.0

Sea, and Medynskoye-Sea projects. As a result, the oil production from all offshore fields in 2020 will be about 10 million tons and about 40 billion cubic meters of gas, respectively (Table 4). The development of the Bovanenkovskoye field on the Yamal Peninsula will begin and the construction of new mainlines “Yamal-Europe” will continue.

The scenario includes radical modernization of the Northern Sea Route and increase of its traffic up to 30–35 million tons annually due to transport from the new offshore facilities and first transit flows from Europe to Japan and Korea.

By the end of the period, there will begin the implementation of the integrated projects “Ural Industrial – Ural Polar” and the construction of a railway line “Belkomur.”

In both scenarios, the economic performance of the Arctic zone in the near future will depend critically on the dynamics of the resource systems, whose share in GRP will be decisive. In the innovation scenario, positive trend is projected: of the main parameters of socio-economic development, i.e., the growth of employment, a more rapid increase in the real incomes of the population, a significant increase in GDP, a significant increase in oil and gas production, and the active development of new economic activities, i.e., marine biotechnology, aquaculture production, gas processing, and gas chemical, mining

production services. In both scenarios, a significant increase in the population of the Russian Arctic due to the reduction in the working age population of Russia in this period is not expected. It is assumed that the increase in labor productivity and attraction of rotational workers from the CIS countries will compensate the unfavorable situation in the dynamics of labor in the 2010s.

The inertial scenario represents the maximal risk for the Arctic because it only partially uses its existing capacity. And only the innovation scenario contributes to the maximal, in all its entirety, implementation of the competitive advantages. However, the implementation greatly depends on the intensity of international economic cooperation in the Polar regions.

CONCLUSION

The ideas of global unity of landscapes and peoples living in the Polar zone, as an objective background to their close cooperation, have been expressed a long while ago. Among our national scientists of the XXth century, the works of A.A. Grigoriev and V. B. Sochava on the Subarctic stand out⁸. The end of the cold war and global climate change that made the Polar territories more open to cooperation with one another, made the modern stage to be very

⁸ Grigoriev, A.A. The Subarctic, 2nd Edition, M.: Geophys. 1956; the works of V.B. Sochava in the Proceedings of the Institute of Siberia and the Far East of the 1960s–1980s.

favorable for the practical implementation of those ideas.

The importance of the Arctic international economic cooperation extends beyond the Arctic itself. Against the background of local conflicts and confrontation in the Middle East, Africa, and Asia, its unprecedented speed and energy in the past two decades can become a positive example and lesson for the humankind. The Arctic today (even without any special legal status) is an experimental laboratory for the international cooperation.

In these circumstances, the goal for Russia is to strengthen and sustain this cooperation at all levels, between various entities, institutions, and individuals in the name of diversification of the economy of the Polar territories, strengthening of its innovative character, and enhancement of their attractiveness and quality of human resources in the Russian Arctic through active transfer of technology, new knowledge, information, and experience between the neighboring Polar countries. ■

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