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The "keep in the ground future" of Arctic fossil fuel resources

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Abstract. It is extremely important to understand which role Arctic fossil fuel resources will play in the development and geopolitics of the Arctic region. The article analyses the recent trends in the world energy supply with special focus on renewable energy and future demand for fossil fuels. Focusing on the Arctic LNG projects it comes to the conclusion that there is a growing possibility that the majority of Arctic oil and natural gas will be kept in the ground. Such an outcome would strongly influence the sustainable development and geopolitics of the region.

Keywords: *Arctic fossil fuels, renewable energy, carbon budget, oil and gas demand, transport electrification, Yamal LNG, International cooperation*

The increased international and media focus on the Arctic region has been until recently highly influenced by its estimated reserves of natural resources, especially oil and gas. The vast majority of actual publications cite the famous 2008 US geological survey [1]. It has increasingly become one of the strongest arguments in favour of the resource exploitation Arctic paradigm due to its high estimates of undiscovered Arctic fossil fuel reserves. There are, however, a series of reasons to believe, as some authors have already extensively discussed this issue [2, pp. 169-193; 3, pp. 103-133; 4, pp. 45-55], that the offshore Arctic oil and gas will not play a crucial role in the economy and geopolitics of the Arctic and in the world energy supply. This, undoubtedly, would lower the economical and geopolitical importance of the region. Some northern areas have been and could be strongly impacted by the developments in the oil and gas sector, but on the wider regional scale, the Arctic oil and gas intensive exploitation has not materialized yet. This is especially true for the offshore sector which could also have the strongest impact on the region's ecosystem and regional relations due to the harsh environmental conditions and possible border issues which will not be addressed here.

The major transformations in the energy market

This article will analyze some recent developments especially in the gas sector and propose some additional reasons which would suggest that the Arctic is far from being a place of an energy resources race among the Arctic and adjacent countries. The oil and gas markets have become incredibly flexible with many analysts speaking about a new oil order referring to the fast cycle of

shale oil[1]. Similarly, the increasing liquefied natural gas technology adoption has disrupted the long-term pipeline planning system and the bargaining power especially on the side of the suppliers. The remoteness of the North pole region, the difficulties in building infrastructure there and the two more recent step downturns in energy prices, with the last still ongoing in May of 2016, are strong arguments against widespread Arctic resource extraction. The pick oil arguments, which dominated the debate for many years, have been sided by a fierce price competition and rising non conventional supply which does not allow a dynamic of ever increasing oil prices to dominate the energy market. In addition, the advanced economies have undergone a significant reduction in the energy intensity with China increasingly catching up. The energy intensity of the global economy dropped by 2.3% in 2014, more than double the average rate of fall over the last decade [2]. This will also limit future oil and gas demand. Furthermore the energy intensity and energy efficiency improvements are being followed by a booming and rapidly evolving renewable energy sector which is already playing, and will have, a crucial role in the global energy planning and future capacity building. There is also an oncoming revolution in the transportation sector with the electrification of the transport vehicles, the sharing economy and improving energy storage which will gradually start reducing the demand for fossil fuels in the near future.

Renewable energy, innovations and climate change

The world has entered an energy revolution which will completely change the way we produce and use energy. Renewable energy brings many benefits since it has been becoming cost effective and competitive already reaching grid parity with the fossil fuels in many parts of the world. In countries like Germany and the UK, onshore wind is the cheapest electricity to produce[3] and according to the Bloomberg 2015 Energy outlook: “By 2040, the world’s power-generating capacity mix will have transformed: from today’s system composed of two-thirds fossil fuels to one with 60% from zero-emission energy sources. Renewables will command just under 60% of the 9,786GW of new generating capacity and two-thirds of the $12.2 trillion of investment.[4]” Renewable energy is also one of the key elements in the countries’ struggle to limit climate change. The recent COP21 Paris agreement in December 2015 will probably give a further boost to

[1] From the horse’s mouth: The new oil order is radically different from the old one URL: http://www.energypost.eu/horses-mouth-new-oil-world-radically-different-old-one/ (Accessed 5th May 2016). The New Oil Order URL: http://www.bloomberg.com/news/videos/2015-08-25/the-new-oil-order (Accessed 5th May 2016)

[2] IEA Special Report Energy and Climate Change. 2015. P. 11. URL: www.iea.org/publica-tions/freepublica-tions/publication/WEO2015SpecialReportonEnergyandClimateChange.pdf (дата обращения 06.05.2016)

[3] Solar and Wind Just Passed Another Turning Point URL: http://www.bloomberg.com/news/articles/2015-10-06/solar-wind-reach-a-big-renewables-turning-point-bnef (Accessed 6th May 2016)

[4] Bloomberg New Energy Outlook 2015 URL: http://www.bloomberg.com/company/new-energy-outlook/ (Accessed 6th May 2016)

clean and renewable energy in order to limit the greenhouse gases emissions. Not less important is the carbon budget and the required 450-500 ppm CO_2 concentration limit[5] in order to keep the temperature below the two degree target, which implies that a certain amount of discovered fossil fuels reserves will and should be kept in the ground. This is also recognized by major oil companies like the recent French Total decision to invest in renewables and its growth strategies based on the 2 C° scenario[6].

The keep in the ground future

The Arctic offshore oil and gas estimated recoverable resources, for all the above mentioned reasons, do not represent such a value that would force countries into conflict to control and exploit them. The megaprojects which characterize the activity in the Arctic region are indeed becoming less and less attractive[7]

Resources are also expensive to extract and the vast majority of them is also found inside already established national borders or in the special economic zones. Further evidence against a massive oil and gas exploitation, is undoubtedly provided by the recent decision of several major oil companies to abandon the U.S. Arctic and relinquish their drilling rights there[8]. Moreover, the US president Obama, after seven years of strong fight, due to climate and environmental concerns, just put an end to the XL Keystone pipeline extension which would bring the Canadian tar sands oil to the US market[9]. The Arctic is also a frontier environment where the human knowledge and technologies are tested to the limit so some countries and especially Russia, which is also the major Arctic player, do not have the technology and financial resources to individually

---

[5] According to the 2014 IPCC report the increase of global mean surface temperature by the end of the 21st century (2081–2100) relative to 1986–2005 is likely to be 0.3°C to 1.7°C under RCP2.6 (430-480ppm of CO2) and 1.1°C to 2.6°C under RCP4.5 (480-530ppm) URL: https://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf pp.9 (Accessed 6th May 2016)

[6] Calcuttawala, Z. Total Jumps On Renewables Bandwagon, Announces Ambitious Goals. URL: http://oilprice.com/Latest-Energy-News/World-News/Total-Jumps-On-Renewables-Bandwagon-Announces-Ambitious-Goals.html (Accessed 25th May 2016)

[7] Oil Producers Curb Megaprojects Ambitions to Focus on U.S. Shale URL: http://www.bloomberg.com/news/articles/2015-10-29/oil-producers-curb-megaproject-ambitions-to-focus-on-u-s-shale (Accessed 6th May 2016). Oil Megaprojects Won't Stay On The Shelf For Long URL: http://oilprice.com/Energy/Energy-General/Oil-Megaprojects-Wont-Stay-On-The-Shelf-For-Long.html (Accessed 6th May).

[8] Dlouhy, J.A. Big Oil Abandons $2.5 Billion in U.S. Arctic Drilling Rights URL: http://www.bloomberg.com/news/articles/2016-05-10/big-oil-abandons-2-5-billion-in-u-s-arctic-drilling-rights (Accessed 10th May 2016)

[9] Eilperin, J. and Mufson, S. Obama rejects Keystone XL project, citing U.S. climate leadership. URL: https://www.washingtonpost.com/news/post-politics/wp/2015/11/06/obama-set-to-reject-keystone-xl-project-citing-climate-concerns/?hpid=hp_hp-top-table-main_keystone-1120am%3Ahomepage%2Fstory URL: (Accessed 6th May 2016). Dorning, M. and Drajem, M. Obama's Keystone Rejection Strengthens His Hand at Climate Talks. URL: http://www.bloomberg.com/politics/articles/2015-11-06/obama-said-to-reject-keystone-project-win-for-environmentalists (Accessed 6th May 2016)

and competitively develop the huge Arctic projects on a large scale[10] [5, pp. 22-39]. The recent international sanctions against Russia were focused also on the Arctic offshore operations banning western companies any participation or technology transfer linked to this sector[11]. There is an increasing possibility that the Arctic region will see a continuation of cooperation on environmental and other issues and that its estimated energy resources will not generate increased geopolitical tensions. The vast majority of the region's oil and gas will be kept in the ground.

The Arctic gas sector

Although oil could still be seen as more attractive in the near term, it is natural gas that dominates the energy reserves of the region. Natural gas has lower CO_2 emissions per unit of energy[12] and is therefore seen by many as the transitional fuel to the future zero emissions economy. The growing LNG market and its transportation flexibility could also sustain natural gas demand in the future. The American Arctic is richer in oil and the onshore Prudhoe bay field, for instance, is still operating almost 40 years after its development and the Trans-Alaska Pipeline System construction in 1977 following the 1973 oil crisis. Analyzing the USGS report, Philip Budzik provides the following conclusion: "Arctic oil and natural gas resources are not evenly distributed among the Eurasian and North American continents. Eurasia is estimated to hold about 63 percent of the total Arctic resource base, while North America holds about 36 percent. The Eurasian resource base is predominantly natural gas and NGL, which account for about 88 percent of the total Eurasian resource base. The North American side of the Arctic is estimated to have about 65 percent of the undiscovered Arctic oil, but only 26 percent of the undiscovered Arctic natural gas". 43 of 61 significant deposits were in Russia. Of 18 deposits outside Russia, 6 were in Alaska, 11 in

[10] Mordushenko O. Burovaja ugroza. URL: http://kommersant.ru/doc/2811635 (Accessed 6th May 2016)

[11] New Directive 4 issued pursuant to E.O. 13662 prohibits the provision, exportation, or reexportation of goods, services (except for financial services), or technology by U.S. persons or from the United States in support of exploration or production for deepwater, Arctic offshore, or shale projects that have the potential to produce oil in the Russian Federation, or in maritime area claimed by the Russian Federation and extending from its territory, and that involve five listed Russian energy companies: Gazprom, Gazprom Neft, Lukoil, Surgutneftegas, and Rosneft. Treasury initially imposed sanctions against Rosneft, Russia's largest petroleum company and third-largest gas producer, pursuant to E.O. 13662 on July 17, 2014. Today's step, which complements Commerce Department restrictions and is similar to new EU measures published today, will impede Russia's ability to develop so-called frontier or unconventional oil resources, areas in which Russian firms are heavily dependent on U.S. and western technology. While these sanctions do not target or interfere with the current supply of energy from Russia or prevent Russian companies from selling oil and gas to any country, they make it difficult for Russia to develop long-term, technically challenging future projects. URL: http://www.treasury.gov/press-center/press-releases/Pages/jl2629.aspx (Accessed 6th May 2016)

[12] 117 Pounds of CO2 emitted per million British thermal units (Btu) of energy compared to 157.2 for gasoline, 161,3 for diesel fuel and about 215 for coal URL: https://www.eia.gov/tools/faqs/faq.cfm?id=73&t=11 (Accessed 6th May 2016)

Canada and 1 in Norway [6]. According to the data of S.E. Donskoy, in 2016 340 oil and gas deposits were found in the Russian Arctic, including 33 in the Arctic shelf [13].

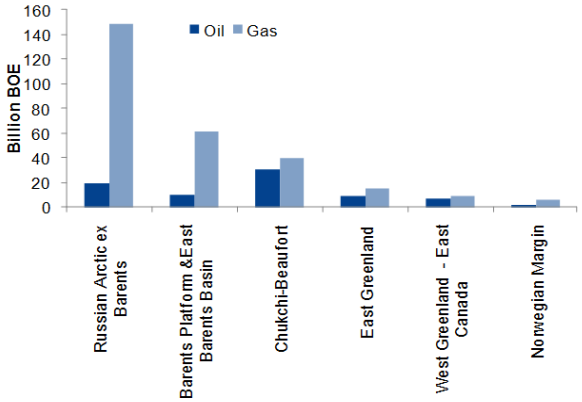

Figure 1. Source USGS from The Prospects and Challenges for Arctic Oil Development [14]

The Russian data from the Ministry of energy (Minenergo) is of 13 bln tones of oil and 87 tln cubic meters of natural gas[15], while other sources put the oil reserves higher as can be seen from the graph below:

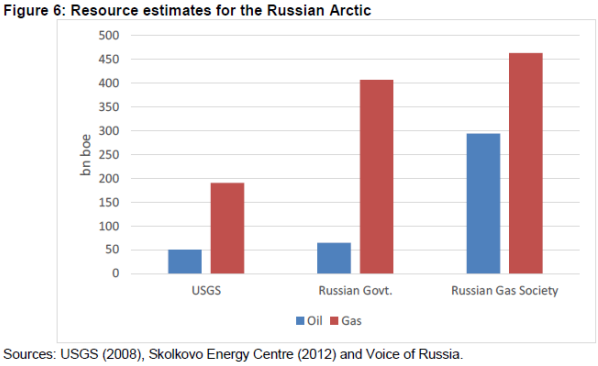

Figure 2. Source USGS from The Prospects and Challenges for Arctic Oil Development

In this context, the Obama administration decision to review plans for Arctic drilling, while refusing to extent also already approved leases[16], is critical for the oil sector, although market factors largely anticipated this move and made Arctic drilling uneconomical under current oil prices. Because of its predominance and economic and geopolitical value, the huge Arctic Eurasian

[13] Soveschanie s chlenami Pravitelstva. 07.09.2016. http://www.kremlin.ru/events/president/transcripts/deliberations/52843 (Accessed 14th October 2016)

[14] Source: USGS 2008, taken from The Prospects and Challenges for Arctic Oil Development, The Oxford Institute for Energy Studies written by James Henderso and Julia Loe, November 2014 p.5.
It should be taken into account that the assessment methods are based on geological presumptions, which implies a large degree of uncertainty.

[15] Rossiya budet dobyvat bolshe poloviny arkticheskoy nefti I gaza. URL: http://izvestia.ru/news/588397 (Accessed 7th May 2016)

[16] URL: http://instituteforenergyresearch.org/analysis/obama-cancels-lease-sales-in-arctic-cedes-arctic-to-russias-vladimir-putin/ (Accessed 6th May 2016)

gas reserves will be addressed here. Norway for instance, in 2015, exported for the first time more natural gas than oil in value[17]

Arctic natural gas supply and projects

The Eurasian USGS estimates are of about 34500 bln cubic meters of natural gas[18]. To put this volume in context, this is equivalent to almost a century of the current EU annual gas consumption of about 450 bln cubic meters. A limited number of operating Arctic gas projects are located mostly in Norway and Russia.

Norway operates the Snøhvit LNG facility in the Arctic with a capacity of about 5 billion cubic meters annually and produces an additional 2.2 bcm of gas in the southern Norwegian waters[19]. The Statoil Norvegian company, with the state as the largest stakeholder, is also working on the Aasta Hansten gas field in the Norwegian sea in the Arctic circle. The field is estimated to contain 47 bcm of gas which will be connected through the 482 km Polarled 70 million standard cu m/day pipeline to the Norwegian gas grid[20]. The project is very complex and according to Statoil recovering the resources on Aasta Hansteen will be demanding since the discovery is located far from land and outside the established infrastructure. The water depth is significant and the weather conditions are challenging[21]. The project cost has risen by about 9% since its submission and amounts to $4.34 bln. Its conclusion has been delayed from 2017 to the middle of 2018[22].

Russian projects

The country which could have the biggest impact on the Arctic gas extraction is obviously the Russian Federation. Currently Russia is not exploiting any offshore Arctic gas field, while the onshore area is a very important region for its gas supplies. The Yamalo-Nenets region provides about 80% of Russian natural gas [23]. Half of the region is located inside the Arctic circle. The offshore natural gas could be exported to the world markets through the liquefaction process which provides export flexibility and lower transportation costs on longer distances compared to the pipeline system as can be seen from the graph below.

---

[17] URL: http://barentsobserver.com/en/energy/2015/09/gas-bigger-oil-18-09 (Accessed 6th May 2016)
[18] 1219 trillion cubic feet
[19] In Arctic, Norway steps on the gas. URL: http://barentsobserver.com/en/energy/2015/03/arctic-norway-steps-gas-25-03 (Accessed 7th May 2016)
[20] Statoil: Polarled gas pipeline crosses Arctic Circle. URL: http://www.ogj.com/articles/2015/08/statoil-polarled-gas-pipeline-crosses-arctic-circle.html (Accessed 7th May 2016)
[21] Aasta Hansten. URL: http://www.statoil.com/en/ouroperations/futurevolumes/projectdevelopment/pages/aastahansteen.aspx (Accessed 7th May 2016)
[22] URL: http://www.offshore-mag.com/articles/2015/10/statoil-pushes-back-production-start-up-at-two-offshore-northwest-europe-projects.html (Accessed 7th May 2016)
[23] Soveschanie s chlenami Pravitelstva. 07.09.2016. http://www.kremlin.ru/events/president/transcripts/deliberations/52843 (Accessed 14th October 2016)

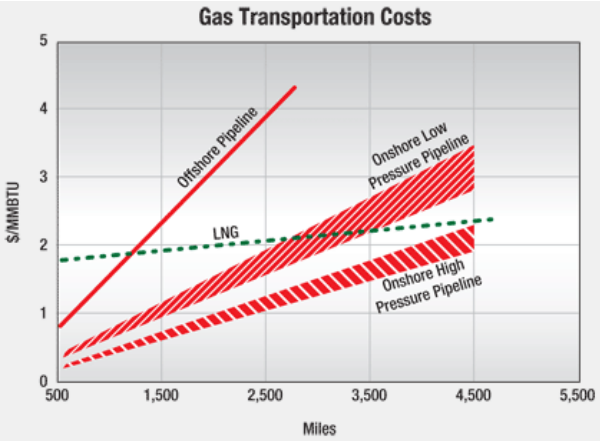

Figure 3. Pipeline vs LNG transportation cost[24]

Due to the permafrost conditions, the geographical limitations of a pipeline system, and long distances the Arctic offshore gas extraction is based on LNG technology. Yamal, the second LNG terminal in Russia, should be finished soon. Its three LNG trains, presumably operational in 2021, would provide a total liquefied gas production of 16.5 mmt of LNG or 23 bcm per year of natural gas.

The project is owned for 50.1% by Novatek with Total and CNPC having a 20% stake each and the Silk Road Fund a 9.9% participation. Total detains also a 18.9% stake in Novatek bringing its indirect involvement in the project to almost 30%. The Yamal LNG has involved the construction of a major new maritime route for transporting liquefied natural gas to Europe and Asia.

The $27 bln project has been experiencing financial problems due to the economic sanctions imposed on Russia and closed access to cheaper credit. A large part of the financial resources will be secured from Chinese investors through a $12 bln loan. The Chinese partners have also recently acquired an additional 9.9% stake in the project through the Silk Road Fund providing €1.09bln. The Russian government provided financing from the National Wealth Found of $2.8 bln and Russian banks recently agreed a further $3.6 bln loan[25].

With the exception of the Yamal project in active construction phase, Russia has recently delayed important Arctic projects. One of them is undoubtedly the Shtokman gas field which was discovered already in 1988. Gazprom, with its partners, in 2012 couldn't find a technologically and economically viable solution for the development of the 4 trillion cubic meters giant gas field. The field covers an area of 1,400 m² and lies inside the Arctic 600 km offshore in deep water. Successful development would require the construction of a long subsea pipeline in deep water in

[24] URL: http://www.energytribune.com/941/compressed-natural-gas-monetizing-stranded-gas#sthash.VROqacjV.dpbs (Accessed 8th May 2016)
[25] Russian banks sign loan deal with Yamal LNG worth 3.6 bln euros - Interfax cites sources. URL: http://www.reuters.com/article/russia-yamal-lng-loans-idUSR4N0ZC01I (Accessed 7th May 2016)

some of the harshest conditions on earth.[26] It is subject to icebergs weighing up to one million tonnes drifting at speeds of up to 0.25 m per second, and 1.2 m drift ice moving at up to 1m per second. Statoil left the project in 2012 and Total abandoned it in 2015 returning its 25% stake to Gazprom. Furthermore, the US, in the last several years, has drastically increased the production of natural gas following the shale oil boom. The country has even become a gas exporter which cut demand for Shtokman natural gas and lowered global natural gas prices. The development cost for the first phase of the Shtokman project was estimated at $12 bln to $25 bln ($50 bln overall investment). The project, after the completion of the third phase, would have produced up to an impressive 71.1 bcm of gas annually[27]. In February 2010, Gazprom postponed the phase I development of the project to 2016 from the original scheduled date of 2013. The field, according to those plans, should have started producing its first gas in 2016 and first LNG in 2017[28]. The project is currently frozen.

It is interesting to review the list of proposed LNG projects in Russia below, which if built, would bring the country's liquefied gas export capacity to about 117 bcm annually.

Table 1. Source: EIA International energy data and analysis[29]

Facility	Area	Status	Capacity (million Metric tons LNG/year)	Anounced Start year	Owners
Liquefaction projects					
Sakhalin LNG	Pacific coast	Operating	9.6	2009	Gazprom, Shell, Mitsui and Mitsubishi
Yamal LNG	Arctic coast	Construc.	16.5	2017	Novatek, Total and CNPC
Baltic LNG	Baltic coast	planning	10	2018	Gazprom
Valdivostok LNG	Pacific coast	planning	15	2018	Gazprom
Sakhalin LNG (expansion)	Pacific coast	planning	5	Post 2018	Gazprom, Shell, Mitsui and Mitsubishi
Far East LNG	Pacific coast	planning	5	2018-2019	ExxonMobil, Rosneft, ONGC Videsh and SODECO
Gaydan LNG	Arctic coast	planning	16	2018-22	Novatek
Pechora LNG	Arctic coast	delayed	10	NA	Rosneft
Shtokman LNG	Arctic coast	delayed	30	NA	Gazprom

[26] Is the time right for Arctic LNG? URL: http://mediaserver.dwpub.com/fjd-profile/30722/Arctic+LNG+November+2012.pdf (Accessed 7th May 2016)
[27] Shtokmanovskiy proekt. URL: http://www.gazprom.ru/about/production/projects/deposits/shp/ (Accessed 7th May 2016)
[28] Shtokman Gas Condensate Deposit, Russia URL: http://www.offshore-technology.com/projects/shtokman/ (Accessed 7th May 2016)
[29] Russia. URL: http://www.eia.gov/beta/international/analysis.cfm?iso=RUS (Accessed 7th May 2016)

The recent downturn in global energy prices, the Russian recession and the international sanctions will impact all those projects. It is very likely that until 2020 only the Yamal LNG will become partially operational. All the other projects in the Arctic are postponed or will never come online at all. In 2016 Russian government to decided to set up a temporary moratorium on licensing of shelf use [30].

The Yamal LNG project

In order to try to understand the future of the Russian Arctic LNG projects, which are crucial for the future gas extraction activity in the Arctic, the Yamal LNG development could provide some data and interesting insights. The project is the first of its kind and is not comparable to the Norwegian Snøhvit LNG facility which is located in southern waters where the Gulf Stream keeps the sea free of ice all year round. The Yamal field consists of five shallow gas horizons and 27 deeper gas condensate horizons, with depths varying from 900 to 2,850 meters. 208 wells will be drilled from 19 well pads. The Yamal LNG project is one of the largest industrial undertakings in the Arctic. It will eventually involve the drilling of more than 200 wells, the construction of 3 LNG trains, each with a capacity of 5.5 million tons per year, and a vast gas terminal, and the commissioning (a world first) of 16 icebreaker tankers, each able to transport 170,000 m³. [31]

A total of 188 kilometres (km) of gas gathering lines, 121 km of roads and 143 km of high voltage lines will be constructed[32]. It is very likely therefore that only after an initial evaluation and analysis of the Yamal operations additional similar projects could be approved. This will partially determine the development of the Novatek's Gydan project in Arctic waters with 16mmt LNG capacity which could become operational in 2023[33]. Shtokman LNG and the Pechora LNG projects are delayed. It is also important to consider that other reasons than economics could determine the development of important projects, especially in the Russian state, such as strategic planning or regional development plans. This was often the case for the Soviet Arctic projects, many of which were often not justified from a pure economic perspective but were indeed considered important for regional development or strategic interests.

The capital expenditures for Yamal LNG were assessed of being $26.9 bln in 2013 when the final investment decision was taken up from $20 bln initially estimated. The upstream accounts for

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[30] Soveschanie s chlenami Pravitelstva. 07.09.2016. http://www.kremlin.ru/events/president/transcripts/deliberations/52843 (Accessed 14th October 2016)

[31] Yamal LNG: The gas that came in from the cold. URL: http://www.total.com/en/energies-expertise/oilgas/exploration-production/projects-achievements/lng/ yamal-lng (Accessed 6th May 2016)

[32] Government Support to Upstream Oil & Gas in Russia URL: https://www.iisd.org/gsi/sites/default/files/ffs_awc_russia_yamalprirazlomnoe_en.pdf (Accessed 8th May 2016)

[33] Novatek presents plan for new Arctic LNG URL: http://www.thebarentsobserver.com/industry/2016/02/novatek-presents-new-plans-arctic-lng (Accessed 8th May 2016)

$4 bln, $4 bln goes to infrastructure, while the other $19 bln is attributable to the LNG liquefaction plant [34]. According to a recent analysis of the Moscow broker "Otkritie", the total capex can raise up to $33 due to the impact of the sanctions imposed on Russia and more expensive capital [35]. In addition, there are other indirect costs taken by the government like for instance, the building of three LK-60 nuclear ice breakers for about $2 bln which would be also partially used for the export and operation of the Yamal LNG.

It is also important to mention the unstable exchange rate of the ruble which has lost more than 50% in the last two years going from 33 rubles for $1 at the beginning of 2014 to 66 rubles for $1 in May of 2016[36]. The project in roubles would cost 1.27 trillion[37] which is $40 bln or $20 bln according to the two different exchange rates. If the expenditures or the financing are in euro or dollars the depreciation could have a negative impact and raise the financial burden for the companies involved.

According to two different sources, the Yamal LNG would break-even at a price of $8.2MMBtu[38], while a recent Gazprombank analysis reported a price of $6 MMBtu[39]. They write: "We estimate that Yamal-LNG will be breakeven and provide zero value to NOVATEK's target price at an LNG price of no more than $6 per MMBtu in 2017-20 and no more than $9 per MMBtu in 2021-24." Currently the European Russian gas prices at the German border are $4,02 MMBtu or $145 mcm and they still have not fully discounted the decline in oil prices[40] while in Asia the LNG stands at $4.24 MMBtu. Additional pressure on prices will come from American LNG exports to Europe and new Australian export terminals. At these prices the Yamal LNG in Europe in the short-term is uneconomical and would not guarantee an adequate return on the $27bln investment taking into consideration also the higher Russian interests rates.

The Gazprombank analysts point out the fact that the Asian spot LNG prices are not a good benchmark for Yamal future prices. The gas is also contracted for 90-95% and according to them it is not linked to LNG prices so they don't see possible impacts from LNG prices on Yamal. However, they are linked to crude oil prices benchmark [4]. On the other hand, a recent analysis of the

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[34] Gazprombank. Novatek, Pricing in sanctions and Yamal LNG // Gazprombank equity research 2014. P. 17. URL: http: //www.gazprombank.ru/upload/iblock/a1b/gpb_ novatek_ tp%20update_ 040814.pdf (Accessed 10th May 2016)

[35] Moscow gives a boost to Yamal LNG. URL: http://www.hellenicshippingnews.com/moscow-gives-a-boost-to-yamal-lng/ (Accessed 8th May 2016)

[36] Dinamika kursa valuty. Dollar SSha. URL: http://www.cbr.ru/currency_base/daily.aspx (Accessed 8th May 2016)

[37] Fadeeva A. "Yamal SPG" znachitelno prevyshaet planovye raskhody, soobschila Schetnaya Palata. URL: http://www.vedomosti.ru/business/articles/2015/08/13/604610-yamal-spg-previshaet-planovie-rashodi (Accessed 8th May 2016)

[38] BTU (British thermal unit) is an outdated measure unit used for thermal energy.

[39] URL: http://www.gazprombank.ru/upload/iblock/2f6/GPB_NVTK_TP_Update_230915.pdf (Accessed 8th May 2016)

[40] Gazprom Said to See Its Lowest Europe Gas Price in 11 Years. RL: http://www.bloomberg.com/news/articles/2015-10-23/gazprom-said-to-see-its-lowest-eu-gas-price-in-11-years -in-2016 (Accessed 8th May 2016)

International Institute for Sustainable Development/WWF points out that the project's Net Present Value (NPV) is positive only due to the Russian government's subsidies and that otherwise Yamal LNG would not be economically viable regardless of infrastructure costs. They also estimate the transportation cost for Yamal LNG from calculations made by Armstrong Atlantic State University. According to them costs are US$1.15/MMBtu to Europe, US$7.04/MMBtu to Asia via the Suez Canal and US $2.85/MMBtu to Asia via the NSR. Average transportation costs are thus US$3.7/MMBtu [7]. With current LNG prices in Europe and Asia of about $4MMBtu the capital return margins are really very slim.

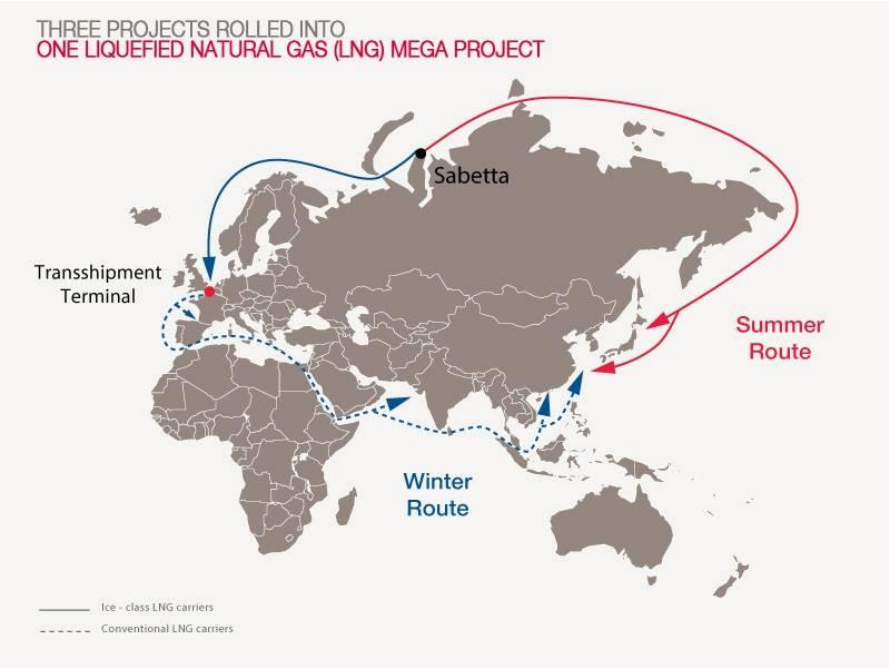

Figure 5. Yamal LNG transportation routes

The long horizon of such projects could partially offset current low LNG prices in the long-term. The Energy center of the Skolkovo business school in 2013 did a comparison of the LNG prices in Europe and Asia from different suppliers and it is interesting to see the competitiveness of the Yamal LNG in comparison to them [8, pp. 46-47].

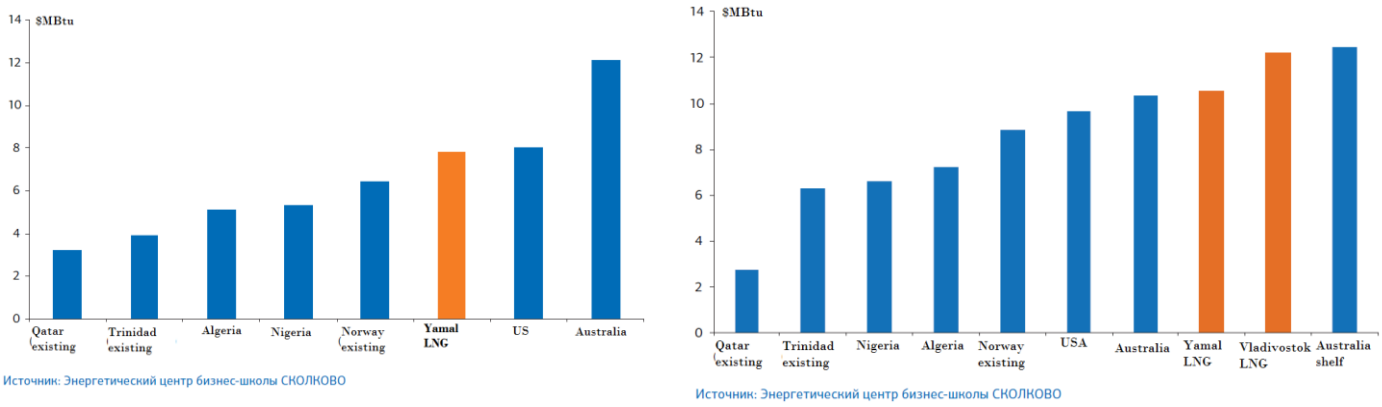

Figure 6. LNG delivered to Europe and LNG delivered to Asia: Skolkovo business school energy center

Gazprombank in its analysis of Novatek "Pricing sanctions and Yamal LNG" provides a different picture. They calculate that the Yamal LNG has the lowest capex per mln tonnes of LNG capacity of all the projects until 2020. They argue that even if the American projects like the Sabine Pass liquefaction facility has a capex of $0.74 per mln tonnes of LNG capacity this does not account for the upstream. The U.S. projects have to use outsourced gas from shale what, according to them, doubles the costs. Of course, also transportation costs have to be considered which are higher for Yamal LNG.

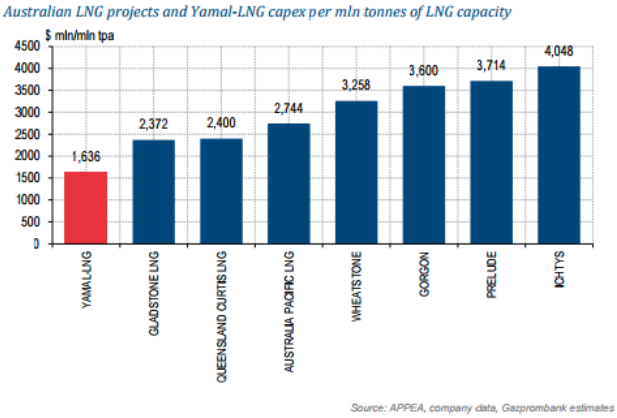

Figure 6. Comparison of projects' capex per mln tonnes of LNG: Gazprombank

Conclusions about Arctic gas

Arctic gas projects are very expensive long-term investments. The European market is already supplied by the existing pipeline system and the demand in Europe is flat and even declining after 2008. Similarly China will soon receive 61 billion cubic meters of Russian natural gas from the project Power of Siberia and Japan is restarting its nuclear reactors. In addition, the U.S. has become a natural gas exporter and the Chinese economy is slowing, switching also to less energy intense sectors following the advanced economies. Of course, there are other potential buyers, however, currently the global LNG market is oversupplied. The international energy consultancy Wood Mackenzie sees the window of opportunity closed for new projects at least until 2025[41]. The liquefaction capacity at the end of 2015 was about 301,5MTPA and additional 141,5MTPA of capacity will be added until the end of this decade especially in Australia and in the U.S.[42] In the best scenario until 2025, the Russian Arctic could see two operating LNG projects the Yamal LNG and the Gaydan LNG which would not drastically change the picture of the region considering also that this would be only about 5% of the Russian annual gas production. In

[41] Hussain, Y. 'Window of opportunity' for new LNG projects is gone because of supply glut, consultancy says. URL: http://business.financialpost.com/news/energy/window-of-opportunity-for-new-lng-projects-is-gone-because-of-supply-glut-consultancy-says?__lsa=94c1-5c19 (Accessed 9th May 2016)

[42] International Gas Union World LNG Report 2016. P. 17

addition, the Arctic projects would face strong competition from other LNG projects around the world especially in places with lower costs. In 2025 the world will presumably face a new energy reality and soon after natural gas will probably be already on the declining path in the world energy supply.

Growing alternatives to fossil fuels

In order to limit climate change and to use infinite renewable and sustainable resources for the world's energy needs, renewable energy will be crucial for our future. In the last several years many countries across Europe, and more recently other countries too, have seen an important shift in their energy mix with an exponential growth of wind and solar energy. For example, Italy and Germany, two important importers of energy, in particular of oil and natural gas, have seen in just a couple of years the combined share of solar and wind go up to 12,5% of total electricity generation in Italy and to almost 20% in Germany in 2015. In the EU28, for instance, renewable electricity generation grew from 678 TWh in 2011 to 923 in 2015 while natural gas electricity generation decreased from 705 to 485 in the same period[43]. China is installing photovoltaic and wind turbines systems at a record peace in the last several years and plans to reach 150GW of solar pv installed capacity until 2020. It has also 262 GW-thermal of solar heating capacity[44]. In the OECD countries solar and wind generation increased by 16% to 776 TWh in 2015 while fossil fuel generation decreased by 1%. Combustible fuels production was 6189 TWh [45]. The total world wind annual installations are already above 60GW in 2015 with solar catching up. According to the latest projections, they will already reach 100GW annual installations each in 2020.

In the automotive sector there is a growing trend towards the electrification of the transportation sector. In some advanced economies like Norway, electric and hybrid cars in 2015 have already reached a 23% market proportion of new vehicles sales. Tesla Motors, for instance, plans to produce 500000 electric vehicles annually from 2018-2020 and all the major auto companies are shifting to hybrid and electrical cars production. According to some calculations this should start the displacement of oil already beginning from 2022[46].

Another important factor to consider is the carbon budget. The world can emit at the current levels for another ten-twenty more years to reach the limit. There are some projects which

[43] URL: http://c1cleantechnicacom.wpengine.netdna-cdn.com/files/2016/05/europe-status-quo.jpg (Accessed 9th May 2016)

[44] URL: http://www.pv-magazine.com/news/details/beitrag/its-official--china-has-the-most-solar-pv-installed-globally_100022939/#axzz48Hm3q1Wf (Accessed 9th May 2016

[45] Wind & Solar OECD Electricity Generation Grew 16% in 2015 URL: http://cleantechnica.com/2016/04/05/wind-solar-oecd-electricity-generation-grew-16-2015/ (Accessed 9th May 2016)

[46] The Peak Oil Myth and the Rise of the Electric Car URL: http://www.bloomberg.com/news/videos/2016-02-24/the-peak-oil-myth-and-the-rise-of-the-electric-car (Accessed 9th May 2016)

started incorporating carbon sequestration but they are very expensive and can not compete with renewables. Additionally, many important international investors have already started the divestment process from fossil fuels. With the recent COP21 climate agreement the countries agreed to keep the temperature below 2 C° with the desire to keep it under 1.5 C° if possible. This will undoubtedly foster policies towards a renewable energy future.

Conclusions

In conclusion, the developments outside the Arctic region will largely determine the fate of its fossil fuel reserves. The latest advancements in the energy sector and the increased awareness about the climate risks have changed the world's attitude towards energy. Natural gas is still seen as the transitional fuel to the zero emissions economy but probably it will be overtaken by renewables soon. The global market is actually flooded by natural gas and especially LNG with prices slipping to historical lows. For all those reasons, it is difficult to expect that the Arctic will experience a fossil fuel extraction bonanza. Arctic projects require huge capital investments and do not provide flexibility in the long term due to the high initial investment requirements. It would be very risky to predict a fresh wave of Arctic extraction projects in ten years time following the rapid cost reductions and technological breakthroughs of other energy sources. This article clearly suggests that the timing for new Arctic oil and gas extraction projects is very limited and can be restricted to one or two more decades and that the majority of Arctic fossil fuels reserves will be kept in the ground.

In this scenario, it would be extremely important for Arctic countries to adapt and to plan for such a future and to consider alternative ways for their northern development. The low Arctic fossil energy resources potential could benefit the sustainable development of the entire Arctic region since huge extraction projects could have a negative impact on the environment and the society. The assumption that a large part of Arctic fossil fuels will be kept in the ground, could help to reframe the governments' attitude and plans towards the region and strengthen the spirit of cooperation. Artic transportation, Arctic tourism and sustainable development, for instance, contrary to huge extraction projects, require a continuous and ever improving forms of cooperation among the Arctic states, regions and communities.

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A cosmopolitan, Sami-friendly scholar? Väinö Tanner on the best way to treat the Sami

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Abstract. The topic of this article is Väinö Tanner's views on Sami policies, which are examined from numerous perspectives, including his personal career and Nordic Sami policies. The discursive resources that he re-produced are also charted. Of the Sami policies in existence at that time, Tanner advocated the Swedish variant, which suited better the agenda of his scholarly production on the Skolt Sami. The origins of his choice are located in his long-term professional contact with Swedish experts on the Sami and the expert role provided by Swedish discourses on the Sami. The anti-Finnish agenda in his scholarly production, and his consequent wish to elevate the Sami in the hierarchies of that time, rendered the more aggressive Norwegian rhetoric on the Sami unusable. In addition, Tanner showed signs of a cultural sensitivity that made him suspicious of assimilative policies.

Keywords: *Väinö Tanner, Sami research, history of Sami policies, history of minority policies*

Introduction

Of all the renowned Nordic researchers on Sami society and culture, Väinö Tanner (1881-1948) has aroused relatively little scholarly interest as a research object [see, however, 1, Massa I., passim; 2, Massa I., passim; 3, Susiluoto P., passim; 4, Susiluoto P., passim; 5, Susiluoto P., passim.]. Despite numerous positive references to his seminal work on the Skolt Sami, *Antropogeografiska studier inom Petsamo-området. 1 Skoltlapparna*, (Human Geographical Studies in the Petsamo region. 1, The Skolt Lapps, 1929, hereafter *Antropogeografiska*), and its status as a "classic", the man himself has remained mostly unknown. References to his "cosmopolitanism" and the "Sami-friendly" slant of his studies are numerous and he enjoys a reputation as one of the first scholars to bring Skolt Sami intention and rationality into focus in his synthesis on Skolt Sami *sijt* adaptation (*siida*, the Sami village, in Skolt Sami). Tanner is also praised for avoiding the most aggressive racialized discourse on the Sami, such as that which attributed lesser mental capacities to the Sami.

Politically, Tanner is unknown: very little has been written about his political and ideological views in earlier studies. One of the few instances when he expounded on his political views was following his voluntary exile from Finland to Sweden in 1944 because of his frustration with the anti-Swedish policies of Finnish nationalists, the "True Finns" ("Aitosuomalaiset"). Tanner also developed strong anti-Nazi sentiments during the Continuation War (1941-1944). There is a similar lack of knowledge concerning his stance on Sami policies and how states should treat their

Sami minorities. His critical stance on the introduction of agriculture to the Sami is well known. During Tanner's active era as a state official and scholar, minority policies in Finland were in the making, and even though the Sami enjoyed a special, yet un-formalized status as an indigenous minority in Finland, the Skolt Sami were an exception as a 'new' and more 'foreign' minority within the borders of the young nation state, Pechenga/Petsamo having been annexed to Finland in 1920. The *Antropogeografiska* is also vague on this matter, containing numerous and even contradictory discussions on the way in which the Skolt Sami are to be helped into modernity [3, Susiluoto P., p. 18]. A study on this theme, based on archival sources, is so far lacking.

One of the scholars to raise questions concerning this blank spot of knowledge is history professor Astri Andresen, who has briefly discussed Tanner's ignorance concerning the Norwegian treatment of the Paččvei Sami (in Russian, Pazreka) during the border negotiations between Finland and Norway from 1922 to 1925. A favouring of the Norwegian population had led to disruptions in Paččvei Sami land usage rights from the late nineteenth century onwards. The negotiations during the 1920s resulted in Skolt Sami salmon fishing rights being revoked on the Norwegian bank of the River Pasvik, something which Norwegian officials had desired since the 1890s, fearing an (ex-)'Russian' minority on their turf. Tanner participated in these negotiations as a delegate of the Finnish Ministry of Foreign Affairs. Andresen has noted that Tanner appeared unaware of what were in retrospect more sinister traits of Norwegian Sami policies. In addition, in *Antropogeografiska*, Tanner echoed Norwegian standpoints on this issue: he found the reason for the low catch given as the lower quality of the fishing device to be true as such, but he denied the Skolt Sami testimony that they had been driven away from the fisheries, which had actually happened [6, Andresen A., pp. 17–25, 75–81, 85, 119–122, 157, 160; 7, Tanner V., pp. 146–147, 171].

What was Tanner's opinion of the Scandinavian policies, and what kind of Sami policies did he advocate? Which factors affected the choice of policies he favoured? Tanner was both a state official and a researcher. From a methodological point of view, he was able to use and reproduce influences in numerous contexts and from numerous discourses. These contexts, and the discourses as well, both influenced and provided tools for the researcher/official; they could be used as a resource, employed for a variety of purposes [8, Shapin S., pp. 93, 110]. As a researcher, Tanner had more freedom in employing his own choice of discourses – which are understood as ways of talking and writing about the Sami competing to become hegemonic and norm-giving – than he did as a state official, bound to a more rigid, formalist and state-bound mode of talking about the Sami. Consequently, context matters as much as linguistic traces in the texts as far as

methods are concerned. Both context and discourse can be used to study the motivation, rationale [9, Mathiesen S.R., pp. 103-104], intentions, influences, politico-ideological surroundings and transformations in Tanner's political thinking.

The availability and comprehensibility of politico-ideological influences embedded in these contexts varies for differently-situated officials/scholars in the social structure, as well as in time and place. There is no direct causality concerning the context of a scholar, nor does there exist one tyrannical discourse guiding the pen of the scholar. While state officials have to echo the discourses articulated in the institutions they serve, scholars may employ a consciously instrumental perspective in their work: their calculations may take into consideration goals pertaining to the wider society, or they may not. Significant contexts and discourses also derive partially from their life histories, or from the position a single scholar occupies in the social structure and scientific community [8, Shapin S., pp. 93–100; 10, Shapin S., pp. 179, 197–198]. This motivation may not reveal itself, and any interpretation therefore has to remain conditional. What follows is at least an attempt to fathom the motivation and rationale behind Tanner's opinions on the best way to treat the Sami. The contexts in which these are sought focus on his career, his professional roles and the politico-ideological discursive terrain in which Nordic Sami policies were articulated and practised. The sources comprise his personal archive, located at Tromsø University Museum, and the relevant parts of his scholarly production.

As is well known, Russia/Soviet Union has played a significant role in Finnish history. During Tanner's lifetime, Finnish sentiments towards Russia changed from compliance to negative imagery, even hatred, finally acknowledging the necessity of establishing new, friendly relations after the Second World War. The negative sentiments were a historical force and factor without which the Finnish ideologies would remain unfathomed. The political thinking of the era was permeated by ideas of differences between nationalities (placing the author's nationality almost without exception as the highest and the most cultured/capable), as well as by opinions about the Russians/Soviets. The text that follows therefore references contemporaneous ideas of the "Other" held by the Finnish and the Russians. These are to be read contextually as historical statements, not as views held by the author of this article.

Tanner – background and early career

Väinö Tanner was born in 1881 in Hämeenlinna, located in southern Finland. His father, Richard Tanner, was a tradesman and his mother, Hildegard Karolina Kant, was from Långtora,

Uppland in Sweden. The home language in the Tanner residence was Swedish[1] [11, Wenner C-G., p. 187], and the family belonged to the small-town, Swedish-speaking middle class. In 1914, Tanner married Jenny Salomon-Sörensen from Malmö in Sweden, so that his connections with Sweden became even deeper [12, Lundqvist G., pp. 143-144].

Tanner studied in two institutes of higher education, which was typical of that time for those still not very numerous pupils who went on to continue their studies in the few available institutes of higher learning in Finland [13, Strömberg J., p.258]. Tanner graduated in 1905 from the Polytechnic Institute (Dipl. Inc. in Chemistry and Engineering) and showed an inclination to pursue a career in research from early on, since he continued his studies (Fil. Cand. in 1909) and defended his doctorate in 1914 with a thesis [14, Tanner V., passim,] in geology at the Imperial Alexander University, an institution better geared for such a pursuit. His thesis was part of a larger series of publications on the quaternary system, on the movements of continental ice. Between 1903 and 1913, through his engagement to the Geological Commission of Finland, Tanner participated in geological expeditions to Lapland. He visited Kola in 1908 and Nuortijärvi/Notozero and Suenjel/Songelsk in 1909. Tanner commenced teaching and research early on at the Geological Commission and the Polytechnic Institute, and from 1905 at the Imperial Alexander University, where he taught geology and mineralogy[2] [3, Susiluoto P., pp. 10–11; 15, Michelsen K-E., pp. 166–167; 16, Rantala L., pp. 45–46]. Tanner studied extensively abroad: cartography in Stockholm and geology in Russia, as well as languages in Switzerland, Germany and Russia. This is one reason for his reputation for being “cosmopolitan”.

Tanner’s fairly rapid progress in his early career was linked to the generally upward rise in class structures in swiftly-modernizing Finland, as well as a need for educated specialists and experts in the service of the state. The number of students enrolled was low and employment prospects were good, especially in the sciences, and it was usual to be offered employment even before graduation [13, Strömberg J., pp. 230–232, 235–236, 239–240, 257; 17, Strömberg J., p. 21]. Tanner’s career took a brief international turn because of his engagement in the work of commissions working on the reindeer herding crisis in Torne Lappmark, the border region between Norrland in Sweden and Troms County in Norway (chairing the commissions in 1910-1912 and 1914-1917). These engagements involved an introduction to the adaptation forms and rationalities of the Sami, as well as numerous aspects of cross-border nomadism. Tanner received

[1] Tanner corresponded with his grandmother on his father’s side in Swedish, e.g. Archive of Tromsø University Museum (ATUM), Archive of Väinö Tanner (AVT), Box 18, folder 3, Korrespondanse 1929, Letters from Hilli Tanner, 1929.

[2] ATUM, AVT, Box 18, folder 10a, Private documents, CV.

methodological lessons in the field-work and in working with the Sami. Other staff included some of the first-rank Sami researchers of that era, e.g. Kristian Nissen, with whose works, expert role and advice Tanner was acquainted. The archive gives indications that Tanner felt more of a natural alliance with the Swedish policies and members of the commission than with the Norwegian members, who openly expressed doubts on the reliability and worth of Sami testimonies. As chairman of the committee Tanner in any case eagerly assumed the role of expert, a tendency he also exhibited in his later scholarly production on the Sami. [18, Nyyssönen J., passim] This was the position from which he pronounced his educated opinion on preferred Sami policies.

Tanner's brief engagement with the Ministry of Foreign Affairs and his diplomatic career (1918-1921) were most likely due to the fact that administration in the field of foreign relations was one of the very few administrative branches with no administrative structures or ministries in its own right in newly-independent Finland (the other being national defence: all the other administrative branches had already existed from the era of autonomy). The Ministry of Foreign Affairs was established in 1918 and its permanent staff remained small. Recruitment to a diplomatic career and to the consulates and embassies established from 1918 onwards has been characterized as "random". There was a need to recruit men with a command of foreign languages, so the university was among the natural recruitment bases [19, Selén K., pp. 170-171]. Tanner, with his experience in international cooperation and knowledge of languages, had the required sought-after characteristics.

Tanner served in Romania, Bulgaria, Turkey and Greece. He also served other short engagements with the Ministry: in 1918 he worked as a civil servant at the Department of Foreign Policy at the legation in Stockholm, Sweden [2, Massa I., p. 202; 4, Susiluoto P., p. 12]. He appeared as an expert in the peace negotiations between Finland and the Soviet Union in Dorpat in 1920, and as a political adviser concerning the state of Norway [20, p. 125]. In 1922, Tanner was headhunted from the Ministry of Foreign Affairs by the Chief Director of the Geological Commission to lead the mapping of mineral deposits in Pechenga/Petsamo. This tour of duty lasted from 1924 to 1931, during which time, in his capacity as a state geologist, Tanner was engaged in geological studies (the sufficient extent of the ore in the deposits was detected in drillings during the summers of the late 1920s, while the excavation of the mine commenced in 1936 and production began in 1942-1943 [21, Nummela I., p. 112; 22, Vahtola J., pp. 285–290, 305]). In addition to the formal terms of his engagement, Tanner collected Sami place-names and researched the geomorphology and shore-lines of the Arctic Ocean. Tanner also conducted archaeological excavations localizing stone-age dwellings, possibly in 1928-1930, based on an

analysis of the ancient shore-lines. Contact with the Skolt Sami during the summers of 1924-1927 was among the factors that resulted in the gradual shift of his interest towards human geography: Tanner wrote his human geographical monograph on the Skolt Sami during the 1920s [1, Massa I., p. 67; 3, Susiluoto P., pp. 12-13; 4, Susiluoto P., pp. 77, 87; 12, pp. 143–144].

Antropogeografiska is a synthesis of Skolt Sami history, the organization of the Sami *sijt*, its administration, Skolt Sami adaptation and subsistence forms, and its people's relationship with the environment and their ongoing subsistence crisis, as well as the general condition of the folk. The book has a complex identity political agenda, intended to correct erroneous and biased opinions towards the Skolt Sami, renouncing Russian cultural, linguistic and racial influences, and commenting on unwise Finnish policies (in his book, Tanner begins to write favourably about the Russians as the Finns enter Petsamo), as well as attempting to "promote the happiness of the people of nature" by presenting critical and factual knowledge of the folk and forces in the extreme north. The book contains an unresolved tension between an effort to elevate the Skolt Sami in contemporaneous hierarchies and the modern world, pushing the Skolt Sami back to a primitive position in the book. The belief in race as a scientific and hierarchizing factor also complicated the book's salvage agenda concerning this indigenous group [compare 4, Susiluoto P., p. 98; 7, Tanner, V., p. 9 et passim].

Even before the publication of *Antropogeografiska*, Tanner was in a position, and had acquired the knowledge, to be able to air his opinions on Scandinavian and preferred Sami policies. Although he never rose to a position of being able to make decisions about these policies, what was his opinion of them?

Tanner on Scandinavian Sami policies

As mentioned, Tanner appeared to be uninformed about the true force of the Norwegianization policies in the early 1920s. His archive provides more detailed thoughts on this issue: in an archived manuscript, Tanner wrote that with the annexation of Pechenga/Petsamo, Finland had been presented with its own "Lapp question". In a draft document dealing with the aforementioned issue, Tanner conceptualized ways in which Norway and Sweden had approached this problem: Sweden had practised a humanistic-sentimental "protectionist" policy by forcing the Sami to carry on with reindeer herding. Norway had practised a "national-economic" and "socio-political" policy, in which the Sami were given the same rights and duties as all other citizens, and were expected to stand in reserve in the same labour market as everybody else.[3] Tanner's

[3] ATUM, AVT, Box 6, folder 2, Petsamon alueen paikannimiä, I Lappalaisia paikanimiä, koonnut V.Tanner, undated manuscript «Med Petsamo-områdets…».

perspective grasped the state rhetoric, but shows a better knowledge of the Swedish policy. His conceptualization lacks the highly critical Finnish attitude of that time towards Norwegian policies concerning the Finno-Ugric minorities in Norway, especially those of "Finnish" extraction or Finnish-speaking minorities, the Kvens. From the mid-1920s onwards, this had become the domain of Finnish nationalists who protested against the poor economic, linguistic and educational conditions of the Kvens, blaming Norwegian policies for this situation [23, Kaukiainen L., pp. 104-113]. Given his negative opinion of the True Finns, Tanner most likely felt an aversion to joining their ranks.

When it came to the best possible Finnish response to the "Lapp question", Tanner was in favour of the Swedish alternative. His primary argument was that it would not be advisable to leave the Sami to compete on their own against the interests of other professional groups – implying a relative weakness on the part of the Sami. Secondly, natural conditions were not suitable for the chosen policy of cattle-raising – a critique of the chosen Finnish policies thus far in Lapland and Petsamo. Tanner ended his discussion of this subject by stating that there was sufficient pasture and that the disposition of the Sami was most suited to reindeer herding.[4] Tanner's benevolent, humanistic, paternalistic, protective and normative gaze positioned the Sami as the lowest, without exception: as those with the least possibility or capacity to act in their own interests in a terrain manned by stronger, more capable groups of actors. The state of Finland was depicted as a threat and as the institution that had had to take action to save the Skolt Sami: these roles did not necessarily negate one another, since the successful protective role of the state of Finland was dependent on the state officials following Tanner's expert advice. Tanner had a habit of elevating the Scandinavian model as an example to the region: this bias, and its Finnish antithesis, may be another reason for the policies he recommended. What can be said with more certainty is that Tanner did not reproduce the more aggressive Norwegian racialized discourse on the Skolt Sami [e.g. 6, Andresen A., p. 155] – this did not suit his Sami-friendly agenda.

The most recent research describes the Swedish Sami policy as paternalistic, one that acknowledged and sustained the cultural hierarchies, but which was protective and conserving in its rhetoric. During the nineteenth century, the social Darwinist conviction of the disappearance of a weaker folk was coupled with ideas of Christian and humanistic help to prolong their existence as long as possible. Exposure to civilization and modern life would lead to pauperization and an increase in welfare costs, as well as a potential loss of the nomadic occupation, which was

[4] ATUM, AVT, Box 6, folder 2, Petsamon alueen paikannimiä, I Lappalaisia paikanimiä, koonnut V.Tanner, undated manuscript «Med Petsamo-områdets…».

considered injurious and a misfortune to the Sami. It would be humanitarian to sustain the Sami in the nomadic Sami way of life, to which their racial characteristics and disposition predetermined their association. The idea of protection also built on a perception of the Sami as not being capable of taking care of themselves: they were in need of guidance from above. Ideas about modern life "injuring" and "spoiling" the Sami were numerous in Swedish discourse on the Sami during the early decades of the twentieth century when Tanner was working in the reindeer pasture commissions. These ideas resulted in lesser rights in comparison to the general Swedish population [24, Lantto P., pp. 11-16]. As I have already explained, the Swedish Sami policies were known to Tanner.

On a scale of integration-segregation-assimilation, the eager tendency to define the correct way of being a Sami led, in the Swedish case, to a combination of segregation and assimilation. The Lapp hut schools were geared up not to wean the Sami children from their nomadic way of life, by decreasing the amount of schooling and denying them modern conveniences such as proper housing and other comforts. Reserving and protecting reindeer nomadism as the righteous form of subsistence for the Sami was undertaken by means of many protective measures, e.g. a cultivation border delimiting the area for agriculture, forestry and reindeer herding in the region, to the benefit of all three forms of land use; this resulted, however, in mostly unsuccessful efforts to segregate the Sami from modern impulses. On the other hand, the Sami who had for various reasons abandoned reindeer herding, or who practised different forms of subsistence, were an anomaly in not fulfilling the strict criteria of 'real' Sami-ness. They were to be assimilated into the Swedish folk, since this was going to happen anyway. Protective and down-grading attitudes led to a strict control of the Sami, in the form of the Lapp Service (Lappväsendet), an authority intended to administer the "Sami question" and implement a Sami policy. In the period of Tanner's early contact with Sweden, this institution was mostly implementing different aspects of the segregationist "Lapp shall remain Lapp" policy [24, Lantto P., pp. 16–17, 141; 25, Lundmark L.]. In his wording of the proposed Finnish Sami policies, Tanner supported segregation but, as we shall see, not necessarily the assimilation of the Sami.

If the Swedish policy was humanistic in its rhetoric, hierarchizing in its practice and eager to use the power of definition, the Norwegian variant was more straightforward in its desire to merge and "civilize" the Sami. The take on reindeer herding was one of tolerance to a subsistence form about to vanish. Consequently, future Sami agricultural adaptation would entail a leap upwards in the cultural hierarchy and a merging with Norwegian culture. The gaze was permeated with social Darwinism: nomadism, an outdated relic, was going to vanish in its encounter with

stronger forms of subsistence. The Norwegianization policies were based in addition on an (unfounded) fear of the Sami and the Kvens as fifth columns teaming with hostile Finns and Russians/Soviets. School was to become the most important institution in addressing this national threat. Teaching – the staff and the language of instruction – was to be (in) Norwegian. In addition, nationalist-conformist Norwegianization policies were instigated between the 1850s and the 1950s in areas such as road-building, land-sale policies, church-building and an extensive control of "foreign nationalities". As one variant of global efforts to 'civilize' and assimilate indigenous populations, Norwegianization policies stand out as exceptionally long-lasting, leaving a persistent mark on minority communities, most evident in their loss of language [26, Eriksen K.E., Niemi E., p. 26ff; 27, Jernsletten R., pp. 8–17; 28, Minde H.].

The economic argument and the goal of creating an active labour reserve, to which Tanner referred, has been deemed an inferior goal compared with the most significant one – that of national security – by Knut Einar Eriksen and Einar Niemi in their seminal work on Norwegianization policies, Den finske fare (The Finnish Menace, 1981). Ideologists targeted minority cultures, languages and any sense of togetherness, to be substituted by a sense of self and an identity as a Norwegian. Regnor Jernsletten has discussed the economic background of the land-lease policies, which reserved land ownership only to those with a command of the Norwegian language. The economic factor to which Tanner referred was most evident in the *poor success* of land-lease politics: the restriction of land sales to Norwegian citizens remained mostly unenforced, since the old prioritization of the economic consolidation of Finnmark and the sedentarization of the nomadic Sami stood out as more important. As far as the land-lease policies were concerned, a fear of foreign nationalities was strongest and the actual discrimination most blatant against the Kvens, but the policies did not hinder Sami or Kven settlement. Rather than creating a reserve workforce, the rhetoric and argumentation concerning this question was, according to Eriksen and Niemi, imbued with a Kvens-as-a-national-threat-to-be-tethered discourse. And sedentary agricultural settlement was perceived as the solution for resolving the anomaly of Sami reindeer nomadism once and for all [26, Eriksen K E., Niemi E., pp. 22–24, 60–61, 69–81, 119, 126–128, 228–237; 27, Jernsletten R., pp. 17–18].

Reasoning that resembled Tanner's was also present in the discourse on schools as a progressive factor for minorities deemed "backward", where the argumentation down-played the national threat discourse and took up more explicitly the need to civilize minorities and incorporate them into Norwegian society, as Bernt Thomassen, director of schools in Finnmark, wrote in 1917. (The Sami called him "[Nikolai] Bobrikoff", referring to the governor general of

Finland who had aimed to "Russify" the Grand Duchy of Finland and was murdered in 1904.) The idea was that the Sami and the Kvens should feel a sense of unity with the Norwegians, as well as sharing a sense of solidarity and Norwegian culture, and enjoying the well-being provided by this elevation, as well as the ultimate goal of creating loyal citizens out of the Sami and the Kvens (in opposing Norwegianization policies it was hoped that the same results would be achieved by kinder treatment of these minorities). Thomassen's rhetoric did not explicate the duties of the new full citizens enjoying the equality promised by Norwegianization [26, Eriksen K.E., Niemi E., pp. 115–121], as Tanner's wording did, but it may have provided a source for Tanner, since he engaged in brief correspondence on the school issue with an ardent Norwegianization advocate, Johs. Haaheim, from a former Skolt Sami area in Neiden[5].

This source reveals a later interest in the matter and Tanner's mildly critical stance towards Norwegianization policies in schools. Here, too, Tanner demonstrated an understanding of the demands of the state, but not necessarily to the extent of full cultural change. Reindeer herding, according to the half-nomadic model preferred by the Swedish experts and Tanner, was to be continued by a folk proven culturally competent in the environment best equipped for such an adaptation. This was clear to Tanner, as clear as it was that the modern world constituted a threatening realm, since the ill-advised Finns advocated agriculture, which was poorly suited to their particular environment, and there did not yet exist any overlap between these niches for different means of living. Tanner himself wished to establish a cultivation border, as described earlier. One of the sources of these ideas was Swedish reasoning on this matter and one of the provocative discourses was the Finnish discourse praising the Finnish peasant as the normative ideal [29, Tanner V., pp. 81, 97].[6]

In his correspondence, Tanner stated that he did not agree on all the points with Haaheim, without specifying his points of disagreement (the original letter from Haaheim to Tanner is not to be found in the archive), but Tanner took the Sami pupils' point of view as his starting-point: at worst, they sat in the classroom with no command of the language used by the teacher and gained

[5] As a newly-graduated teacher from the Seminar in Tromsø, Johannes Haaheim was sent to the multi-linguistic region of Neiden to teach Sami and Finnish children precisely because he was *not* in command of the Sami languages. This was logical, under the Norwergianization policies practised during the 1880s and 1890s. Haaheim, originally from Hardanger in Vestlandet, was an active member of the Norwegian local 'nobility' in Neiden, with positions of trust in church and municipal administration. He served as mayor in 1901-1904, enjoying a good reputation in the municipality and as a teacher "who norwegianized pupils without force" [Rasmussen, Sigrun: Neiden kapell og Svanvik kapell, Nasjonal oppbygging i Sør-Varanger, Hovedoppgave i kunsthistorie, våren 2007, Institutt for filosofi, ide- og kunsthistorie og klassisk språk, Universitetet i Oslo, 35, 37-38]; Haaheim is depicted in *Den finske fare* as an ardent promoter of Norwegianization policies. He initiated and administered the first school dormitory, the Fossheim dormitory in Neiden, and shared his opinions concerning the unreliability of the Kven population in the region in secret reports that he sent to the military [26, Eriksen K.E., Niemi E., p. 66, 137-138].

[6] ATUM, AVT, Box 6, folder 1b, Muetkess, Njaudam, undated draft for a letter to Mr. Haaheim.

no benefit from the teaching. It took a long time for Tanner to touch upon points of view of the state relating to security issues, which was the starting-point in many of the discussions about Norwegianization policies. But Tanner eventually returned to an evolutionary frame of mind by claiming, in unison with Haaheim, that education had to match the culture of different nationalities and that the interests of the state would be best served if the individuals were bound intimately together as a solid cultural unit ("kulturförband"). Cultural development could not proceed regardless of the existince of the folk (folkbestånden).[7]

Tanner's arguments seem to be drawn in two directions. His conception of culture and history was evolutionary, but Tanner had pondered nationalization questions within the school institution[8] from the point of view of equality as well. There are clear indications of democratic humanism, while his discussion of the best of the state does not specify the culture within which the pupils were to be unified: it is most likely that the singular form and idea of development pointed to the majority culture of each host state. However, Tanner's final sentence seems to return to somewhat more pluralistic points about it being best for Skolt Sami culture to address the modern world, for which they had to be prepared, in order to not to meet it head-on from a primitive stance – a point made in Tanner's *Antropogeografiska* – but into which they did not necessarily have to sink in order to assimilate. According to my reading, Tanner did not support assimilative measures outright.

Additional support for this attitude is apparent in an earlier text on Skolt Sami place-names, in which Tanner wrote about the Sami being in a process of acculturation/assimilation that was undesirable (Tanner used his own term "epäkansallistuttaminen", which translates roughly as un-nationalizing the Sami, and which may serve as a translation for the term "die Denationalisirung", used in scholarly texts of that time [30, Kihlman A.O., p. 39]). The article's explicit salvation motive – the exceptionally nuanced and expressive Skolt Sami tradition had to be saved for posterity before it vanished – resembles the starting-point of much of the argumentation for assimilation policies, even though Tanner did not explicate this [31, Tanner V., pp. 3-4].

Tanner had produced another draft on the issue of schools, in which he was more generous in sharing his thoughts. On a passage on the issue of schooling in Suenjel, Tanner was sceptical about the desirability of placing Sami children in the same school as pupils belonging to a different, higher race; the encounter might and indeed did turn out be unfortunate, the school turning out to be a "torture institution for the child of nature" ("tortyranstalt för naturbarnen"),

[7] ATUM, AVT, Box 6, folder 1b, Muetkess, Njaudam, undated draft for a letter to Mr. Haaheim.
[8] ATUM, AVT, Box 6, folder 2, Petsamon alueen paikannimiä, I Lappalaisia paikanimiä, koonnut V.Tanner, undated manus "Schnitler omtalar nämligen i sitt…".

leading Sami children to abandon school. Because of this, and the general dislike of school dormitories among the Sami, Tanner was in favour of establishing their own Suenjel school in the winter village. Tanner racialized another aspect in his critical discussion of the dormitories: where could one find a woman with sufficient cultural maturity to take care, with understanding and devotion, of that many children belonging to a different race? The passage ends with a quotation from the first novel written by a Sami, "Muitalus Samiid birra" (Story about the Sami, 1910), in which the author Johan Turi airs his opinions about the pros (cheating the Sami became more difficult as they learned reading, writing and arithmetic) and cons (the inevitable cultural change, from Sami culture and nature to peasant culture and nature) of the Swedish "five-year school" [32, Turi J., pp. 28–29].[9] Tanner's philosophy was hierarchical and racializing, yet compassionate and curiously culturally sensitive, leaning more to the culture-protecting *ethos* of the Swedish model than to the assimilative Norwegian variant. It may also be said to grasp some aspects of the actual experience of Sami pupils already sent to schools in the north: Tanner referred to discussions with Swedish Sami individuals in this passage. Tanners way of using the racial factor is no longer valid, but his attempt to use it in a supportive, yet paternalistic and instrumental manner is interesting .

Aside from general development, and the inherent and desired result of schooling, Tanner did not specify anything about the wiping out, abolition or disappearance of indigenous culture, nor the civilizing, enfranchising or salvaging of indigenous peoples, all of which were typical ways of talking at that time about assimilation and the resultant progress in the social engineering of indigenous groups, including the Norwegian example [28, Minde H., pp. 126–131; 33, Cairns A.C., pp. 53–56]. Tanner used Sami sources, which served to mellow his discourse. His effort to look at the situation from the Sami pupils' point of view had the same effect.

In his archived statements on the Norwegian policies Tanner did indeed appear to be uninformed concerning their grimmer aspects. On the one hand, this risks becoming an anachronistic problem, since some aspects of these policies were secretive, and thus many of the consequences of Norwegianization policies have emerged and become associated with them at a later date. The policies have been attributed with a strength and coverage that may not have been evident in a real-historical situation during all of the phases of the Norwegianization policies, spanning over a century. This is stated not as a belittlement of Norwegianization policies, but as a methodological statement of the available knowledge possessed by historical actors in their temporal contexts and the effects which have been accredited in retrospect to historical

[9] ATUM, AVT, Box 6, folder 2, Petsamon alueen paikannimiä, I Lappalaisia paikanimiä, koonnut V.Tanner, undated manuscript in a collection titled «Upplysningen».

phenomena in different identity political projects. Both of these realms, the historical and identity political, can be studied historically, but they have to be separated, since the epistemological rules under which the historical actors operated are different.

Conclusions: Tanner the Sami-friendly scholar?

Generally, Tanner shared the social Darwinist thoughts and world-view that were inherent in the Swedish Sami policies, more aggressively so in the Norwegian variant. The focus of Tanner's wording was the same: the Sami were progressing higher up the ladder of socio-cultural evolution, and only the means and the pace of the uplift were under discussion. Tanner chose the milder, Swedish variant, one that left room for some cultural sensitivity and cultural protection, as well as – most importantly – reindeer herding, the subsistence form of his choice, reserved for the Sami. Tanner's cultural sensitivity was most evident in his somewhat ambivalent thoughts on schooling and the Sami.

Race was an explanatory and scientific factor for Tanner and he included a lengthy chapter on physical anthropology in *Antropogeografiska*. He did not, however, include the aggressive Norwegian rhetoric on the Sami in his book. This is not necessarily yet another sign of his ignorance of the Norwegianization policies, or their blunt rejection: aggressive, racializing rhetoric was something that Tanner had set out to oppose in his writing in the first place, therefore he had either to omit Norwegian opinions from his book or oppose them. For Tanner, the Norwegian rhetoric was a spoiled, unusable discursive zone, rather than a source of influence. His book was intended as a response to the aggressive Finnish discourse on the Skolt Sami, rendering the Norwegian and Scandinavian discourse on Germanic superiority useless because of the discursive force with which it placed the Sami as the lowest. As a Finland-Swede, Tanner might well have shared the discourse of Germanic racial superiority compared to the Finns and other Finnish minorities – a pleasant position to take. Because of this ambivalence, and the relative lack of opinions he expressed on this topic, *Antropogeografiska* does not provide a definite answer concerning Tanner's view on the Sami policies.

Among the discourses which he did not chose to reproduce were the True Finn discourses on the oppression of the diasporic Finno-Ugrian minorities. This confirms the old notion of Tanner as an anti-True Finn individual. This is a known fact, which resonates well with his identity as a Finland-Swede. The same applies to the Finnish Sami policies that he criticizes all the way through *Antropogeografiska*.

Tanner's articulations on a preferred Sami policy seem to form a paradox with his 'Sami-friendly' stance: the Sami protested against the Swedish policy at the time and it has definitely

fallen into disfavour among researchers. Tanner wrote from an expert's stance, which sometimes resulted in paternalist attitudes, sometimes even guilt-tripping the Sami concerning their "wrong" choices, i.e. making choices not suggested by Tanner. His categorizing gaze was at times harsh, as harsh as the Swedish policies, and he advocated a "correct" form of semi-nomadic reindeer herding, not aware of how recently it had been adopted as a Skolt Sami form of subsistence. The expert role provided in the Swedish discourse was something that attracted Tanner profoundly, and it affected his scholarly production as well. He labelled the Swedish policy "humanistic-sentimental", implying that he found the Norwegian policy to be more instrumental and less sensitive culturally. He was a most genuine "Sami friend" according to the standards of that time. The paternalism inherent in the Swedish policy was understood differently then: only later did this begin to signify the hostile undermining of Sami rationalities and sensitivities. The perceived benevolence in meetings with indigenous peoples, acting and dictating policies for and on their behalf, was part of the imperial and hygienic discourse of that time. So, too, were the aims of the stronger party, the state, and the health of the polity. These were two sides of the same coin and did not negate each other.

Among the aspects that continue to label Tanner an approachable researcher of the Sami is his choice of "humane" policies, including his thinking on race: as in politics, Tanner never took eugenic or deterministic views concerning race, but connected the race discussion to wider discussions on the viability of the folk. He ended up, famously, writing – in opposition to Norwegian scholars such as Amund Helland – that the Skolt Sami were not dying out or degenerating [7, Tanner V., p. 329]. As far as Tanner was concerned, the Sami were capable of development, but it would be best to do things his way.

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The geological heritage of academic expeditions on the Arctic coast of European Russia

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Abstract. The work briefly describes the history and research results of geology of the Arctic territories. It reflects the scientific results obtained during field works of the Institute of Geology of Komi Science Centre of the UB of the RAS since 1958. The data on geological collections from the Arctic territories of the North-Eastern part of the East European platform, Timan and the Northern Ural with islands Vaigach, Novaya Zemlya is given. Geological Museum named after A.A. Chernov can be a regional research and education core for the conservation of historical, cultural and natural heritage of Arctic.

Keywords: *scientific research, expeditions, Arctic, geological museum, collection*

Geological collections as part of the cultural and historical heritage

It is not known when the first museum exhibition was organized, reflecting the history of studies of the Arctic latitudes. The mention of one of the first exhibitions, dedicated to the Arctic expedition, relates to 1597. At Gostiny Dvor in Kola trophies of the expedition of the Dutch navigator and explorer of the Arctic, Willem Barents, were exhibited, who sailed from the northern tip of the Novaya Zemlya to the shores of Murman [1, Dolgova S.]. In 1714 in the "Kunstkammer", the highly artistic objects of the Sibirian collection were exhibited, this collection was subsequently appended by the items of the Great Northern Expidition (1732-1742). Materials of other Arctic expeditions, received in result of the voyages of F.P. Litke and F.P. Wrangel in the Arctic Ocean in the first quarter of the XIX century, were exhibited in Saint- Petersburg "Sea Museum", opened in 1805 (Central Naval Museum) [1, Dolgova S.].

Nowadays, the materials of the Arctic expeditions are shown in many museums around the country. The number of such museums include the Museum of the Arctic, Museum of Arkhangelsk Naval College, Museum of the History of the Hydrometeorological Service of the North, the Museum of the Institute of Applied Geophysics named after E.K. Fedorov, the Museum of the Institute of Oceanology. In 2002 the World Ocean Museum was opened in Kaliningrad, where materials of the Arctic expeditions are exhibited. Most of the objects of the museums have historical and cultural significance, and only part of the exhibitions has natural-science meaning. The role of museum collections of the humanitarian profile is obvious for the most people, but the

natural sciences, particularly geological collections are not widely accepted as an important part of the historical and cultural heritage.

Geological sample information has multiple informative facets and multifunctionality. Unlimitedness of the process of obtaining information from geological samples appears brighter. In the first place, the object for study is substance. However, geological sample as a museum item has not only specific scientific information, but also details of the historical and cultural character. Samples, and in particular collections, specially selected and connected by ideological basis and thematic, can be considered as evidence of a certain stage of development of scientific views of a single scientist or the whole trend, as witnesses of the cultural and historical events and major geographical discoveries. Thus, a museum geological sample should be considered not only as a natural formation, but also as a subject closely related to the history of science.

In Russia, there are not so many museums, where geological collections of the Arctic territories can be widely presented. One of these museums is the Scientific and Geological Museum named after Alexander Alexandrovich Chernov. The museum was founded in 1969 as a scientific structural unit of the Institute of Geology of the Komi Science Center of the Ural Branch of the Russian Academy of Sciences (KSC UB RAS), located in Syktyvkar. The museum has gained an extensive geological material, reflecting current knowledge about the composition, structure and history of the Earth's crust in the north-east of the European part of Russia: Timan, Northern, Subpolar and Polar Ural, the Pai-Khoi, Vaigach Island and Novaya Zemlya. Geological collections are the real result of conducted research and scientific expeditions.

Arctic collections of the Museum are presented by rocks, minerals, organic debris, core material collected from the Northern Timan and tundra, from the islands of Novaya Zemlya and Vaigach, from the Kanin and Yugor Peninsulas. This geological assembly consists of 122 collections: 70 collections are monographic, 11 belong to the category of exhibitional and 21 collections are working collections with total volume of 13,700 units.

Academic geological expeditions in the Arctic before the beginning of XX century

Historically, in the Arctic exploration, many years of experience of the Academy of Sciences in the organization and research of the Arctic territory can be seen clearly. The defining role of the Academy in the choice of the area and subjects of works with government requests is fully described for regions of the European North [2, Askhabov A.M., Getsen M.V., Samarin A.V.].

Soon after the establishment of the Imperial Academy of Sciences in St. Petersburg, the studying of the vast northern territories and the first Arctic expeditions started. The first information about the geology of the area were obtained during research expeditions in 1907-

1912, arranged by the Arctic explorer V.A. Rusanov, who reconstructed paleo-environment between the Arctic Ocean and the disappeared sea of the Central Europe, and the ways of settlement of some species of fauna in the polar regions, and who also opened deposits of coal at Svalbard. Expedition and stationary research made significant contribution to the study of the Arctic, hich were organized by the Polar Commission (1914), which had the task to prepare physiographic and administrative maps of the North [3, Roschevsky M.P., Roschevskaya M.P., Brovina A.A.] The heyday of the Commission's activities took place in the 1920s — early 1930s.

The difficult economic and political situation in the country with the absence of its own raw material base became the motive to create the Northern Scientific and Industrial Expedition (1920). This expedition was instructed to carry out research and field work, as well as to coordinate any investigations undertaken by other organizations in the whole space from the Northern Ural up to the eastern edge of Taimyr Peninsula and in the Arctic islands of the European part of the USSR [4, Samoylovich R.L.].

In 1920-1930 the expeditions organized by the Institute of Geography, the Russian Academy of Sciences, Institute of Hydrology and mainly by the North scientific expedition led by P.V. Wittenburg, R.L. Samoilovych, M.M. Kruglovskaya, during which the representative material on the morphology of shores and their structures with rich paleontological collections was gained. Collected items of the Silurian and Devonian fauna mainly went to the determination by the leading experts (D. Nalivkin, V. Verrieres, E. Rhine, F. Chernyshev) [5, P.V. Wittenburg].

In 1933, All-Union Arctic Institute organized the expedition led by the mining engineer B.V. Miloradovich and his assistant N.N. Mutafi, the task of this expedition was to find mineral resourses and to arrange the geological survey of the northern coast of Novaya Zemlya. A great contribution was made in the study of magmatic formations of Novaya Zemlya and in the peculiarities of polymetallic mineralization [6, Miloradovich B.V.].

In 1933 Pechora team trip was arranged under the leadership of A.P. Karpinski, and in the same year there was a brigade trip of the Polar Commission to the island Vaigach [3]. As a result of large-scale works of Pechora expedition, the working hypothesis of the national economic development of the Pechora region was adopted at the Presidium of the USSR Academy of Sciences. Government regulations developed on the basis of this hypothesis have defined the development strategy of the Pechora region. One of the main proposals of the academic team was the construction of the railway to Vorkuta.

By this time, field studies were made by Professor A.A. Chernov, who already in 1929 was engaged in stratigraphy and tectonics of the coal area of the Pechora region. His mutual with A.F.

Lebedev report in January 1929 at the member of the board of USPD G. Bokia, became the basis for sending Ukhta expedition of USPD. During the expedition to Vorkuta river in 1930, A.A. Chernov discovered Vorkuta coal deposit.

Figure 1. Expedition of A.A.Chernov to river M.Talata. 1933 (from holdings of Museam named after A.A.Chernov)

In April 1931, making a report in Arkhangelsk at the second Conference on Study of Productive Forces of the Northern territory, the scientist said: "The fact that the Pechora coal basin continues to the north, that it goes under the drifts of Bolshezemelskaya tundra, for me it was quite clear already in 1924 ". And in January 1933, speaking at the meeting of the natural resources sector of Gosplan, A.A Chernov said: "Assuming Vorkuta series as continuation of Kozhim, Inta series, and so on, I sent expedition to Vorkuta quite deliberately" [7, Astakhov I., Ievlev A., Zhdanova L.].

The next stage of studying the richest natural resources of the Arctic was connected with the organization of stationary institutions of the Academy of Sciences at the European North. One of the first in the USSR Kola base of the Academy of Sciences of the USSR in Kirovsk (1932) and the North base of the Academy of Sciences in Arkhangelsk (1936) were established. At the beginning of the war, they were evacuated in Syktyvkar, where they began a large-scale scientific study of the region. Research made in 1941-1944 had a significant impact on the economic development of the Komi Republic. As a result, the Presidium of the USSR Academy of Sciences decided to organize in Syktyvkar the Base of USSR Academy of Sciences in the Komi Republic (1944), with the tasks to study natural wealth of the North.

As a result of activities of scientists-geologists a considerable scientific heritage has been left: a vast library on polar issues, cartographic materials, material evidence of expeditions, manuscripts of articles and diaries. The geological materials collected during the Arctic expeditions of the XIX — the beginning of the XX centuries, have been preserved in singular collections of the central natural science museums (CGR Museum named after academician F.N Chernyshev (St. Petersburg), Mining Museum (St. Petersburg).).

Arctic expeditions of the Institute of Geology, Komi Scientific Center, Academy of Sciences of UB of RAS

Research of the northern territories have been raised to a new level with the organization of base of the USSR AS (1944) in Syktyvkar — Komi Branch of the USSR AS (from 1949) - Komi Scientific Center, Ural Branch of RAN (since 1991). During the war and the early postwar years in the Arctic areas of European northeast research was conducted in small volumes. In the Arctic, works were carried out from the southern borders of the forest-tundra zone and up to the islands of Novaya Zemlya and Vaigach. Mainly geological research focused on prospecting and exploration of mineral resources.

In 1958 the Institute of Geology of Komi Branch of the USSR AS was founded, in which the main object of study is the European North-East of Russia, which covers the Arctic in the north-eastern part of the East European platform, Timan Ridge and the northern part of the Ural fold system with continuing the island chain (Vaigach, Novaya Zemlya). The expedition studies provided new data on the geological structure and geological history of the territory, and discovered new deposits and occurrences of mineral resources [8, Fishman M.V.].

First expected major success occurred in broadening the base of hydrocarbon raw materials. 1960-s are characterized by an unprecedented rise of geological research in the field of hydrocarbons and by the first bright discoveries of oil and gas and gas condensate fields (Zapadno-Tebukskoe – in 1959; Usinsk deposit — in 1962; Vuktyl deposit — in 1964).

During the first ten years of existence of the Institute, thanks to the materials obtained, the unified regional scheme of stratigraphy of the Paleozoic and Lower Mesozoic sediments was created, the prospects for further study and expand of the mineral resource base within the Pre-Ural fore deep and Bolshezemelskaya tundra appeared [4, Samoylovich R.L].

Since 1969, under the leadership of N.P Yushkin with B.A. Ostaschenko, V.I. Silaev, A.M. Askhabov, K.P. Yanulov, A.B. Makeyev, P.P. Yuhtanov, A.F. Kunz, a very ambitious program of scientific expeditions to the Pai-Khoi and Vaigach-Yuzhnonovozemelsky anticline has been realized. The trips in 1972-1976 were the most fruitful and productive. In those years sea

expeditions were arranged, large-scale stratigraphic, paleontological studies were carried out, ore deposits and occurrences on the island Vaigach and north-western part of the Yugor Peninsula were revealed (Fig. 2).

Figure 2. Expedition works by team of the Institute of Geology on Vaigach island, 1973.
(from holdings of Museam named after A.A. Chernov)

In 1974, for the first time, in the northern part of the South Island, in the region of Gribov Bay, Middle Carboniferous deposits were discovered. In 1970s, the new Ural-Novozemelskaya flyuorit province was discovered, with large reserves of the unique quality of raw materials for the optical industry. The complex lithological and geochemical investigations in the north of the Ural-Pakhoi region were arranged, prognostic metallogenic maps were made. By 1976, the fact of the extensive development of fluorite mineralization in the southwestern part of Novaya Zemlya was confirmed, and dozens of new manifestations discovered. Also during these years, complex expeditions were arranged on the coasts of the Barents and Kara Seas, at the North Timan, Yugor Peninsula, Vaigach Island.

Subsequent expeditions were aimed at deepening the study of the geological structure of the Arctic territories in Pakhoi anticlinorium, Bolshezemelskaya tundra and the northern part of the Timan Ridge. The research on the stratigraphy of upper Cainozoic sediments in oil and gas areas of the Pechora lowland has been continued. The structural and tectonic studies of Pakhoi anticlinorium have been conducted and lithological and geochemical features of the rocks have been studied, fluorite-polymetallic deposits have been tested in detail, and copper and phosphorite mineralizations have been studied.

Geological expeditions in the Nenets Autonomous District, in the Northern Timan have been condacted in order to develop a model of the geological evolution of the Pechora plate. The energetic types of mineral raw materials (oil, gas, coal) have become the objects of attention of the Institute of Geology during recent years. Since 1980s, the stratigraphic, petrographic, mineralogical studies of ore formations of the northern part of the Timan are expanding. The discovery by B.A Guslitser, in 1988 of Harutinskoe deposit located on the river Adzva, became the important event. The remains of extinct mammals and human weapon were found there, and it became the oldest evidence of human emergence in the European North.

The Institute organized 95 geological expeditions to the Arctic territories, including more than 70 teams condacted research on the territory of the Pai-Khoi, Yugor Peninsula and Vaigach island. As a result of longstanding research of the Arctic territories by the members of the Institute of Geology, the extensive materials on the geological structures, ore potential of the Arctic territories have been obtained. The research of Pai-Khoi and Yuzhnonovozemelskaya province have revealed the main geological formations of the territory, new mineral occurrences have been discovered, the general outlook of the mineralogical province has been clarified. Today, the works on intensive study of the mineralization are continuing, in particular, gold and nickel sulphide with concomitant platinum mineralization.

The geological heritage of the Arctic expeditions in the collections of the Geological Museum named after A.A. Chernov

The museum fund, characterizing the geological structure of the Arctic territories, has been formed with samples collected on Kanin Peninsula. The palaeontological collection was arranged in 1958 during the study on the Upper Permian deposits of the northern part of the Russian platform along the rivers B. Krutaya, Nodteyu, Oiva, by team under the leadership of M.A. Plotnikov.

The most detailed studies of Kanin Peninsula were carried out by employees of the Institute in the 70s of the XX century. For the preparation of tectonic and geological map of Timan and Kanin Peninsula, geological teams of the Institute of Geology conducted fieldwork in the central part of the range of Kanin Kamen and south-eastern part of the Pae ridge. The study of tectonics resulted in the collection of petrographic collection of shaly section of of Riphean basement and Phanerozoic platform cover of Kanin Peninsula and the northern Timan. The results of scientific and geological expeditions in 1979-2001 are reflected in the expositions of the museum, which characterize Kanin gabbro-syenite, north Kanin granodiorite-granite complexes and Mikulkinsky complex of granitic pegmatites.

The volume of the geological material consists of more than 2000 items. Complex lithologic and biostratigraphic research of the Upper Permian sediments of the northeast of Cheshskaya Bay has allowed performing lithologic and stratigraphic reconstructions, to extend the taxonomic composition of faunal assemblages. Museum funds have been replenished with samples of the main types of rocks of transitional Ufa-Kazan sediments and with Permian fauna collection. Paleontological collections are different in species diversity, age and representativeness. In 1995-1996 paleontological collection was replenished with fusulinid from Kanin Peninsula. The most numerous (over 300 samples) collections of flora and fauna are from the coast of the Kara Sea, from the winter shore of the White Sea from the Vendian biota to modern mollusks. A special place in paleontological collection takes the remains of large mammals. The representative collection (26 samples) consisting mainly of ivory, characterizes the development of life more than 1 million years ago (Fig. 3). More than three dozen of monographic and exhibitional collections of the museum with volume of more than 15 thousand samples contain information about the geological structure of Novaya Zemlya. From 1973 to 1976 on the South Island of Novaya Zemlya, Institute researchers conducted comprehensive studies on the stratigraphy, paleontology, tectonics, mineralogy, magmatic of the territory.

Petrological teams (1973, 1974, 1976) conducted a detailed study of the Devonian volcanic rocks (basalts and tuffs) and related manifestations of native copper, widely spread along the south-west coast of the South Island of Novaya Zemlya and on the coast of the Strait of Kostin Shar. The museum exhibition "Petrography" demonstrates geological samples of Kostin Shar magmatic complex represented by basalts and tuffs, dolerite, gabbrodolerite, pikrodolerite and wehrlites.

Figure 3. Fossil ivory handed by B. Guslitser (1968) in exhibition of Geological Museam named after A.A. Chernov

In order to isolate a unified regional stratigraphic scale, learning coal and low Permian sediments, a collection of horistits (brachiopods) was stocked in 1974, which is kept in the museum. The rich collections of flora and fauna make it possible to compare the sections of Novaya Zemlya with Pre-Ural fore deep.

In 1979 the museum funds were supplemented by numerous (816 units) collections of plant residues of Permian sediments from the islands of Novaya Zemlya and Mezhdusharsky Island. The study of hundreds of natural sections and drill cores has led to the collection of representative paleontological collections of different groups of fauna and flora. The result of many years of stratigraphic research in Pai-Khoi is a dissection of the sedimentary cover based on the description of the reference sections and monographic description of fossil fauna and flora (Fig. 4).

Fugure 4. Imprint of fern Peitaspermum sp. Bolshezemelskaya tundra, river Adjzva (1967).

The collections contain the materials of mineralogical teams (more than 3 thousand samples), which were assembled under the leadership of N.P. Yushkin in 1973 and 1976. [9, Yushkin N.P.]. The materials characterize the ore formations and occurrences of the Central Pai-Khoi and North Pai-Khoi regional zones, the South Islands of Novaya Zemlya and Vaigach island. In 1975, during the expedition on the Yugor Peninsula in the middle reaches of the river Silovayaha the collection of gangue quartz-calcite rocks with mineralization was made. As a result of laboratory tests, arsenic germanium sphalerite was detected, which at that time was the second finding in the world. Later, during the study of these samples, the violet-pink mineral with tarnish was found. In 1983, the new mineral — yushkinit — was approved [10, Makeev A.B., Kovalchuk

N.S.]. Thanks to this discovery, the new geographical name: Yushkinitovoe uschelye has apperead. Mineralogical collection is added by samples of native copper from the South Island of Novaya Zemlya, the Arctic amber from the coast of the Kara Sea, barite, turquoise, rare phosphate minerals (variscite, wavellite, jarosite). The collection of the Arctic territories is supplemented by agate collections (more than 70 samples), collected mainly in 1980-1995 at the Northern Timan in outcrops of the river Belaya.

Figure. 5. Yushkinit in quartz reef. Pai-Khoi, Yushkinitovoe uschelye, river Silova-Yakha (1985).

More than 200 samples were handed over by employees of the Institute of Geology after studies of lithological structural features of Pai-Khoi anticlinorium. The largest exhibits from the Arctic territories are wax jasperoids — siliceous rocks, widely developed in the Central Pai-Khoi anticlinoria.

In 2015, the museum funds were replenished by samples of tagamets, suvits and cone fractures from Kara astrobleme — one of the largest impact structures of the Earth, the diameter of which is about 65 kilometers.

The stone material of collections is accompanied by scientific reports, dissertations, monographs, articles, forming a library fund. Due to the accumulated material it is possible to find additional natural science information, and the historical facts of the research of the Arctic territories.

The book fund of the museum has published works of N.I. Timonin "Novaya Zemlya Memorial" (1995). In his book, the author showed that a memorial toponymy of the archipelago is not just a collection of geographical names, but a kind of chronicle of the polar events. In the

scientific and popular form N.P. Yushkin in his book "On the islands of the Arctic Ocean" (1979) talked about the history of the study and development of the Arctic Islands, about the harsh nature, about the work and life of scientists.

Conclusion

Today, on the way of education and improvement of society, the development of issues related to the history of science and the problems of nature protection as part of the national heritage is particularly relevant. Unfortunately, the need of the historical education of visitors has not been fully recognized in the departmental geological museums yet. We need a program of work on the revival of the national heritage, which include a system of measures for the recovery, study, protection and utilization of cultural and geological heritage, as a single complex.

The funds of the Geological Museum named after A.A. Chernov allow to create local scientific educational core for usege of historical, cultural and natural heritage of the Arctic. Several directions in the activities of scientific and educational core can be marked out.

Material of the Arctic territories, stored in the museum named after A.A. Chernov, is represented mainly by monographic collections. In addition, doublet working collections exceeding them in size are stored in the museum. Stone material provides possibility of further study of these areas using modern equipment and new scientific results.

Another area of research and education core — popularization aimed at organizing special classes or lectures for those wishing to get acquainted with the history of Russia in sphere of the Arctic study and work of scientists.

Finally, as part of environmental education programs to create conditions not only for inclusion of younger generation to the cultural and natural heritage, but at the same time to form and identify potential specially protected areas. The revealed unique, unparalleled natural outcrops should be saved and assigned to the objects of geological heritage. Without the isolation and establishment of protected objects it is unthinkable to develop the modern tourism industry, to arrange training, educational tours for students and pupils, as well as the formation of ecological outlook and upbringing of the younger generation [11, Ievlev A.A., Zhdanov L.R., Astakhova I.S.]. That is why, on the basis of natural science museums the programs to ensure the protection of the geological heritage should be realized.

Formation of the collection fund allows fully keep in sufficient quantity and quality the materials to meet the research and development work, as well as for cultural and educational activities.

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Ethnodemographic processes among the Sami of modern Norway

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Abstract. On the basis of statistics and comparative analysis the article shows ethnodemographic processes among the Sami of Norway in 2000–2013, including the dynamic of population, natural increase, factors and reasons which caused them in this period. The short analysis of references has been made. Stable economic situation is improving the conditions of Sami. At the modern stage, special conditions for keeping the Sami's ethnic identity are arranged, the basis of which is the language development.

Keywords: *indigenous people, Norway, Sami, ethnodemographic processes*

Indigenous peoples as a social phenomenon and a scientific problem are in focus of the world and Russian public for a long time, due to the concern of the world community about the gradual disappearance from the face of the earth of the unique culture of ethnic groups, loss of language, culture and traditional forms of life. Particularly acute this problem is in the northern regions of the world, namely in the Arctic and in the Barents Euro-Arctic region, where their concentration is most significant. At the beginning of the XXI century the total number of indigenous people living in the Arctic, reached about 400 thousand people, which worked out 8.5% of the population of the Arctic region [1, Sokolova F.H., p. 58].

Since the beginning of industrial development of the Arctic the problem of preserving the traditional way of life of indigenous peoples has especially actualized, as intensification of the processes in the region can cause manmade disasters, ecological disbalance in nature, which is fraught with negative consequences for indigenous peoples whose lives and culture is entirely dependent on the environment. At present, the problem of indigenous peoples of the North is a significant social problem that concerns the entire global and regional public.

In the Russian and international legal practice, unfortunately, there is no single definition of ethnic minorities, who in these days have preserved traditional lifestyle, culture and customs. According to the ILO Convention "About Indigenous and Tribal Peoples in Independent Countries" № 169 from 1989, following peoples referred to indigenous: "peoples, having tribal way of life in independent countries, whose social, cultural and economic conditions distinguish them from other

groups of the national community and whose status is regulated completely or partially by their own customs or traditions or by special legislation." [1].

Also, in the Russian legal practice, ethnic groups living in the territories of traditional settlement of their ancestors, keeping traditional way of life, livelihoods and crafts, are classified as indigenous peoples. The difference between the Russian interpretation of the definition is that the above designated ethnic groups in Russia are those nations whose population does not exceed 50 000 people, thereby emphasizing the importance to preserve the culture of the ethnic groups living in conditions of a real threat of extinction[2].

The main issues of the state national policy of the Russian Federation, which require special attention of the state and municipal authorities, are: a) the preservation and development of cultures and languages of the peoples of the Russian Federation, strengthening of their spiritual community; b) ensuring the rights of indigenous peoples and national minorities[3].

The subject matter of indigenous peoples is not neglected by the attention of the world and the Russian scientific community. Currently, there are many works in the literature devoted to traditional beliefs, customs, language and degree of preservation of the Sami culture in Norway. It should be noted that the spectrum of research is extremely wide. Comprehensive characterization of the Sami ethnic group as a whole was given by T.V. Lukyanchenko already in 1999 [2, pp. 110-120]. M.S. Kuropjatnik in her doctoral dissertation "The indigenous peoples in the process of socio-cultural change" (2006) studied Sami as the ethno-linguistic, socio-cultural and transnational community, the problems of social transformation, the dilemma of the Sami identity, globalization processes and the construction of the Sami nation [3]. In social sciences, the indigenous peoples are regarded as one of the situations of minority, and socio-cultural and political perspectives of their development are discussed in the context of minority rights. Studies of the process of integration of the indigenous peoples into the national societies (for example, the Sami), made by Kh. Eidheym, T. Eriksen and other representatives of the Norwegian school of social anthropology, largely

[1] Konventsiia o korennykh narodakh i narodakh, vedushchikh plemennoi obraz zhizni v nezavisimykh stranakh (№169 ot 27 iiunia 1989 goda). URL: http://www.un.org/ru/documents/decl_conv/conventions/iol169.shtml (Accessed: 16 February 2015).

[2] Federal'nyi zakon ot 30 apr. 1999 g. №82-FZ «O garantiiakh prav korennykh malochislennykh narodov Rossiiskoi Federatsii» (s izmeneniiami i dopolneniiami): «Korennye malochislennye narody Rossiiskoi Federatsii (dalee — malochislennye narody) — narody, prozhivaiushchie na territoriiakh traditsionnogo rasseleniia svoikh predkov, sokhraniaiushchie traditsionnye obraz zhizni, khoziaistvovanie i promysly, naschityvaiushchie v Rossiiskoi Federatsii menee 50 tysiach chelovek i osoznaiushchie sebia samostoiatel'nymi etnicheskimi obshchnostiami».
URL: http://constitution.garant.ru/act/right/180406/ (Accessed: 13 October 2016).

[3] Strategiia gosudarstvennoi natsional'noi politiki Rossiiskoi Federatsii na period do 2025 goda (utv. Ukazom Prezidenta RF ot 19 dek.2012 g. № 1666). Total in Russia there are representatives of 193 nationalities (2010), using 277 languages and dialects, 89 languages are used in public educational system, 30 of them — as languages of instruction, 59 - as objects of study. URL: http://base. garant.ru/70284810/ (Accessed: 13 October 2016). — Editor's note of the journal "Arctic and North".

contributed to the change of general theoretical paradigm in the social sciences of the nation [3, Khuropyatnik M.S.].

One of the aspects of concern for scientists is the issue of the current state of the culture and identity of the Sami in Norway. K. Olsen in his doctoral dissertation (2008), in his book «Identities, ethnicities and borderzones» (2010) considered the question of identity of indigenous peoples of the Norwegian Finnmark region at the turn of XX-XXI centuries. [4]. Trond Tuan is one of the few Norwegian researchers who in his work «Culture as property? Some Saami dilemmas» characterizes the notion of identity and conduct a study of the cultural heritage of Norway's indigenous people in everyday life [5, pp. 87-108]. In the foreign literature the problem of the transformation of the Sami culture during the era of globalization is shown quite clearly, the themes related to the preservation of the traditional way of life in the modern world are examined. K. Henriksen, considering the problems as a whole which the indigenous peoples in the Far North face with, in terms of industrial development of the northern territories, estimated the current state of the Sami culture [6, pp. 97-112]. Lehtola Veli-Pekka [7] analyzed in detail the ethnic community of the Sami and their culture and ethnic identity issues in conditions of the acceleration of modernization and globalization processes. Despite the multiplicity of scientific research devoted to this topic, ethnodemographical processes among the Sami in modern Norway, with total number of 55,574 people, are weekly represented in the scientific literature, and the present study makes it actual[4].

Without claiming to analize the problem in full, this article reveals the peculiarities of ethnodemographical processes among the Sami of the moderm Norway in the XXI century, at the base of wide involvement and analysis of statistical sources.

Ethnodemographic processes among the Sami in modern Norway in 2000-2013.

The Sami - the indigenous people, originally inhabited the territory of the Far North until the appearing of modern state borders. In written sources the Sami were first mentioned as fenni in the work "Germany" of the historian Tacitus (98 AD). Later they were found in historiography as skrithiphinoi (Procopius of Caesarea, VI century), Screrefeae (Jordan, VI century), Scritovinni, scritobini (Paul Deacon, VIII century). According to archeological data, the settlement of the Sami occurred from the territories in Northern Norway, starting from the IV millennium BC. The number of group of these peoples ranging from 50 to 60 thousand (2012), all over the globe, now the majority of them live in Norway [8, Kochkurkina S.].

[4] Statistisk sentralbyrå Norway. URL: https://www.ssb.no/en/befolkning/statistikker/samisk (Accessed: 16 December 2015).

The number of the Sami living in Norway in 2000 was 59 972 people. However, in recent years the trend of their population decline has appeared. By 2015, their number decreased by 7.3% and amounted to 55 574 people[5].

Among the main factors of the mentioned dynamics, it is possible to pick out, firstly, the Sami migrating into other countries, mostly, in Sweden and Finland, where the conditions for reindeer herding are more favorable. So, in 2000 the total number of expatriate was 2591 persons, in 2012 — 2562 people. Researchers estimate that migrate mostly between the age of 20 to 44 years old, whose age is considered as active and reproductive, therefore, they could contribute to increase the number of ethnic groups in their initial country. *Secondly,* the decline in fertility among the Sami population: in 2000 - 749 persons, in 2013 — 444 people[6], increase in number of abortions among the Sami women of 15-44 years of age. *Thirdly*, only in the national park of the Sami — Sampi — there are the benefits for this ethnic group, and in other regions, unfortunately, they are not available in case of of residence change. The decline in fertility is stipulated by the improvement of social conditions and the system of medical care of Norway for the indigenous peoples. At the same time there is a small reduction in the mortality dynamics: in 2000 - 680 persons, in 2013 - 639 people. The main reasons of mortality according to statistics are age, serious illnesses (cancer, pneumonia) with fatalities and accidents. In general, the average life duration among the Sami is slightly lower compared to the representatives of the titular nation. The average life time of the Norwegian men is 79 years, women — 83 years old, whereas among the Saami men — 77.1 years, women — 82.4 years[7].

The Sami of Norway are inevitably drawn into the processes of urbanization, but the vast majority of them continue to live in rural areas. The specific proportion of the Sami among the Norwegian urban population was 7% in 2013, among the rural population 14.7%[8]. The overwhelming majority of the Sami live in the northern provinces of Norway: Troms, Finnmark and Nordland. In 2013 474,563 people lived there or 85.4% of all the Sami of the country.

The traditional economic activities of the Sámi in Norway are reindeer-herding, gathering and fishing. At the beginning of the XXI century there was a decline in the number of the Sami people employed in agriculture and forestry, fishing fishery. So, for the period of 2008-2012 the

[5] Statistisk sentralbyrå Norway. URL: https://www.ssb.no/en/befolkning/statistikker/samisk/hvert-2-aar/2014-02-06?fane=tabell&sort=nummer&tabell=160186 (Accessed: 22 October 2015).
[6] Ibid.
[7] Samisk Statistikk 2016. URL: http://www.ssb.no/en/befolkning/artikler-og-publikasjoner/_attachment/254599?_ts=152a1b77d58 (Accessed: 25 February 2016).
[8] Statistisk sentralbyrå Norway. URL: https://www.ssb.no/en/befolkning/statistikker/samisk/hvert-2-aar/2014-02-06?fane=tabell&sort=nummer&tabell=160188 (Accessed: 29 December 2015).

proportion of people employed in these industries fell down from 18.7% to 16.5%. Nowadays 9156 the Sami are employed in agriculture, forestry and fisherie[9]. At the same time, there is increase of number of the Sami dealing with reindeer herding: in 2007 25% of the Norwegian Sami (14,261 people), and in 2012 already 33.4% of the Sami or 18,593 people[10].

Evidence of growth of ethnic consciousness of the Sami is the increase in the number of native speakers. The Sami language is recognized as the official one in Norway. The Constitution of Norway is amended by the obligation of the state to ensure the Sami the opportunities for the development of the national language, culture and customs (1988). At the present stage, Norway is one of the few countries where the predominant part of the indigenous ethnic group speaks their own language.

According to data for 2012 published in the official statistical handbook, 41,723 people (75%) of the Sami speak their own language [11]. For comparison, in 2006 only 21 133 people or 36.7% of the total Norwegian Sami population spoke their native language [12].

The Sami language is one of the official languages in the area of Sampi, respectively, all children can learn it fully at schools. There are colleges where teaching takes place in the Sami language. Since 1973 Northern Sami Institute has been operating in Kautokeino (Sami Instituhtta). Professional chairs on the Sami language are opened in the Universities of Oslo and Tromsø. The Sami higher education, among other professions, prepares school teachers.

In general, the state policy of Norway to preserve and revive the traditional Sami culture can be considered a success. Norway, unlike Sweden and Finland, ratified in 1990 the Convention on Indigenous and Tribal Peoples in Independent Countries of the International Labour ogranization dated June 27, 1989, № 169[13]. Public preferences for persons employed in traditional spheres of life, wide range of activities aimed at the revival of the language and culture, begin to bear fruit. There is a turn from Norwegianization policy (assimilation of indigenous ethnic groups in the culture of the titular nation). There is a policy aimed at creating of the conditions for the preservation and revival

[9] Persons in employment aged 15-74 years, by gender and industry. Statistisk sentralbyrå Norway. URL: https://www.ssb.no/en/befolkning/statistikker/samisk/hvert-2-aar/2014-02-06?fane=tabell&sort=nummer&tabell=160188 (Accessed: 22 October 2015).

[10] Reindeer husbandry in Norway. URL: https://www.ssb.no/statistikkbanken/SelectVarVal/saveselections.asp (Accessed: 12 December 2015).

[11] Samisk Språkundersøkelse. URL: http://www.sametinget.no/content/download/1936/18493/version/1/file/Samisk+spr%C3%A5kunders%C3%B8kelse+2012.pdf (Accessed: 22 October 2015).

[12] Sami Statistics 2008. Official Statistics of Norway. 56 p.

[13] Konventsiia o korennykh narodakh i narodakh, vedushchikh plemennoi obraz zhizni v nezavisimykh stranakh [Konventsiia 169]. URL: http://www.un.org/ru/documents/decl_conv/conventions/iol169.shtml (Accessed: 05 October 2016).

of the Sami traditional culture.[14].There is the increasing involvement of indigenous ethnic groups in the solution of problems of their own ethnic identity and rights. To protect the political interests of the Saami since 1989, the Sami representative assembly Sameting (Sametinget, Lapp. Samediggi) has been elected. The established party of Sami is recognized as national level party (1999).

Conclusion

The Sami are the indigenous people living in the territory of 4 countries: Russia, Norway, Sweden and Finland. The most numerous group of Sami live in Norway. The active work on protection of rights of ethnic minorities in Norway, which began in the middle of the XX century, is bearing fruit. The legislation of the country secures special rights for the Sami to use the land and rivers in places of their traditional residence, the work on the preservation and promotion of the Sami language is carried out, the growth of ethnic identity and the process of social and political self-organization is noted among the ethnic minorities of the country. According to some researchers, the Sami in Norway flourish.

However, the analysis of the ethno-demographic processes among the Sami allows us to conclude that there are unresolved issues. On the one hand, positive actions are applied in relation to indigenous peoples in order to avoid discrimination, and on the other - the concept of equality is articulated as a basis for rejection of such measures.

The peculiar alternation of these approaches shows the complexity and contradictions in the relationships between equality, non-discrimination and minority rights [3, Kuropjatnik M.S]. Today the Norwegian society is conditionally divided into the Sami, those favorable to them, and those who do not want to recognize their special status.

Despite the government efforts, there is a tendency of reduction of the total number of the Sami. During the period of 2000-2013 the fertility among them reduced almost in 40%. The attempts to reduce the mortality rate among ethnic minorities also have not been quite successful.

Close contact and cross-cultural interactions among the Sami with representatives of the titular nation inevitably have the effect of assimilation. A significant part of the Sami youth does not see any prospects for their growth and self-realization on the basis of the traditional occupations of their ancestors. Preferential conditions for the Sami are created only in Sampo National Park (province of Finnmark) that also limits the opportunities for young people having a higher level of life aspirations.

[14] Istoriia saami i norvezhskaia politika v ikh otnoshenii. URL: http://norse.ru/pub/92.html (Accessed: 22 October 2015).

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State policy towards indigenous peoples of Alaska: historical review and contemporary issues[1]

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Abstract. The article analyzes main stages of policy development towards indigenous peoples of Alaska and its influence on aboriginal cultures from the beginning of Russian colonization in the 18th century up to present time. The authors conclude that current policy towards indigenous peoples in Alaska can be generally evaluated as successful and supporting development of traditional cultures. The main achievements of this policy are: high level of self-organization and self-government of Alaska natives, legally secured rights for land and resources, progress in conservation of cultural heritage. However, social and economic challenges faced by indigenous people present a potential threat to the political stability in Alaska.

Keywords: *Alaska, indigenous peoples, policy, acculturation, segregation, assimilation, multiculturalism, rights*

Today it is the recognized at the international and national level that sustainable development of the Arctic region is not possible without ensuring social well-being of indigenous peoples of the Arctic and the preservation of their historical and cultural heritage and unique language. This problem is actual for the Russian Federation on the territory of which 40 indigenous peoples of the North, Siberia and the Far East live as well as the titular peoples of the North: the Komi and the Yakuts. The scientific literature notes the need to ensure sustainable socio-economic and cultural development of the peoples that make up the ethno-cultural space of the Arctic region, as well as more effective migration policy in the northern regions [1, Zaykov K.S., Tamitsky A.M., p. 50]. For the formulation of a coherent policy that meets the interests of the peoples and conducive to sustainable development of the North of the country, it is necessary to study the experience of foreign countries, in particular the United States of America. The US experience is interesting for several reasons. First, the indigenous population of Alaska, as well as the Arctic zone of the Russian Federation is different in the ethnic and cultural composition. Secondly, the peoples of northern Alaska and Russia face similar problems of socio-economic nature and the

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preservation of cultural and historical heritage. Finally, the unique relationships between indigenous people in Alaska, the state and the authorities of the state, formed for a long period, represent practical and research interest. The purpose of this article is to identify the characteristics of policy on indigenous peoples of Alaska and its impact on aboriginal culture at various stages since the beginning of the Russian presence in the XVIII century until now.

Single issues of history and current condition of the peoples of Alaska are largely studied in the literature [2, Taxami N.Ch.]. A large number of works have been prepared by Russian researchers on a period of Russian colonization of Alaska and its impact on daily life, beliefs, social structure of indigenous communities [3, Saveliev I., Hildebrand S.; 4 Grinev A.V.; 5, 6, Piterskaya E.S.; 7, Philin P.A.]. Much attention in the scientific community is paid to the aboriginal self-government [8, Hays L.; 9, Pullar G.; 10, Krasnopolskiy B.K.], education [11, Barnhardt S.], racial and ethnic composition [12, Williams G.]. Review articles are published devoted to the current state of indigenous peoples [13, Roderick L.].

The study does not consider separately the peoples living in the Arctic Circle or related to the "Arctic" peoples as per other criteria. This is due to the fact that aboriginal population in Alaska, as a rule, appears as integral subject and object of the policy. Tribes and aboriginal corporations of Alaska are not fundamentally different in their legal status and are treated in most of the scientific literature as a whole. It is also necessary to bear in mind that most part of the US legislation extends on indigenous peoples of Alaska (Aleuts, Eskimos, Indians), as well as on the entire US indigenous population including Indians of the lower 48 states. American Indians and Alaska Natives are the generaly accepted names of the indigenous population.

The Russian presence in Alaska in 1743-1867

By the beginning of the Russian colonization of Alaska in XVIII century, the territory of Alaska, the Aleutian Islands, Kodiak Island and the northwest coast of North America was inhabited by a number of people different in economic-cultural type. The main occupation of Aleuts and Kodiak Eskimos was the sea and fishing. Eskimos inhabiting the continent, in addition to marine hunting, made salmon fishery in the estuaries and rivers of Yukon, Kuskokwim, Nushagak. Athabasca, most of them were involved in fisheries in inland waters of Alaska. Tlingit, Haida and Eyak, inhabiting the north-west coast of America, engaged in hunting, fishing, sea mammal fishing. By this time there was a stable system of relations between nations, including both multiple tribal wars and trade exchanges [5, Piterskaya E.S., pp. 14-15].

The Russian colonization of North America, which began in 1740s., became a key factor influencing upon the national and cultural development of people of the Aleutian Islands and

Alaska. At various times, in the scientific literature polar points of view have evolved on the nature and consequences of the impact of the Russian presence on the indigenous peoples of North America: from the sharply critical, accusing colonialists in implementation of slavery to apologetic, underlining the progressive and humane development of the Russian America [4, Grinev A.V.].

Until XIX century it is not possible to speak about presence of formulated coherent policy of the Russian Empire regarding the indigenous population of North America. However, it is significantly different from the policy of soft assimilation pursued by the Russian authorities on its north-western outskirts [14, Zaykov K.S.].

The practice of forced labor, forced weaning of wealth among the population of the Aleutian Islands led to armed appearances locals and the violent suppression of protests. Regulatory authorities humanely treat indigenous people, as a rule, are not complied with, as there was no effective these regulations control. The practice of forced labor, the forced weaning of wealth from the population of the Aleutian Islands led to the armed actions of the locals and to the violent suppression of protests. Instructions of the authorities to treat the indigenous people humanely, as a rule, were not performed, as there was no effective control system for these instructions.

Besides, A.V. Green notes that often Aleuts were the first who showed aggression towards the industrialists. The appearance of the first permanent Russian settlements and the creation of a parastatal Russian-American Company (hereinafter — RAC) in 1799, marked the creation of the system of economic and non-economic coercion, which set the dependence of the local population based primarily on coercion. As a result, according to various estimates since the first contacts with the European population till 1820, the number of Aleuts decreased in 4-8 times. In work «Alaska Native Tribes, ANCSA Corporations, and Other Organizations» the population decline is mentioned as one of the Russian colonization results, from 74 thousand at the beginning of the XIX century till 23 million in 1890, due to infectious diseases, alcoholism and mass killings. [8, Hays L., p. 10].

Since 1820, there was a more humane treatment of RAC to the local population noted, which was related to several factors: naval officers started to manage the RAC, they were brought up on the ideas of enlightenment, it was apparent that population decline was caused by the regime of over-exploitation. In addition, the RAC tried to show the humane treatment of Aboriginal people in order to obtain exclusive rights to operate in North America for the next 20 years.

The cancel of reindeer-team driver system was noted among the positive changes (actually it was forced labor), as well as providing medical care to local residents, creating insurance funds products, social support of disabled people, the construction of schools. All the indigenous population was considered as full-fledged citizens of the Russian Empire [3, Saveliev I., Hildebrand S., p. 29].

In 1867, after the sale of Alaska to the USA, the activity of the RAC actually stopped at the American continent. The Russian presence in Alaska has had a significant impact on the culture of the local population, primarily on the Aleut and Kodiak Ekskimos. The culture of other peoples of Alaska who interacted with the Russian population — Chugach Eskimos, Eskimos of the interior Alaska, Athabaskan, Tlingit — has been much less subjected to the Russian influence.

The most significant changes took place in family relationships (bride service and bride price, avunculate, polygamy dissappeared). Toyon leaders lost their influence, as the colonial administration did not give them a privileged status. The new enforcement system led to the disappearance of patriarchal slavery [5, Piterskaya E.S., p. 20]. Creating a commercial group from the representatives of different tribes and resettlement of indigenous people to the new places became a strong factor in the destruction of traditional social bonds [6, Piterskaya E.S., p. 194]. The Russian Orthodox Church (ROC) played a significant role in cultural transformation. At the initial stage of the Russian colonization, when sacraments were carried out by industrialists, the majority of convert Indians took the Orthodoxy formally, including the purpose of obtaining the material benefits. After the arrival of the Orthodox mission in 1793, ROC influence on culture of the indigenous population significantly increased. As a result, the Orthodoxy with elements of traditional religions got widely spread among the Aleuts [6 Piterskaya E.S., p. 195]. Creating of writing system of the Aleut language by the Orthodox priests, in particular by I.E. Veniaminov, helped to improve the literacy of the local population and to preserve languages. The Orthodoxy got wider spread after the sale of Alaska, because it became an important element of the identity of the indigenous peoples against the background of the settling of Alaska by new colonizers.

Educational institutions became a powerful tool of the Russian influence: Kodiak school, later ransferred to colleage and moved to Novoarkhangelsk, a seminary, the Russian-American male college founded in 1859, numerous parochial schools. Aleuts got high level of education as they most closely faced with the Russian influence.

A large number of representatives of this ethnic could easily read and write both in Russian and in mother tongue [11, Barnhardt S.]. The practice of hostage-taking (amanats), as a rule, leaders or their children — boys of 12-15 years, led to the fact that they subsequently took over

the language and religion. Returning to their tribes, they played the role of mediators, translators, guides of the Russian culture for the local tribes and also acquainted the colonists with the peculiarities of everyday life, mentality, craft skills.

Russian industrialists often had an affairs and married the representatives of indigenous peoples: Aleuts, Kodiaks, Eskimos, rarely with Ttlinkits. The main reason for the large number of mixed marriages was that to send the Russian women to Alaska was not profitable economically. Indigenous women played a large role in cultural exchange, particularly in the domestic sphere, as well as acted as intermediaries between colonizers and aboriginal family members [6, Piterskaya E.S., p. 194].

P.A. Philin notes that at the stage of emergence of permanent settlements of the RAC, serious changes started to occur in the culture of the indigenous population, through the borrowing of household items, clothing, songs, habits, behavior from the Russians [7, Phlin P.A., p. 79]. In addition, the Russian presence in Alaska changed the diet of indigenous peoples, who quickly gained access to bread and other flour products.

Indigenous peoples, in turn, made a measurable impact on the newly arrived Russian population. Harsh climatic conditions stipulated the necessity of borrowing by industrialists the traditional adaptation strategies, in particular the construction technology, methods of hunting and the manufacture of clothes and vehicles (kayaks), the use of plants, including for medicinal purposes. There were borrowings of the local vocabulary in relation to food and means of transport [6, Piterskaya E.S., p. 196]. As already noted, the most important factor in cultural exchanges became inter-ethnic marriages and the practice of hostage-taking.

Policy of segregation and assimilation in relation to indigenous population of Alaska in 1867-1945

Sale of Alaska to the North American United States in 1867 marked a new stage in policy of indigenous people. The opportunity to take a new citizenship status or remain subjects of the Russian Empire was recorded in the contract for sale of Alaska. But this rule did not apply to "uncivilized tribes", which from that time became the subject of American law. [9, Pullar G.]. The active policy of segregation and assimilation of the indigenous population began in the late XIX century, when large reserves of gold were discovered in Alaska, resulting in "gold rush" and arrival white population from the "low states". Widespread views on the superiority of the "white race" over the "savages" became a major factor of the spread of discriminatory laws to indigenous peoples. These laws included segregation practically in all social life: at school, in church, in public institutions, during employment, etc. [15, Stebing H.M., p. 7].

Until 1924 the indigenous population of Alaska, as well as American Indians, did not have any citizenship and voting rights. However, since 1925 to get such right it was necessary to prove proficiency in English and get recommendations from the 5 white citizens who were citizens of Alaska at least one year [15, Stebing H.M., p. 13].

Segregation policy was implemented in school education. Since 1905, the system of two types of schools began to work at Alaska: 1) for the white population and the small number of "civilized" indigenous population under control of local authorities; 2) for Aboriginal people under control of the federal Bureau of Education [11, Barnhardt S.]. At the same time, Bureau of Education (later its functions were transferred to Bureau of Indian Affairs) arranged centralized management not only of educational services, but also health care, the supply of remote areas. Teaching at all schools was only in English and was aimed at the assimilation of the indigenous population. By 1928 about 40% of children, the representatives of the indigenous population, went to schools which were under control of the Bureau of Indian Affairs. About 80% from them were trained at boarding schools, i.e. were permanently located outside indigenous areas, which contributed to their assimilation and isolation from the traditional way of life.

Some positive changes in lives of indigenous people of Alaska occurred in the 1930s. Adoption of the Federal Law "About Indian reorganization" in 1934 formalized in legislation the right to local self-government for aboriginal people. Johnson — O'Malley act in 1934 provided funding for Indian education in public secondary schools that were not included into Bureau of Indian Affairs, which stimulated to take the indigenous population at traditionally "white" schools.

By law the segregation in Alaska was banned only in 1945 with the adoption of the "Law Against Discrimination", which was the first legal act in the United States. The indigenous population itself played a major role in its adoption, in particular, the social activist Elizabeth Peratrovich, a representative of the Tlingit tribe. The movement of civil rights led to the emergence of a whole anti-discrimination legislation in the United States: Civil Rights Act of 1964, "Equal Pay Labour", 1963, "Employment Equality" in 1964, etc.[2].

The struggle for civil rights and the right to land of Alaska native population in 1945-2000s.

In 1960-1980s. social rise and rise of self-consciousness of the American Indians, at a time of a broad civil rights movement, led to the recognition of indigenous people rights, including Alaska and the value of their cultural heritage. The results were gradual abandonment from the

[2] Soedinennye Shtaty Ameriki // «Zakonodatel'stvo i politika v oblasti integratsii immigrantov. Sbornik zakonodatel'stva, politiki i praktiki 19 gosudarstv v oblasti integratsii immigrantov». Mezhdunarodnaia organizatsiia po migratsii. Perevod s angliiskogo. M.: 2011. S. 123-138

assimilation policy, the transition to a multicultural policy and the adoption of several laws aimed at ensuring the rights of indigenous people.

Indian Civil Rights Act of 1968 provided the extension of the provisions of the Bill of Rights on the Indian tribes. American Indian Religious Freedom Act, accepted in 1978, cancelled the restrictions for traditional beliefs of indigenous peoples. Also in accordance with this law, the tribes have the right to participate in decision-making in land management, where sacred places are situated. Indian Child Welfare Act of 1978 banned the common practice of separation of children of indigenous peoples from their tribe. Indian Self-Determination and Education Assistance Act of 1975 established the right of tribes to dispose of grants, which are allocated by the government. Previously, the ways of using grants were determined by the Bureau of Indian Affairs.

A number of important changes affected the sphere of education. In 1965, the Ministry of Education established the Indians' Education National Council, composed entirely of representatives of the indigenous peoples of the United States. Indian Education Act of 1972 provided funding of projects that contribute to the development of opportunities in education for indigenous peoples. In 1975, indigenous communities were given the right to influence the content of education and the selection of teachers at schools, governed by Bureau of Indian Affairs. [11, Barnhardt S.].

Greater attention to the problems of school education in rural areas, where mainly the indigenous population lived, was paid at the level of established State of Alaska in 1959. The result of the decentralization of the state school system was the creation of school districts. Since 1965, the Alaskan government began the process of transfer of schools in the Bureau of Indian Affairs departments for the state management. This process was completed only in 1985.

In 1970s a growing interest in indigenous languages and in their preservation was marked. In 1971, the Law of Alaska on bilingual education was accepted, permitting bilingual education at schools (in English and in the language of the indigenous people). In 1976, the court made the state Alaska to provide rural villages with secondary schools (high schools)[3]. The biggest success in the struggle for the rights to land and resources was the adoption of the Alaska Native Claims Settlement Act — ANCSA, in 1971. According to it, the indigenous population received the ownership of 12% of the territory of the State within the framework of the historical places of residence, more than 900 million dollars of compensation, as well as special rights to local self-government [10 Krasnopolskiy B.H., p. 135]. Through membership in 12 regional corporations

[3] Alaska native languages introduction and history. URL: http://www.akhistorycourse.org/alaskas-cultures/alaska-native-languages-introduction-and-history (Accessed: 15 July 2016).

established in accordance with the cultural and linguistic division of the state, the right to receive income for each representative of the indigenous peoples was guaranteed. Corporations became owners of land and resources, including underground, and they exist till now. Their legal status is similar to other corporations, leading commercial activities. In addition to regional corporations, 200 village corporations were founded that own resources on the surface of the earth. Alaska indigenous people satisfaction act became for that time the most successful example of ensuring the rights of indigenous peoples to land and natural resources.

Since the beginning of the 2000s the federal government is taking steps to involve the American Indians to the formation of state policy in relation to the indigenous population. This commitment is enshrined in the order of US President 13175 "Consultation and Coordination with Indian Tribal Governments" dated 06.11.2000[4].

In 2009, the US administration created the office of Indigenous Affairs Adviser of the President [16 Chernukhina L.S., p. 106]. In 2013, the administration of President created the Native American Affairs Council [16 Chernukhina L.S., p. 110]. The National Congress of American Indians (NCAI), founded in 1944, which is the largest organization, uniting Indian tribes, plays a key role in the consultation process between the government and the Indians, on the part of the indigenous population of the United States[5].

The current situation of indigenous peoples in Alaska and the results of ethno-cultural policy

Alaska is the largest US state with area of 1,717,854 sq. kilometers, accounting for about one-fifth of the territory of the lower 48 states. The name "Alaska" comes from the Aleut word for continent or mainland. The population of Alaska is 748 432 people, or about 0.43 people per 1 sq km, making it the least densely populated state. The indigenous population in 2015 was 109,515 persons (not including the descendants from mixed marriages), or 14.63% from the total population. In 2010, the proportion was 14.96%, in 2000 — 15.64%, indicating the reduction of the proportion of indigenous people during the growth of their absolute number. Taking into account the negative balance of migration during this period (see Fig. 3), we can conclude that this trend is due to the lower natural growth of the indigenous population.

[4] Executive Order 13175 of November 6, 2000 — Consultation and Coordination with Indian Tribal Governments. URL: http://www.state.gov/documents/organization/136740.pdf (Accessed: 15 July 2016).
[5] National Congress of American Indian. URL: http://www.ncai.org/ (Accessed: 15 July 2016).

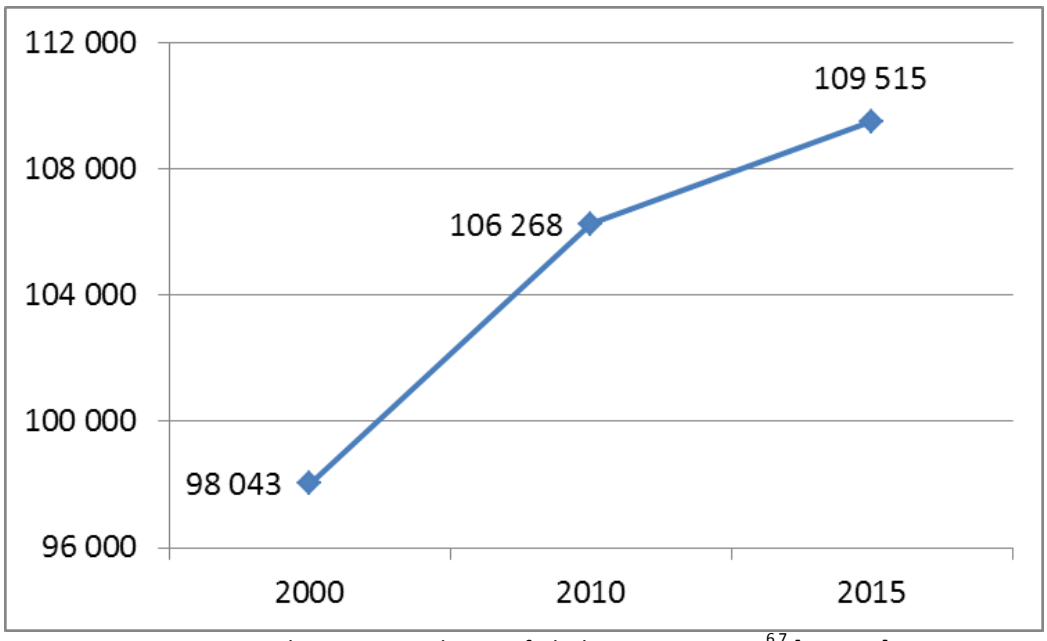

Figure 1. Indigenous population of Alaska in 2000-2015. [6] [7] [7, p. 12]

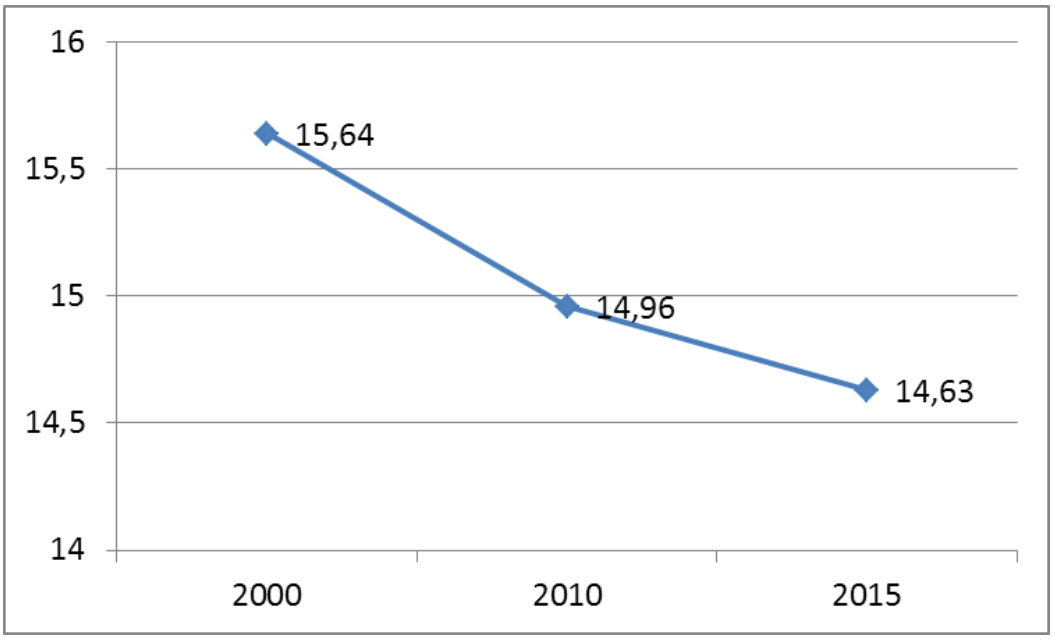

Figure 2. Proportion of indigenous people of Alaska to the total population of the state In 2000-2015. [8] [9] [7, p. 12]

[6] Alaska Population Estimates. URL: http://www.live.laborstats.alaska.gov/pop/ (Accessed: 15 July 2016).
[7] State Characteristics: Vintage 2015. URL: https://www.census.gov/popest/data/state/asrh/2015/index.html (Accessed: 15 July 2016).
[8] Alaska Population Estimates. URL: http://www.live.laborstats.alaska.gov/pop/ (Accessed: 15 July 2016).
[9] State Characteristics: Vintage 2015. URL: https://www.census.gov/popest/data/state/asrh/2015/index.html (Accessed: 15 July 2016).

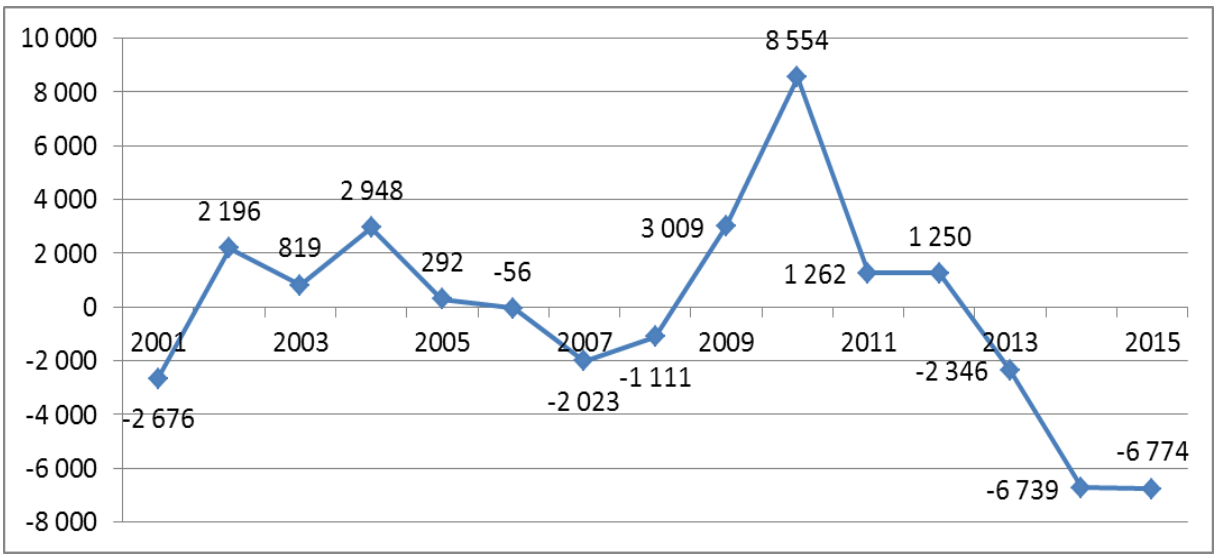

Figure 3. Balance of migration in Alaska in 2001-2015. [10]

The indigenous population of Alaska consists of several groups of people with different cultural and linguistic relations: Aleut, Athabascan, Eija, Eskimos, Haida, Tlingit, Tsimshian. A number of researchers offers a larger division: Eskimos, Indians and Aleuts [11, Barnhardt S.]. Total population of the territory of Alaska is 229 from 566 of officially recognized indigenous tribes of the USA[11]. Linguistically there are 4 main language groups (Eskimo-Aleut, Tsimshian, Haida, Athabascan -Eija-Tlingit), including 20 languages[12].

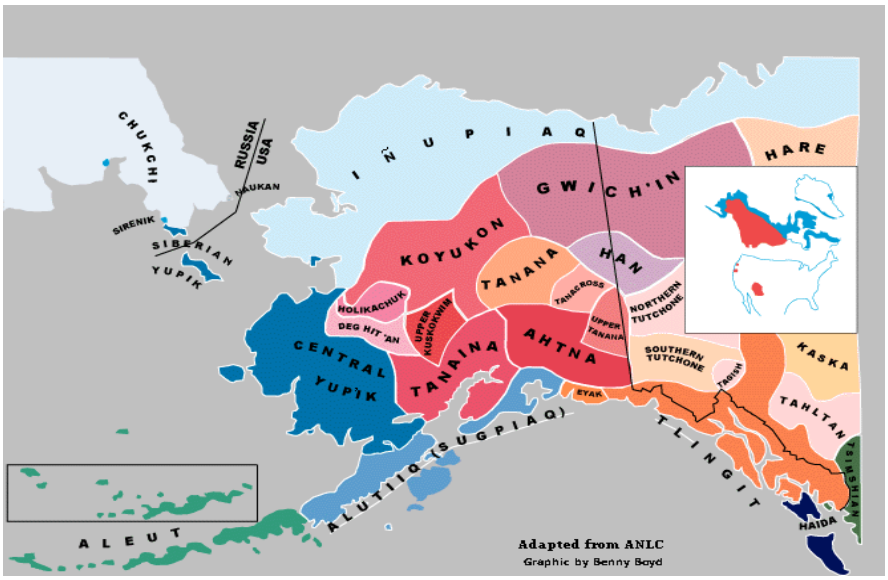

Figure 4. Distribution of Alaska Native Languages [1]

At the level of federal laws, the policy of peoples living in the Arctic and other areas of Alaska, as a rule, is not separated from the common policy of the indigenous population of the

[10] Alaska Population Estimates. URL: http://live.laborstats.alaska.gov/pop/ (Accessed: 15 July 2016).
[11] Tribal Nations and the United States: An Introduction. URL: http://www.ncai.org/about-tribes (Accessed: 15 July 2016).
[12] Alaska Native Languages. URL: https://www.uaf.edu/anlc/languages/stats/ (Accessed: 15 July 2016).

USA. American Indians and Alaska Natives are a single entity of the policy and statistical accounting. At the federal level, policy of indigenous population of Alaska, as well as of all Native Americans in the United States is governed by the President, the Congress (in terms of enacting laws), the Department of the Interior (Bureau of Indian Affairs and Bureau of Indian Education). Legislation and court decisions plays a significant role at the level of the State of Alaska.

US strategic documents regarding the Arctic pay great attention to the indigenous peoples. US presidential directive number 66 dated 2009.[13] It points out as one of the policy trends to involve the Arctic indigenous peoples in decision-making that may affect them. US National Strategy for the Arctic region in 2013[14] reiterates this position and underlines the unique legal relationship between tribal governments and the United States. One of the principles enshrined in the strategy is a consultation and coordination with the indigenous peoples of Alaska in accordance with the order of the President of the United States 13175 "Consultation and Coordination with Indian Tribal Governments" of 2000 and Principles of Research of the Alaska Federation of the indigenous peoples, adopted in 1993.

Alaska Native tribes are recognized by the US government and, along with the tribes of American Indians have the right to self-government, jurisdiction over its members, contracting, influence on the content of school education, to take measures for the conservation of cultural heritage. However, there are some important differences. The higher level of mobilization of the indigenous population of Alaska is obvious, compared with the American Indians.

Already mentioned Alaska Native Claims Settlement Act (ANCSA) of 1971 ensured ownership of the indigenous population over a large part of the territory of Alaska. Thanks to the presence of non-profit corporations due to this law, indigenous people have the opportunity to send funds to the management of these corporations for the development of educational programs, health care system and the preservation of cultural heritage. ANCSA also abolished reservations on the territory of Alaska, except Metlakatla reservation in the south-eastern Alaska [13, p. 59]. For this reason, there are no the so-called "Indian casino" in Alaska, which can only be placed at reservations. The commitment of the State of Alaska to provide every rural settlement with high school and permited bilingual education at schools is undoubted success in the sphere of education.

Important subjects of the policy together with federally recognized tribes are associations of indigenous peoples of Alaska such as Alaska Native Brotherhood, founded in 1912, Tlingit and Haida

[13] NATIONAL SECURITY PRESIDENTIAL DIRECTIVE/NSPD – 66. URL: http://www.nsf.gov/geo/plr/opp_advisory/briefings/may2009/nspd66_hspd25.pdf (Accessed: 15 July 2016).

[14] National strategy for the Arctic region. URL: https://www.whitehouse.gov/sites/default/files/docs/nat_arctic_strategy.pdf (Accessed: 15 July 2016).

Central Council, established in 1939, Alaska Native Sisterhood, Alaska Federation of Natives, founded in 1966, Inuit Circumpolar Conference, founded in 1975 [13, Roderick L., p.3]. These organizations played an important role in protecting the rights of indigenous peoples. Indigenous peoples of Alaska are part of an international organizations of indigenous peoples around the world. One of the most influential organizations of its kind in the Arctic is Inuit Circumpolar Council, a permanent participant of the Arctic Council [17 Levit L.V., p. 59]. Also permanent participants of the Arctic Council are other associations, including the indigenous peoples of Alaska: Aleut International Association, Arctic Athabaskan Council and the Gwichin Council International.

Although inspite of the regulatory support of multiculturalism policy in relation to indigenous peoples of Alaska, its results have become ambiguous in terms of socio-economic well-being of the indigenous people. Getting of the ownership for land and resources by the indigenous population has become the unprecedented example.

However, the acceptance of ANCSA is perceived by population of Alaska not only positively. Creating corporations does not mean that every indigenous person receives dividends from its activities. Firstly, not all corporations get profit. Secondly, in most cases, the shareholders are individuals who were born not later than December 18, 1971 — since the time of adoption of ANCSA [13, Roderick L., p. 23]. 21% of the indigenous population of Alaska live below the poverty line. This is significantly lower than the figures for the US Indians (27%), but significantly higher than the national average (14.3%) [18, Macartney S., Bishaw A., Fontenot K., p. 2]. A large part of the rural population continues to live only at the expense of traditional crafts - hunting and fishing. Despite the special health programs, the mortality rate of the indigenous population of Alaska in 2000 was significantly higher than that of other groups. And today the native inhabitants have a higher suicide rate: 50.9 cases per 100 000 persons, which exceeds the average figure for the country in 4 times.[15] Actual problems of social character are the high levels of violence and alcohol consumption. On the whole, education policy of Alaskan Native can be considered a successful one. The problem is the lower progress in studies of the indigenous population of Alaska, which are often expelled from schools and colleges than other students. However, support measures, including scholarships from corporations and foundations, have improved the situation in recent years [13, Roderick L., p. 76-77].

[15] Alaska Suicide Facts and Statistics. URL: http://dhss.alaska.gov/SuicidePrevention/Documents/pdfs_sspc/AKSuicideStatistics2015.pdf (Accessed: 15 July 2016).

The question of language preservation is still an acute problem: 17 of the 20 languages of the peoples of Alaska have fewer than 1000 speakers [16]. Since 1970s at the state level the active work on the study, support the teaching of languages and the preservation of the linguistic heritage has been carried out. Currently, the Fairbanks University of Alaska implements 6 educational programs and 9 separate courses on the languages of indigenous peoples of Alaska, primarily for school teachers[17].

In 2014, Alaska's parliament approved Alaska Native Languages Bill, according to which 20 Alaska Native languages became the state ones along with English. Despite the fact that this law was subsequently canceled by court at the federal level[18], this confirms that the conservation of cultural and linguistic heritage are on the agenda of the federal and regional authorities and are supported by the society.

Conclusion

Since the XVIII century it is possible to underline a few stages in the policy of indigenous peoples of Alaska. During the period of the Russian presence from 1740 till 1867 the cultural interaction had the character of acculturation with elements of assimilation. On the one hand, the lower status of indigenous peoples in the structure of colonial society, the destruction of traditional social relations and institutions are obvious. On the other hand, the Russian colonists worked closely with local residents and borrowed a considerable part of the traditional adaptation strategies.

After the sale of Alaska in 1867 the indigenous peoples of Alaska passed a long way from the policy of segregation and assimilation in their relation to the legislative recognition of land rights, self-governance and the preservation of cultural heritage. In many ways, Alaska Natives, thanks to a high level of mobilization, have achieved more rights in comparison with the American Indians of the lower 48 states.

Current policy of the indigenous peoples of Alaska is based on the principles of multiculturalism, recognition and support of the development of traditional cultures. Among its achievements are the high level of self-organization and self-government of the Indigenous population, legally enforceable right to land and resources, progress in the conservation of cultural heritage. However, the heritage of long policy of assimilation and segregation, supported by the state and society has not been overcome completely. Problems of social and economic nature

[16] Alaska Native Languages. URL: https://www.uaf.edu/anlc/languages/stats/ (Accessed: 15 July 2016).
[17] Alaska Native Language Classes and Degree Programs. URL: http://www.uaf.edu/anlc/classes/ (Accessed: 15 July 2016).
[18] Alaska native languages introduction and history. URL: http://www.akhistorycourse.org/alaskas-cultures/alaska-native-languages-introduction-and-history (Accessed: 15 July 2016).

faced by indigenous people, present a potential threat to the political stability in Alaska. Among them: low level of income of the indigenous population, high mortality, high levels of alcohol consumption, suicide, violence, lower levels of education. A serious challenge is also reducing the number of speakers of the prevailing traditional languages of Alaska.

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Studying the Russian Arctic: the experience of political analysis

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Abstract. The authors discuss the main directions of the political science study of the issues of development of northern regions of the country, the theoretical and applied research in the field of strategic management processes of spatial and territorial development of the North and the Russian Arctic. Key areas of political studies on the management of these processes are systematized and summarized, the main external and internal issues of the Arctic and subarctic regions of the country are analized, connected with the quality of the political process control systems of their spatial and social development. The mechanisms of accounting of interests of key actors in the North of Russia are investigated, recommendations for improving process of control mechanisms of spatial and social development of the northern regions of the country are given. The researchers specify the development of a new paradigm of considering the North and the Russian Arctic, involving the recognition of the value of the northern territories, not only as a resource base of the country, but mostly as social formations.

Keywords: *the Arctic zone, Russia, North, political analysis, management decisions, research processes, strategic projects*

Important area of the modern study of the Arctic zone of the Russian Federation (AZRF) is the analysis of prospects for the internal and external political and administrative development of the region, at the base of the methods of political science.

If foreign policy is characterized by search for balance between the possibilities of self-development of the country and integration capabilities with partner countries through the establishment of a stable coalition, the internal political development involves the formation of effective mechanisms of perspective controle of the processes of the spatial and territorial development of the North and the Russian Arctic at federal and regional levels.

Practical issues of political management are reflected in works of Russian scientists engaged in research of external and internal political development of the country and, in particular, of the Arctic and subarctic regions.

Large specialized research regional organizations deal with important issues of strategic spatial and territorial development of the northern regions of the country. Among the major organizations are such as Kola Scientific Center of RAS, Komi Scientific Centre of RAS, Northern (Arctic) University named after M.V. Lomonosov, Federal Research Center of the complex study of

the Arctic of RAS in Arkhangelsk and others. Specific nature of these institutions is determined by their focus on a wide range of research, including policy issues and management of areas of the North and the Russian Arctic.

The experience of political analysis in the study of the Russian Arctic

Key areas of modern political studies are related both to the assessment of the foreign policy aspects of the development of the country and regions (in particular, the problems and the threats of foreign development, the possibility of independent policy and integration, the degree of competitiveness of the country and regions at the international arena) and domestic: the possibility of development of the regional management system; the prospects for the development of a democratic culture at the local level; ecological development of territories. The important factor of the formation of favorable conditions and mechanisms of development of the Arctic and subarctic regions is the scientific generalization and the analysis of the domestic and foreign experience and knowledge aimed at the comprehension and understanding of the various processes of the functioning areas of the North and the Russian Arctic [1, Shevchuk A.V.].

Many publications note that along with realization of modern requirements to the system of strategic management of territorial development with regard to the Arctic and subarctic regions of the country, evaluation and use of high-quality domestic and international mechanisms of strategic management in the Arctic states [2, Komleva N.A.], the implementation of the Arctic strategic projects [3, Nesterenko M.Y., Ikonnikov V.M.], are the basis for the formation of the Arctic policy and effective modernization of management mechanisms and relationships at the federal and regional levels [4, Harevsky A.A.; 5, Kokis K.A.].

Research activities, national research programs in the Arctic circumpolar countries forming certain informational political and administrative field, also become one of the key mechanisms not only of the international cooperation and collaboration, but also the realization of geopolitical interests in the Arctic[1]. The Implementation of international cooperation programs on strategic spatial development of the North and the Russian Arctic involves a search for common ways and cooperation in the international arena and the prevention of potential threats of the implementation of strategies for balanced socio-economic and infrastructure development [6, Kondral D. P., Morozov N.A.] of the Arctic and subarctic regions of the country.

[1] See for example, «Poiskovye fundamental'nye nauchnye issledovaniia v interesakh razvitiia Arkticheskoi zony Rossiiskoi Federatsii» na 2014 god. URL: http://www.ras.ru/scientificactivity/rasprograms/arctic.aspx (Accessed: 09 October 2016). Pavlenko V.I., Podoplekin A.O. Natsional'nye programmy issledovaniĭ Arktiki v tsirkumpoliarnykh gosudarstvakh: planirovanie, instrumenty realizatsii i politicheskaia effektivnosti. Luzin G.P. Severnoe izmerenie Rossii i severnoe izmerenie ES: perspektivy sotrudnichestva // Vestnik Kol'skogo nauchnogo tsentra RAN. 2009. №1., p. 13-16, and others.

Problem field of development of the Russian Arctic at the meeting of "Mercury Club" 10.08.2014 was disclosed by Academician E.M. Primakov (1929-2015) through the analysis of five problems: the formulation of the external borders of the Russian continental shelf at the basis of international law, the development of the Northern Sea Route, the development of energy resources, strengthening of military infrastructure in the Arctic region, the real socio-economic development of the Russian Arctic [7, Lukin Y.F., pp. 191-193].

Today, the presence of common interests and goals is more and more obvious, as well as differences in the regional policy of the key Arctic countries participating or applying for participation in the formation and implementation of the full Arctic policy.

So if the main goal of Russia is to provide a balanced operation and development of the Arctic region, one of the purposes of the foreign states is to create conditions of influence on the Russian Arctic policy for certain bonuses and benefits in the Arctic and related projects.The discrepancy between the goals is the main reason for the growth of the confrontation degree in the key political and administrative directions of regional development. This, according to the authors of this article, describes a certain degree of limitation of the political and administrative possibilities of formation of balanced conditions of the spatial and territorial development of the North and the Russian Arctic.

Opportunities and prospects of the territorial development of the North and the Russian Arctic are largely determined by foreign factors. Obviously the presence of contradictions of interests of the Arctic countries, along with countries which do not have direct borders in the Arctic, but seeking to influence regional processes [8, Antyushina N.M.; 9, Belov V.B.; 10 Grinyaev S.N., 11, Zhuravel V.P., “AIS” № 24].

Serious conflicts today occur regarding resource allocation and utilization of the Arctic, which is becoming the most significant factor in the context of the global economic crisis and the perspective of increasing resource scarcity in the world. Under these conditions, it is important for Russia to the preserve the political and administrative socio-economic potential of the Arctic zone for sustainable development of the northern regions and the country as a whole, understanding the Arctic as a space for interdisciplinary, sustainable development and peace [12, Heininen L.].

It determines the need for the development of effective political and administrative mechanisms and areas of regional development, taking into account all internal and external interests of the country and capable of creating the high-quality conditions for the implementation of Russia's position in the Arctic in the context of global trends [13, Lukin Y.F.] that describes the need to have in the Arctic policy of the country a clear line of self-determination and strategic

vision of their priorities and development goals, taking into account the overall development strategy of the country and individual regions. Today, more and more acute is the country's finance limitations to invest in infrastructure development of the northern regions, which determines, according to the authors, the reduction of the political management capabilities to form the effective program of the strategic territorial development of the North and the Russian Arctic.

In this regard, today more and more important is the formation of qualitative political and managerial ideas of the development of the northern territories of the country, providing the synergy of processes of innovative development and modernization of the socio-economic and political administrative areas of the Arctic and subarctic regions of the country. Due to lack of resources for implementation of programs of social, economic and infrastructural development of the North and the Arctic Russia and the threat to miss strategic opportunities for their development and future use of the economic potential for the development of socio-economic system of the country, it is becoming actual to find reliable partners and to make alliances in order to form stable conditions and intensification of processes of their spatial and territorial development.

In addition, the development management of the areas with the participation of foreign partners to the processes of spatial and territorial development of the North and the Russian Arctic creates conditions to develop mechanisms for accounting and differentiation of public interest, directly related to national security issues, and the interests of the coalition (the partner ones). At the same time, the quality of the political and management system depends largely on the possibility of determining and arrangement of the priorities of socio-economic and infrastructural development of the Arctic and subarctic regions of the country.

The general model of accounting of interests of key actors in the North of Russia is shown in Fig. 1.

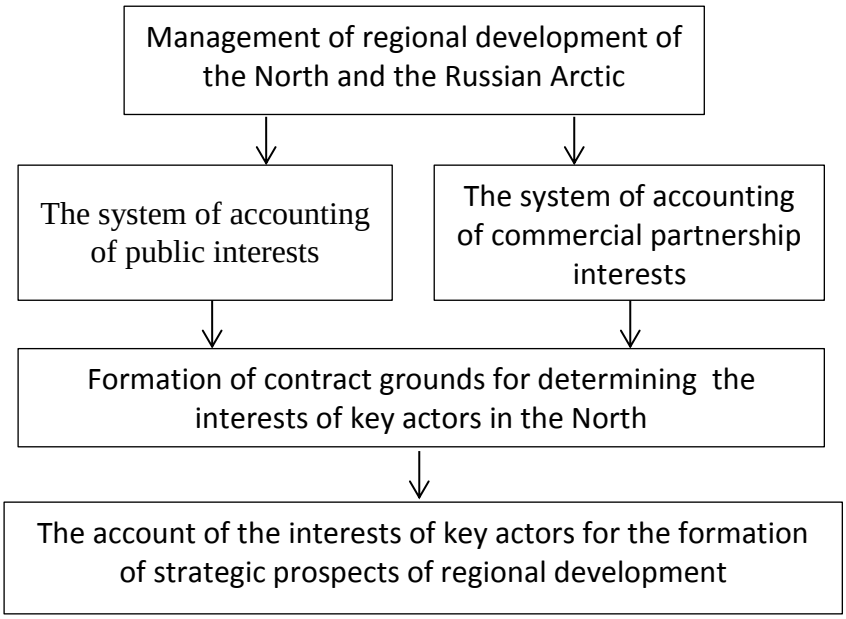

Figure 1. Model of formation of effective mechanisms of account of the common interests of key actors in the North of Russia / the author's version: Kondral D.P., Morozov N.A.

The quality of political and administrative system largely determined not only by its ability to adequately and effectively solve emerging issues of concern today [14, Yamilov R.M.], but also a response to the strategic challenges of sustainable spatial and territorial development of the North and the Russian Arctic, including ecology [15, Lukin Y.F.], safety [16; 17, Khramchikhin A.A.], problems and prospects of development of Arctic regions identified during expert surveys [18, Katorin I.V., Churakov A.A.; 19, Kasparyan J.E.]. Therefore, in the aspect of the modernization of the political and administrative mechanisms of the strategic spatial and territorial development of the North and the Russias Arctic, today the decision of existing problems is important as well as search of new opportunities and prospects of innovative improving of the management in the future, including interdisciplinary approaches [20, Konov A.M.]. According to V.S. Selin, the future of the Arctic "is a complex and synthetic problem, so its solution can only be achieved through the integration of the efforts of all institutions and social groups. Probably, in the course of international cooperation, taking into account the cost and scale of the innovative problems"[21, p. 135].

The intensification of innovative processes of development of the main areas in the Arctic and subarctic regions of the country should take into account the real needs of the key actors, government, business and the public, the prospects of their cooperation, which is associated directly with the possibilities of improving the spatial and territorial control mechanisms [22, Kondral D.P., Morozov N.A., pp. 33-39], the development of democratic institutions and management models in the northern regions of the country, the culture, synergy and the balance of strategic management processes in the northern Russia, the definition of priorities [23, Kondral D.P.].

Important condition for ensuring sustainable development of the Arctic and subarctic regions of the country is to provide a platform for their safe functioning and development that involves the identification, registration and prevention of many existing and emerging threats to internal and external security of the operation of the North and the Russian Arctic [24, Selin V.S., Kozmenko S.Y.]. In order to form the effective political and administrative mechanisms of the strategic development of the Russian Arctic, as noted in our previously published monograph, it is significant to establish, on the basis of positive domestic and foreign experience, specialized research structures capable at high professional manner to ensure the formation and implementation of the Arctic policy, taking into account the regional particularities and conditions of the spatial and territorial development [25, Kondral D.P., Morozov N.A.].

In this aspect, it is appropriate to form the policy considering the diversity of the specific development of the Arctic and subarctic regions of the country and breakaway from taking the Arctic zone of the RF as the only resource region. This approach involves not only production of special strategic programs sustainable socio-economic and infrastructural development of the North and the Russian Arctic, but also the implementation of the Arctic projects, even in terms of socio-economic crisis, permanent real growth in the quality of social and eco-nomic and administrative relations and living standards.

Conclusion

Thus, the improvement of the political and administrative system for the Russian North and the Russian Arctic is connected with the change of the management paradigm of the role and importance of the Arctic zone of RF, which is largely determined by changes in the socio-economic conditions of the country and regions. So, today it is necessary to form and realize not only the programs of the stable socio-economic development of the North and the Russian Arctic, taking into account the conditions of the global socio-economic instability and the development, together with partner countries with troubled economies, but also to carry out the project approach. In this regard, it is necessary to form a quality system of adoption and implementation of effective management decisions on strategic spatial and territorial development of the North and the Russian Arctic that can adequately and proactively respond to internal and external challenges and threats of stable functioning and development of the northern territories. The new paradigm of studying the Russian North and the Arctic suggests, in our opinion, the recognition of the value of considered territories not only as a resource base of the country, but above all, as social entities. It determines the need for the formation of stable processes of socio-economic and infrastructure development, as well as improvement of the political and administrative

mechanisms of the strategic spatial and territorial development, with today democratic and legal norms and principles.

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Searching for balance: Swedish ethnic policy model today[1]

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Abstract. The article is devoted to ethnic policy models in Sweden regarding indigenous population, national minorities and migrants. It seems most important to analize the ethnic policy models (acculturation, assimilation, segregation and integration policy) and circumstances which caused changes in state policy, as well as the efficiency in conditions of the modern crisis situation.

Keywords: *ethnic policy models, indigenous people, migration, Sweden, integration, nationalism*

In the second half of the XX century Sweden managed to survive in the conditions of the intensive migration with the absence of any manifestations of xenophobia. The success was in balanced migration policy and integrated activities aimed at increasing of the level of tolerance of the Swedish society. At the same time, the state authorities paid a lot of attention to the indigenous population of the country, its cultural and political autonomy.

Migration crisis in Europe in 2015 reminded that there are some problems in Sweden. Growth in number of migrants in the country is stable and continues. Sweden remains the second country after Germany in the percentage of migrants to the local population. In recent decades, the rate of unemployment among migrants has remains high [1, Bevelander P., Irastorza N.], and many of them are involved in criminal activities.

There is inequality in wages of the Swedes and immigrants - and not in favor of the latter. Part of the Swedish society takes migrants as threats to social stability. The financial crisis, the growing skepticism about the future of the European integration, as well as smoothed Swedish nationalist rhetoric have led to the fact that the support of the right-wing is increasing [2, Tarxien A.S., pp. 99-101]. It can be confirmed by the popularity of the party "Sweden Democrats", which in result of the elections in 2014 received a record-breaking number of votes. For 4 years the party has doubled the number of its supporters (Table. 1).

Table *1*

The results of parliamentary elections
for the party "Sweden Democrats" (2002-2014) [2, p. 94]

Year of elections	≈ % votes	Number of seats in parliament

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2002	1,4%	0
2006	2,9%	0
2010	5,7%	20
2014	12,9%	49

This article considers the Swedish models of the ethnic policy of Sweden on indigenous people, ethnic minorities and migrants. The most important is to analyze the ethno-political models, the circumstances caused changes of the public policy, as well as their effectiveness in modern conditions.

Ethno-political models of Sweden: the theoretical aspects

In recent years, a wide range of scientific works has been appeared which are devoted to ethno-national policy[2] of Sweden; migrants and their integration in the Swedish society; indigenous cultures, its revitalization, preservation and development; political representation and guarantees of rights of ethnic minorities, indigenous people and migrants; education, medicine, gender equality and discrimination; suicidal behavior and so forth.

The basic theoretical works in sphere of ethno-national policy are research of the Norwegian anthropologist F. Bart [3]; decolonization methodology of L.T. Smith [4]; works of multiculturalism theoretician W. Kumlyki [5]; research of nationalism by B. Andersen [6], and others. The classic works on the history of the Swedish state policy of the indigenous population are works of R. Quist [7], P. Lantto [8] and K. Green [9], historical works of I. Andersen [10], and others. Theoretical approaches to the study of the state policy towards national minorities are represented in the works of L. Elenius [11], who deals with comparative studies of the assimilation policy of the Finnish population in Sweden and Norway. The works of the researcher V. Viktsrëm are interesting and related to multiculturalism in post-war Sweden, in which the author considers this policy in Sweden as part of the neo-liberal movement in Europe [12]. In recent years, a few general works have been published, written in comparative perspective, and their authors are trying to prove or disprove the thesis of "the end of multiculturalism" in European countries, including Sweden [13]. A separate topic of social research has become bias towards the Arab population of the country [14, Angstrom J., Rooth D.-O.], Islamophobia and racism, including among young people [15, Bevelander P., Otterbeck J.]. At the center of such research there are complex socio-scientific, sociological and psychological approaches that can detect not only the mood of the population in certain regions of Sweden, their background and reasons, but also to connect them with the activities of nationalist social movements and political parties.

[2] Ethno-national policy (ENP) — the policy focused on the normalization of relations between the ethnocultural communities, institutionalization of ethnicity.

Considerable amount of research is devoted to the study of the behavior of migrants in the labor market, as well as issues of discrimination and social inequality. Most researchers agree that the problems of migrant workers in the labor market are caused not only by objective social and economic reasons, but also by the spread of negative attitudes towards migrants, especially from Asia, Africa and the Middle East [16, Emilsson H.]. The current situation threatens the stability of society and indicates the systemic problems of the Swedish state and its ethno-national policies and neo-liberalism as a whole [17, Schierup C.-U., Ålund A.]. Migration issues do not go away from first pages of the Swedish national and regional newspapers, are always discussed in scientific publications and on television as well as the concepts of tolerance, equality and solidarity, which are important for the Swedish society.

These mentioned works have become the theoretical basis of this article in all aspects relating to the direct content of the Swedish ethno-national policy. If we talk about the models of ethno-national Swedish policy, then there 4 models in focus: acculturation, assimilation, segregation and integration model (multiculturalism).

Acculturation (from the Latin word “acculturare” — “education, development") is a term used by the German ethnographer V. Krikenberg [18, Kostenko V.V.] at the beginning of the XX century, originally connected with migration and was a result of cultural diffusion.[3]It is just in this interpretation acculturation appears in the works of R. Thurnwald [19, Thurnwald R.] and US anthropologists of the middle of the XX century. Often in terms of acculturation the first contacts between traditional communities and national states are considered.

Assimilation (from the Latin “assimilation” — “assimilation, fusion, learning"). In the XX century the representatives of the Chicago school of sociology (R. Park, E. Burgess and others), studying migrants, laid the foundations for the theoretical development of assimilation mechanism: familiarity with the host culture, rebellion against it, attempt to further accommodation and assimilation, when the replacement of the elements of their own culture occurs but presented in culture of the majority. In 1980s the segmental theory of assimilation appeared, which explained the differentiated social situation of migrants and their varying degrees of social success. Theorists of this trend say that assimilation goes only partially, affecting some segments of human life, only those that are necessary for the existence and success. And even this process is very individual and selective. Modern assimilation policy in the Western countries is not anything violent as it was,

[3] Acculturation — the process of mutual influence, rapprochement of cultures and its results, the perception by one nation the culture of another people totally or partially. The concept of acculturation began to be used in the American cultural anthropology at the end of the XIX century in connection with investigations of the processes of cultural changes of Indian tribes as a result of their contact with the culture of white Americans. See: Entsiklopediia kul'turologii. URL: http://dic.academic.ru/dic.nsf/enc_culture/197/АККУЛЬТУРАЦИЯ (Accessed: 11 October 2016).

during the creation of the national states a few centuries ago. However, the elements of the soft coercion are present and are part of integration policy[4].

Segregation (late Latin "segregation" — "separation") is a forcible separation of one nation, ethnic group from another, often combined with discrimination of the same group. With regard to Sweden, at different times segregation model was used in case with Sami reindeer herders, gypsies and Arab migrants. It is worth noting the fact that the segregation models of the ethnic policy are not always the initiative of the ethnic majority. In modern world it is increasingly encountered cases when ethnic groups (mostly migrants with a high degree of ethnic and religious differences) limit the interaction with the ethnic majority or other migrant groups.

Multiculturalism (Latin "multi" — "a lot") is one of integration models, discussions about which are carried out from the time of appearance. The idea of multiculturalism comes down to cultural diversity, equality and tolerance; society recognizes the existence of other ethnic groups and cultures, no discrimination is allowed in relation to these groups, they have the opportunity to be involved in social life of the country, have broad political rights and equal opportunities to preserve their traditions and culture, and so forth. [5, Kymlicka W.]. Today it is believed that multiculturalism has not justified itself[5]. The reason for this is increasing number of migrants in Europe and social problems associated with it, as well as growth of inter-ethnic tension, poured out into series of public clashes and riots.

Ethnic policy in Sweden: indigenous peoples, ethnic minorities and migrants

The historical and political context of ethnic politics in Sweden is traditionally considered in three stages [21, Kvist R., p. 203]: 1548-1846; 1846-1971 and after 1971. These periods are primarily connected with the history of relations of the Swedish population and the Sami. The first stage (1548-1846): in the north, in the Sami lands the Swedish and Finnish settlers began to emerge, the Swedish legislation and taxation system started to spread. The initiator of the hard fiscal control over the northern territories became King Gustav I Vasa, who thus tried to consolidate and strengthen the domestic sovereignty of the state.

Ethnically most part of this period is characterized by active processes of acculturation, in which not only the Swedes were included, the indigenous people of the north and the inhabitants

[4] V shirokom smysle pod assimiliatsiei ponimaetsia protsess utraty iayka, kul'tury, izmeneniia tsennostnykh orientatsii, povedeniia odnoi etnicheskoi gruppy i usvoenie kul'tury drugoi etnicheskoi gruppy, sozdanie novoi obshchnosti. Assimiliatsiia mozhet prokhodit' estestvennym i nasil'stvennym putem.: Migratsiia: slovar' osnovnykh terminov. URL: http://migration.academic.ru/7/Assimiliatsiia (Accessed: 11 October 2016).

[5] See: Sovet Evropy: mul'tikul'turalizm opasen dlia ES. URL: http://www.telegraf.lv/news/sovet-evropy-mulytikulyturalizm-opasen-dlya-es (Accessed: 09 August 2016); Sailer S. Fragmented Future: Multiculturalism doesn't make vibrant communities but defensive ones // American Conservative, Jan. 15, 2007. URL: http://www.theamericanconservative.com/articles/fragmented-future/ (Accessed: 09 August 2016).; see also: [20, West E.].

of border areas, but also migrant groups coming to the territory of the Swedish state. Acculturation as one of the models of national policy, implies the existence of contacts between the various groups, accompanied by the diffusion of cultural elements. Cultures are converged, enriched, changed, common structural elements appear, reflected in everyday life, language, religion and so forth. In addition to the cultural changes, psychological adaptation to living in close interaction with other cultures happens.

In the XVII century in the north of Sweden the mining industry appeared. Churches, schools, the Swedish administration appeared in the Saami areas, the Sami were recruited into the army, and were taken to the transportation of the mined metal. Since that time a gradual abandonment from the model of acculturation and transition to a policy of assimilation started, together with the active colonization of the northern regions. As a result, the Sami found themselves at their own lands side by side with Swedish and Finnish farmers, and traditional beliefs of the Sami gave way to Christianity almost in all the northern lands of Sweden.

In XVI-XIX centuries Sweden conducted the active foreign policy. Migrants already lived at its territory. In the past several Swedish cities were part of the trade routes of the Hanseatic League (XII-XVI centuries). Since that a lot of German lived in Stockholm, and Finnish immigrants settled in the north. In addition, being in Kalmar union (1397-1523), united Sweden, Norway and Denmark into a single state with the dominion of the latter, led to the fact that Norwegians and Danes came to Sweden, who culturally and linguistically were not very different from the local population. During that period, the same laws existed at the entire territory of Sweden which did not take into account any ethnic differences. Exceptions were the acts regulating the Jews and Gypsies stay in the country. Ethnic Policy in Sweden, as in most European countries, started to be formed in the middle of the XIX century. The coexistence of cultures at the previous stage gradually led to the fact that acculturation model was replaced by assimilation and the dominance of the Swedish culture. At the second stagee (1846-1971) Sweden consistently pursued a policy of assimilation of the indigenous population of the north of the country, as well as to certain groups of migrants.

Sweden assimilation policy was primarily stipulated by rapid growth of the mining industry, as well as the development of woodworking, actively began in the 1870s. The North of Sweden became attractive to the large number of immigrants, not only for the Swedes, but also for residents of neighboring states, who came there to find the job. Indigenous Sami people ceased to be a numerical majority in the north. In the second half of the XIX century the Swedish was the official language at schools. The Sami language was the language of interpersonal communication,

used at home or at the time of traditional crafts. The similar situation was with the languages of other ethnic groups.

At the end of the XIX century in Sweden there was the economic interpretation of the concept of ethnicity regarding the Sami: whoever owned the reindeer, they led a nomadic life, engaged in fishing and hunting — was considered the Sami; someone who led a sedentary life and was engaged in agriculture — was not considered the Sami, despite ethnicity [21, Kvist R., p. 208]. Many Swedish Sami did not own the deer and were sedentary, and thus lost its official ethnic status of the indigenous people. In political terms, their existence was ignored, they were considered by the Swedes.

The Sami, leading nomadic way of life, from the state point of view, deserved protection. However, the protection of their traditional way of life meant their segregation, i.e, separation from other ethnic groups living in the country. In Sweden special legislation acts were implemented about the use of pastures (1886 and 1898) according to which the Sami lost and individual right to own the pastures, which now has been transferred to the Sami settlements. After the acts of 1928 and 1971 came into effect, the Sami lost the opportunity to choose for themselves reindeer activity, hunting or fishing — now it was a privilege given by the state [22, Torp E.]. After executing of the first acts about the reindeer breeding and use of pastures, new organs of power and control appeared in the lands of the Sami, which not only enforced the legislative execution but fulfilled the social functions that almost completely deprived the Sami of their traditional way of life.

The state not only controlled the lands, but also interfered with social relationships of the Sami population through health care system, education and social assistance, which replaced similar structures of the Sami society and made it more "civilized". As a result, the Sami culture lost its traditional practices, knowledge, lifestyle, gradually becoming more and more "Swedish".

At the beginning of the XX century the government carried out the forced resettlement of the Sami to more southern areas. In 1908 Olof Bergquist, the head of the Royal Commission of the Sami schools, proposed the creation of a separate system of education for the Sami. In 1913, a law on the Sami schools came out and mobile "school-plague" for children of the Sami reindeer-herders appeared. The remaining Sami did not fall under the law and trained at ordinary Swedish schools. Later they were allowed to visit the Sami schools, but they were not popular with the majority of the Sami population.

Assimilation policy in Sweden had mainly economic motives. From the economic point of view, the ethnicity to the Sami was justified. Land-use initiatives, school education, health and

social welfare, at first glance, carried blessing. However, in practice, intervention in existing social relations of the Sami community just ruined it, substituting similar structures, formed by the Sami for centuries. As a result, many religious practices were forgotten, as well as traditional knowledge about use of nature, crafts, and the number of the Sami language speakers was sharply reduced.

Hard assimilation policy was carried out in respect of the Finnish population of the north of the country, as well as tornedals - Finnish people living in the valley of the river Torneelven and speaking special dialect of Finnish Meänkieli. The objective of the Swedish government was to make the Finnish residents as "real Swedes", strictly forbidding them to use their native language [23, Pietikäinen S., Huss L., Laihiala-Kankainen S., Aikio-Puoskari U., Lane P.].

Besides the Sami and the Finnish population of the north, the policy of assimilation and segregation was extended to migrant groups. One of the first migrants in Sweden were Jews, who began to appear in the country still in the VII-XI centuries. The first information about Jewish communities belongs to the XVII century. Assimilation policy towards the Jews had a pronounced religious orientation and was supported by the Christian church. The attitude of the society and the ruling elite to Jews was also ambiguous until the mid-1940s. For a long time, public opinion was influenced by the church, which vigorously opposed the spread of Judaism. Many kings and queens of Sweden treated the existence of the Jewish communities as opportunities for economic growth of the state, but in the country for centuries anti-Jewish laws acted, forbidding Jews to settle in Sweden without a change of religion. The Swedish legislation allowed Jews to settle in strictly defined areas, prohibiting them to hold public office [24, M. Wenger]. Changing of public attitudes, followed by the change of the political model came in the mid-1940s, when Sweden took a lot of Jews from occupied Norway, Denmark, Hungary and other states. The condemnation of anti-semitism, the triumph of human rights, as well as the change in the model of the Swedish ethnic policy in the postwar period led that today Sweden is a country where there is no anti-semitism, and the Swedish Jews have made a significant contribution to its cultural development.

One of the most disenfranchised and oppressed ethnic groups in Sweden was group of gypsies or Caal, who appeared in the XVI century. In the XVII century they were expelled from the territory of the state. Those who refused to leave the country, were killed without trial. Gypsies were forbidden to migrate to Sweden, and those who, in spite of the risks, entered the country, were forced to assimilate and to hide their ethnic origin. Until the middle of the XX century they almost did not live in Sweden, but later began to move here from Finland [25, Thurfjell D.].

With the end of World War II, the Swedish ethno-cultural landscape began to change rapidly, the fact is that economic development required to increase the number of labor force, and

this pushed the external labor migration to Sweden. The basic model of the behavior of the Swedish government towards migrants remained the policy of assimilation. In 1967 the immigration rules were introduced according to which all foreign nationals, except citizens of the Nordic countries were required to obtain a residence and job permit before entering the country. In the next periods, the Swedish authorities used measures to regulate and limit migration, but number of migrants continued to increase. Since the mid-1960s. the active implementation of programs to study Swedish language began, as well as social adaptation of immigrants, special newspapers and magazines for migrants were issued, etc.

At the third stage (after 1971) Sweden changed its ethnic policy towards indigenous peoples and migrants, consistently embodying the ideals of multiculturalism: in Constitution and the migration policy, education, media and broadcasting, as well as at home and the army. Legislative commitment to multiculturalism can be traced primarily in the Swedish Constitution. Thus, Ch. 1. item 1 reads: "Public institutions must ensure the right of everyone to equality and participation.

Public institutions must fight against discrimination based on gender, race, national or ethnic origin, membership of a linguistic or religious group, the presence of certain restricted functional possibilities, sexual orientation, age or other circumstances of a personal nature. Equal opportunities must be given to ethnic, linguistic and religious minorities to preserve and develop their culture and social life"[6].

In 1975, legislation acts on migration policy and policy towards national minorities were implemented on the basis of legal equality, freedom of choice and cooperation. The primary purpose of the immigration policy was the integration of immigrants in Swedish society proclaimed [26, Callas K., K. Kaldur, p. 9-15]. In 1976, all immigrants who lived in Sweden for three years, received the right to vote and to stand as a candidate in elections to local authorities. In 1997, Sweden officially approved the policy of integration by adopting a package of relevant bills, and after 10 years, Ministry of Integration and Gender Equality appered, which was responsible for the implementation of multiculturalism policy.

In sphere of education, multiculturalism is manifested in the internationalization of the education. The degree of internationalization can be different depending on the community or the municipality, as well as on their national composition. The meaning of school policy is to enable

[6] The Constitution of Sweden. The Fundamental Laws and the Riksdag Act. 2016. URL: http://www.riksdagen.se/ en/SysSiteAssets/07.-dokument--lagar/the-constitution-of-sweden-160628.pdf/ (Accessed: 11 July 2016); The Constitution of Sweden. Chapter 1. Basic principles of the form of the government. 2016. URL: http://www.riksdagen.se/ en/SysSiteAssets/07.-dokument--lagar/the-instrument-of-government-2015.pdf/ (Accessed: 11 July 2016)

representatives of different ethnic groups to receive education, which is in harmony with their culture, to get to know the Swedish culture, as well as to comply with international standards in the field of modern school education. For this purpose, there are classes for those who speaks not well or does not speak Swedish. For some people there is the possibility to study in their native language while learning the Swedish language. Recently, much attention is paid to development of minority languages. On the territory of Sweden there are 5 of them: the Sami, Jews, Gypsies, Swedish Finns, tornedals. In Sweden, there are weekend schools in communities and cultural centers, where it is possible to teach native language, to get acquainted with the culture and so forth. At the same time schools introduce children not only with the Swedish culture, but also with culture of other countries. School education is one of the ways of upbringing of the ethnic patience, tolerance and understanding of other cultures.

The situation is similar in the Swedish media and broadcasting. According to the Broadcasting Act (1996): "the individual or organization engaged in broadcasting and having a state license, must ensure that its activities reflect the fundamental concepts of a democratic society "[7]. The same law requires to reflect the multicultural nature of ethno-cultural landscape of modern Sweden, as well as to inform about the life, achievements and difficulties of different ethnic groups and cultures in the country.

The Swedish government allocates funds to support a variety of ethno-national-organizations, ranging from organizations of indigenous people and minorities to cultural centers of migrants. In Sweden, it is not banned the wearing of traditional clothing that mostly relates to immigrants from Islamic countries, and this rule also applies to wearing of traditional headgear in the army.

With the course of time, the Swedish ethno-national policy evolved from acculturation to multiculturalism. The existence of acculturation, as a political model was stipulated by economic motives. This model is most characteristic for the relations between the Sami and the Swedes, as well as for some largest groups of migrants of the medieval period and modern time. The transition to the model of assimilation is accompanied by a process of national construction and affected the indigenous peoples, ethnic minorities and migrants. Political motives and changes in international relations in the middle of the XX century led to a revision of the policy of assimilation and transition to the integration model, to multiculturalism. In practice, this does not mean the disappearance of assimilation. Assimilation has become softer and less visible: is quite difficult to

[7] The freedom of the press act. URL: http://www.riksdagen.se/en/SysSiteAssets/07.-dokument--lagar/the-freedom-of-the-press-act-2015.pdf (Accessed: 10 June 2016)

be a part of the Swedish society, to socialize, to find a job, friends and be a part of society without mastering of the Swedish cultural code and language skills. Thus, it is clear that the circumstances force to assimilate, and the state provides only the possibilities by ways of the integration programs for migrants, for example.

At the same time, no one and nothing prohibits individuals to practice their own culture. The inability or unwillingness to absorb the part of the Swedish culture necessary for integration creates a situation of alienation of the individual or the whole group. Segregation model, which is characteristic for the earlier periods of the history of Sweden, now is not so much initiated by the host community as by migrants themselves. This is related mainly for those coming from Asia, Africa and the Middle East, living aloof from the world in Sweden, trying to recreate the culture and social relations of their country.

Unsolved problems of the Swedish multiculturalism

In spite of wide initiatives in the policy of multiculturalism, in Sweden there are unsolved issues relating to indigenous people, ethnic minorities and migrants, who are the source of social tension and ethnic conflict.

National minorities. On the territory of Sweden, as mentioned above, five national minorities live: the Sami, Jews, Gypsies, the Swedish Finns and tornedals. All of them for a long time are part of the Swedish state and have experienced the policy of assimilation, and in multiculturalism conditions are having a period of cultural revitalization. On the territory of Sweden about 20 thousand the Sami live[8], Swedish government officially classifies them as one of five national minorities registered in the country. The Sami people in Sweden do not have so many opportunities to defend their own rights. Constitution and the existing legislation guarantee them cultural autonomy, but the political influence of the Sami is not as high as in neighboring Norway. They are poorly represented in the Swedish parties and, therefore, very small number of people is employed in the national politics to defend the interests of the Sami. Sami organizations apply directly to the Government on various issues, often with no support within the Sami community and, as a result, their actions do not have a proper result. It is assumed that the Sami Parliament (Sametingslag) should defend the interests of the Sami population, but it exists mainly as the administrative body, rather than as a real political force of the national scale. Thus, the Swedish state encourages the development of the Sami culture and language, and the Sami self-government in the form of the Sami Parliament and the local power of the Sami authorities and

[8] The Sami — an indigenous people in Sweden // Sami Parliament URL: http://www.samer.se/2137 (Accessed: 10 May 2016).

communities. On the other hand, the Swedish government has not ratified ILO Convention № 169 (1989), has not supported the UN Declaration on Rights of Indigenous Peoples (2007) and has refused to officially recognize the Sami indigenous people, retaining solution of all political and economic issues and limiting the scope of Sami self-government social and cultural aspects.

Despite the existence of the Sami Parliament (Sametingslag) and broad opportunities for the development of culture, the Sami are still not able to be officially called the indigenous people of Sweden. Collective rights of the Sami for the traditional territories often contrary to the economic interests of the Swedish state. In addition, in Sweden there are many Sami organizations, political parties, but they can not agree among themselves on the collective right to lands.

Still, the positive changes take place. In 2009, the Sami village Girjas supported by the Swedish Sami Union put the law on the state, trying to regain the lost in 1992 rights. In February 2016 this village, where 26 deer farms and 94 registered reindeer herders, achieved recognition of their rights to the sole hunting and fishing at the surrounding area[9]. The court decided in favor of the Sami and thus created a precedent that could be used by the other Sami settlements. Nevertheless, the future of the Saami rights to land is still remains unclear.

The Sami, with the support of the international movement of indigenous peoples, as well as international organizations will continue to try to regain the rights to traditional territories under the current Swedish legislation. In addition, the Sami, undoubtedly, will protest against the expansion of the mining industry in the north of Sweden, which is contrary to the economic interests of the state.

Political participation of other four national minorities in Sweden (except the Sami) is limited by the presence of their representatives in Swedish political parties, public organizations and the existence of measures for the protection and development of minority languages. Thus, multiculturalism for four of five national minorities is approximately the same as for migrants. The only difference is that they are legally recognized as national minorities, their national languages have special protected status, and more attention is paid to their cultural development.

All of the above is true for the Swedish Jews, Finns and tornedals, but the situation with the Swedish Gipsies is not quite definitive. The Gipsy community live in Sweden rather detached, solving all their problems within the community. A special commission was set up in 2006, which

[9] Sweden's indigenous Sami people win rights battle against state // Guardian. 03.02.2016 r. URL: https://www.theguardian.com/world/2016/feb/03/sweden-indigenous-sami-people-win-rights-battle-against-state (Accessed: 12 July 2016); Saamy protiv Shvetsii // Inosmi. 13.05.2016. URL: http://inosmi.ru/world/ 20150513/ 228016428.html (Accessed: 08 May 2016)

deals with the problems of Gipsies in Sweden, and helps to establish a dialogue with the society and the state[10].

Recently, besides Gipsies (Kaal), the Gipsies from Romania began to appear. In 2014, Sweden tried to negotiate with Romania, and call on the latter to take greater responsibility for their Gipsy population, thus trying to draw attention to the plight of these people who are forced to seek a better life in the EU[11]. The negotiations have not achieved any positive result. Gipsy question remains one of the most difficult moments of ethnic relations in Sweden due to the fact that many of the newly arrived Roma are not integrated into Swedish society and become a source of social tension.

Migrants. In XX-XXI centuries Sweden experienced four waves of migration. The first of them was during pre-war and post-war periods, when the Jews arrived in the country in search of refuge. Many of them were denied in asylum because of the strong anti-Semitism that swept Sweden during the Second World War. Refusal in asylum was caused by the desire of the Swedish government to minimize the threat of Nazi invasion. However, already by the end of the war the situation was changed, and Sweden began to take Jews from neighboring states, and anti-Semitism started to diminish. After the war in the country there were refugees from the Baltic states, as well as survivors from German concentration camps. At this stage, the migration policy was reduced to the active reception of the refugees, who had to settle in the country. The economy of post-war Sweden required workforce, so there were no strong social shocks related to migration at that time.

The second wave of migration (1949-1971) is associated with the rapid economic growth and the need for labor. Migrants from Finland and other European countries came into the country. They were attracted by the legal equality between the Swedish and foreign workers. Thus, migration policy came down to organized search of skilled labor for the needs of the Swedish economy, the provision of equal social guarantees for migrants and nationals. Officially, the policy of recruiting migrant workers was completed in 1972. In that period migrants from northern countries were dominated. It was considered that they did not require any adaptation program and that they would be able to integrate into Swedish society on their own.

The third wave of migration to Sweden (1972-1989) was related to the increasing humanitarian migration in the world in connection with the escalation of regional conflicts at

[10] Aleksandrova M. Tsygane v Shvetsii: obrazets dlia vsei Evropy? // Russkaia sluzhba BBC. 09.07.2009 URL: http://www.bbc.com/russian/international/2009/07/090707_roma_sweden.shtml (Accessed: 26 July 2016)
[11] Makridova I. Strategiia Shvetsii v otnoshenii tsygan // Inosmi. 10.04.2014. URL: http://inosmi.ru/world/20140410/219437499.html (Accessed: 26 July 2016).

African continent and in the Middle East. During that period, Sweden became a truly multi-ethnic and multi-confessional country, which faced the challenge of integrating of the large numbers of new citizens. The first steps to the integration policy of Sweden were made in the mid-1970s. In 1989 Sweden again resorted to regulate migration flows and accepted refugees only within the framework of Geneva Convention of 1951.

The fourth wave of migration (1990 — up to now): since 1997 in Sweden officially there is a policy of integration, and the government declares about committal to multiculturalism. In the field of migration regulation continues. Migration legislation underwent reform in 2000. Regulation of migration flows, as well as the emergence of adaptation programs, social support for migrants allowed to maintain social and economic stability in the country. Multiculturalism in Sweden denotes also more and equal opportunities for migrants to maintain their culture, religion and language. With the course of time, the number of migrants has continued to increase.

Statistical data for the last 5 years show that the number of refugees has increased for certain categories in 3-5 times. Many people come to the country for family reunification program. Significant amount of diasporas of migrants from Asian, Middle Eastern and African countries have appeared, whose level of integration into Swedish society is below due to cultural and religious differences.

Table 2

Migrants in Sweden due to migration (2010-2015)

Category of migrants	2010	2011	2012	2013	2014	2015
Students (not EU)	8 197	2 535	2 003	2 040	2 764	2 862
Working migration (not EU)	4 826	6 355	6 048	5 154	5 357	6 263
Working migration (EU)	3 502	4 590	4 859	4 609	1 672	447
Self-employed polulation (EU)	158	196	194	154	56	24
Relatives of EU citizens	3 029	4 031	3 581	3 040	1 167	701
Students (EU)	748	823	1 081	1 491	459	210
Non-EU citizens with residence permit in another EU country	234	383	471	818	1 009	1 257
Wealthy citizens of the EU	635	625	494	502	183	84
Working migration, family members of EU citizens	3 018	4 285	5 658	5 376	5 666	6 168
Family members of non-EU citizens	17 843	16 381	18 803	15 655	15 411	13 132
Relatives of the refugees	3 486	2 681	4 242	11 728	11 532	16 118
Adopted children, non-EU citizens	231	177	171	147	135	79
Refugees, accepted in the framework of international conventions	3 458	3 219	4 979	8 082	11 631	14 050

Category of migrants	2010	2011	2012	2013	2014	2015
Asylum seekers	7 377	6 800	7 394	14 741	18 828	17 252
Individuals with special circumstances	1 012	1 513	1 567	1 750	1 767	2 209
Temporary residence permit for non-EU citizens	3	10	6	1	9	1
Other permits to stay for refugees, non-EU citizens	1	1	7	7	8	9
Other permits to stay, non-EU citizens	980	2 098	821	768	661	678
Residence permit	0	10	15	8	5	11
Unknown	11 830	10 850	12 492	11 932	20 454	24 571

The source: Statistics Sweden. URL: http://www.statistikdatabasen.scb.se (Accessed: 12 July 2016)

There are special public institutions involved in monitoring of the integration problems; they deal with popularization of the idea of bilateral involvement (immigrants and host community); opposition of the ethnic discrimination, racism and xenophobia; assistance for new migrants; administrative support of municipalities. The Swedish government determines the equality of rights, obligations and opportunities for all, regardless of ethnic or cultural background, as the purpose of the integration policy[12].

In Sweden there are programs to improve the quality of education and its accessibility for immigrants and their children; professional courses for migrants; small business support programs. Despite this, entire generations of migrants from Asia, Africa and the Middle East can not or do not want to find job in Sweden, and are engaged in criminal activities. Bearing in mind easy conditions of Swedish prisons, many of them are not afraid of criminal punishment. Increased criminalization and isolation of migrants contribute to the emergence of xenophobic sentiments among the Swedish population. Most aggressive part of them has them in form of extremism. Migrants, in turn, also often act as agents of mass riots in the streets of the Swedish cities.

The riots on 14-28 of May 2015 in a suburb of Stockholm were the largest during the last 5 years. The cause of the collisions of migrants to the police was the murder of elderly immigrant who threatened the police with cold steel. The riots lasted for a few days in Stockholm and in several other cities[13]. The emergence of a large number of Syrian refugees, and increase of the

[12] Poiasnitel'naia zapiska Ministerstva integratsii i gendernogo ravenstva Shvetsii o politike integratsii // Ofitsial'nyi sait Pravitel'stva Shvetsii. URL: http://www.government.se/content/1/c6/13/77/34/5b7683a6.pdf (Accessed: 05 April 2016)
[13] Molodezhnye volneniia okhvatili uzhe neskol'ko gorodov Shvetsii // TASS. 25.05.2013. URL: http://tass.ru/glavnie-novosti/575098 (Accessed: 11 May 2016)

flow of refugees from Asia and Africa has led to the fact that already in autumn of 2015 a number of camps for temporary detention of refugees were attacked and fired [14].

Already at the beginning of 2016, the Swedish Foreign Minister Anders Egeman said that the country intended to begin the deportation of refugees from the Middle East and Africa, who have been denied in refugee status. There are rallies and protests in the country. The Swedes and migrants protests[15].

Swedish citizens are dissatisfied with the fact that most migrants do not work and live on benefits. In practice, it means that the Swedish working population aliments a large number of migrants, who do not work, and also do not want to integrate, and to respect the country's laws. The problem has no solution in the Swedish society, where anti-immigrant sentiments and nationalist parties are becoming more and more popular. Political and public figures talk much about unity and tolerance, cultural diversity and religious tolerance, but riots and ethnic clashes continue to be repeated. Probably, ethnic tensions will remain at the same level, until the problem of migrants living in Sweden is not solved and further tightening of immigration legislation is not going to happen, which would reduce the flow of refugees into the country, as well as to regulate migration flows in favour of the Swedish economy.

Conclusion

Why the Swedish multiculturalism does not work in case with migrants? The reason for this imbalance is in migration policy. In recent years, an excessive number of refugees has come in the country, whose cultural and religious experience is significantly different from the Swedish. The difference in culture and mentality is really significant, and mostly comes down to the difference between the eastern traditionalism and liberal values of the West, which are often opposed to the cultural values of the East and are perceived negatively by migrants. In addition, refugees are often those who share the radical views.

The second reason blocking multiculturalism in Sweden, is the low level of education and language skills of migrants. Most of them do not speak Swedish. Despite the training programs, language remains a problem for many, because it takes years to study it. Low level of education also limits the possibility of integration, since it is practically impossible to find a decent-paying job. Immigrants searching for a livelihood, on the one hand, are involved in criminal activities and lead a marginal life, and on the other hand, immigrant communities are getting more closed,

[14] V Shvetsii sozhgli lager' dlia bezhentsev // RBK. 24.10.2016 URL: http://www.rbc.ru/rbcfreenews/562b740e9a79478a9ad70977 (Accessed: 15 June 2016)
[15] Moreno F. Shvetsiia: nenavist' k shvedam // Inosmi. 23.05.2016. URL: http://inosmi.ru/social/20160523/ 236613417.html (Accessed: 01 August 2016)

which is negatively perceived by the Swedes, and leads to all sorts of discrimination both at the household level, and at the labor market.

The third problem of multiculturalism in Sweden is in broad social guarantees for migrants from troubled and recessionary regions of the world, which bring a huge number of people to the country every year. The prevalence of this group of migrants in the migration flow structure can not have a positive impact on social relations and stability. The Swedish government is trying to regulate migration. Several times during the post-war period, Sweden tightened immigration laws and went over to controlled migration policy. But what to do with the already arrived migrants to integrate them? The problem does not have 100% effective solution until now in modern Sweden.

The complex migration situation in Sweden presses back the unresolved problems of national minorities. First of all, of the Sami, who are using Swedish and international law try to defend their rights. The situation with the Sami in Sweden has many similarities with the Russian policy towards the indigenous peoples of the north. In both cases the interests of the indigenous population of the north face with the economic interests of big business and the state. The only difference is that the Swedish Sami have a little more freedom via the Sami Parliament, which in its essence and functions is identical to the local authorities at the territories of Russia where indigenous peoples live, except that in Sweden they have larger ethnic representation and greater volume of financing of social and cultural projects. All this creates the illusion that the Swedish state defends the rights of the Sami. Although, in practice, support is provided only for language and culture, political and economic aspects are still the responsibility of the state.

The Swedish experience in solving cultural and ethnic conflicts to some extent is useful for Russia, which face with similar problems in relation to indigenous peoples and migrants from Asian countries. Careful study of the problems of the Swedish society, as well as the analysis of the use of certain regulatory practices of inter-ethnic interaction in a crisis can be used as in the case of an open inter-ethnic conflicts in the regions of Russia, as well as for the development and implementation of programs and inter-ethnic tension prevention practices. Ethnic aspects of Russia's domestic policy are much more difficult as the country is more diverse culturally and ethnically [27, Zaykov K.S., Tamitsky A.M.]. However, the situation in the northern regions has a lot of similarities, especially in the sphere of preservation and development of culture of the indigenous peoples.

With regard to migrants, Sweden has accumulated a few decades of experience of the creation of the system of integration of people with different cultural and confessional characteristics, which is also an interesting example for the Russian Arctic regions. In addition, the

Swedish government manages to resolve disputable issues in relations with indigenous peoples, maneuvering between the international standards and their own economic needs, i.e, on the one hand, protecting the rights of indigenous peoples, and on the other, leaving the control of resources in hands of the state. Sweden, as Russia has not ratified the ILO Convention № 169 and the UN Declaration on the Rights of Indigenous Peoples[16]. In addition, the Swedish government does not recognize officially for the indigenous people of the north the status of "indigenous people", and calls them a "national minority", that does not prevent Sweden to be one of the leading states in protecting the rights of indigenous peoples. The rights of indigenous peoples, environmental safety, as well as the industrial development of the northern territories are relevant for Russia, which as Sweden, tries to find an effective model for resolving these disputes.

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Technique of the selection of investment projects for elimination of accumulated damage to the environment in the Russian Arctic based on cost-benefit analysis

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Abstract. The damage caused to the natural environment of the Arctic in recent years is too large and requires removal. The elimination of environmental damage requires large investments. In conditions of limited financial resources it is necessary to select the most efficient projects. The evaluation of environmental and economic efficiency of projects of the elimination of the last environmental damage can become the tool of such selection, based on the cost-benefit analysis, this evaluation consists of accounting of non-market environmental effects of restoring the environment of the Arctic. The article presents an algorithm of such evaluation and selection of projects and examples of its application.

Keywords: *environmental damage, last environmental damage, ecological and economic evaluation, cost-benefit analysis*

The Arctic region occupies significant territories in Russia (Fig. 1) and has a great geopolitical, strategic, economic and transport importance for the country. Another important role of the Arctic territories is the performance of ecological functions that maintain the ecological balance in the scale of our country and the world.

Fig. 1. Territories of the Arctic zone of the Russian Federation [1.]

The peculiarity of the Arctic is the fragility and vulnerability of its natural environment and high sensitivity to anthropogenic and technogenic pollution [1, Pavlenko V.I.]. In view of this

[1] Sardana Boiakova: Pri opredelenii territorii Arkticheskoi zony RF traditsionno osnovyvalis' na obshchikh strategicheskikh interesakh Rossii v regione. 2014 g. URL: http://iltumen.ru/ node/12236 (Accessed: 15 May 2016).

peculiarity, the environmental pollution in the Arctic has become the serious problem, resulting from past activities of organizations and has been called "the accumulated environmental damage" or "past environmental damage" (PED). The main types of accumulated damage in the Arctic are water pollution of areas of seas amd coastal areas by oil and oil products; littering of lands by abandoned supplies and equipment; destruction of the Arctic ecosystems; littering of areas of seas; loss of biodiversity and global ecosystem services performed by the Arctic ecosystems. The consequences of the caused damage are quite heavy for the nature of the North, the stability of the global ecosystem of the Arctic region and the population living in this area, especially for the small indigenous peoples of the North, leading a traditional lifestyle. However, the economic damage caused by the pollution of the Arctic region has not been measured in monetary terms and has not estimated yet. The main reason for this is lack of demand for this type of assessment in the management practice due to absence of the legal and economic tools of the elimination of past environmental damage, using cost estimates and based on economic analysis.

At the same time, issues of estimated value of the past environmental damage and economic tools to prevent and eliminate it, have been considered in our country quite a lot and at different times, for example, [2, Novoselov A.L.; Novoselova I.Y.; 3, Medvedev P.V., Medvedeva O.E.; 4, Shevchuk A.V.]. Unfortunately, their implementation in practice has not been made. In addition, in recent years at the state level the understanding has appeared that the accumulated environmental damage in the Arctic is large enough and it should be eliminated. This decision was actually made, as evidenced by various kinds of legal documents [5, Vakula M.A., Medvedeva O.E.], and the works on the survey and identifying the volume of the pollution have been already sterted, as well as elimination works. [6, Nefed'ev N. B., pp. 17-21].

Bearing in mind large areas of the Russian Arctic zone, elimination of accumulated environmental damage is associated with a significant volume of investments in the recultivation and remedial work. So, initially it was planed within the frame of the the federal target program "Elimination of accumulated environmental damage" to allocate in 2014-2025 at the expense of all sources 218.7 billion rubles for the removing the effects caused by past environmental damage. [2]. Then the amount of funding was reduced to 209.1 billion rubles [6, Nefed'ev N.B., p. 14]

Under the conditions of the limited budget and companies' funds operating in the Arctic, there is a critical problem about the priority of allocation of funds and the selection of the most efficient ways from the standpoint of the stated goals, the society and the national economy

[2] Federal'naia tselevaia programma «Likvidatsiia nakoplennogo ekologicheskogo ushcherba» na 2014–2025 gody. PASPORT Federal'noi tselevoi programmy «Likvidatsiia nakoplennogo ekologicheskogo ushcherba» na 2014–2025 gody. URL: http://www.mnr.gov.ru/upload/files/docs/programma_fzp.doc (Accessed: 15 May 2016).

projects. But the question remains unresolved, due to the lack of suitable official methods of finding the most effective techniques and technology projects for management purposes. Until now in Russia there no approved guidance documents, built on recognized methodological approaches of account of the environmental and social effects, and widely used in international practice.The applicable approaches are very controversial because they are focused mainly on scores and fix fairly mechanistic selection of the projects using subjective criteria, and not on their real economic efficiency.

In world practice, the approach to solving these problems has been developed long time ago already and has been used successfully in different countries [7, Medvedev P.V., pp. 7-10]. It is based on using of the Cost-Benefit Analysis and the calculation of the criteria of Social Appraisal through monetization of non-market effects, important for society, but not for the individual businesses and business entities. In our country, this trend is developing as a scientific one and has been called "assessment of environmental and economic efficiency of the projects." This term, in contrast to Social Appraisal, emphasizes that in assessing the effectiveness the environmental factors and parameters of the project are taken into account, as positive as the reduction of environmental damage and negative as its increment [8, Medvedev P.V., pp. 125-131; 9, Trofimenko U.V., Medvedeva O.E., Artemenkov A.V., Medvedev P.V.].

Ecological and economic efficiency of the projects is the ratio of investment costs as well as environmental damage attributed to the costs of non-market society, and the benefits derived from the project. It is a kind of public or social efficiency and characterizes any project related to national economic and social interests from the standpoint of the advantage or disadvantage for society. Assess of ecological and economic efficiency of the projects is a tool of reasoning, especially of state investments in uncommercial projects related to the elimination of the harm caused to the environment, the implementation of preventive measures. Evaluation of environmental and economic efficiency is also a tool for ranking of priority investments and selecting the most effective project among others or their variants. Bearing in mind the high cost of measures to eliminate the accumulated damage in the Arctic zone, the solving of tasks is extremely urgent and important. Abroad, the cost-benefit analysis is used to evaluate the projects having high social and environmental value, but unprofitable from a commercial point of view, because the benefits generated by them can not be sold on the open market. All the projects on the elimination of accumulated damage and recultivation works in the Arctic region are related to this class of projects. As noted above, in our country this approach is not used officially to the investments and projects in the field of environmental protection. It is connected with the fact

that there is no applied methodology which would allow designers at the pre-investment stage to make calculations of environmental and economic efficiency.

In this regard, we propose to use the methodology of selection of investment projects on elimination of the accumulated damage in the Arctic region on the basis of assessment of environmental and economic efficiency, adapted to the Russian conditions, and to fix its use in the legal field.

Method of selection of investment projects of the elimination of accumulated damage to the environment in the Arctic zone of Russia

The method comes down to calculation of the following indicators of environmental and economic efficiency of the investment project: net present value (NPV); the ratio of "benefits/ costs» (BCR); payback period (PBP).

NPV = PVB - PVC, where PVB is present value of environmental and economic benefits of the project; PVC — present value of the project costs and environmental damage.

$$PVB = \sum_{t=0}^{T} \frac{B_t}{(1+e)^t} + \frac{B_T}{e \times (1+e)^T}$$ where Bt — environmental and economic benefits per year t;

t — number of period of the effect receiving, t = 0, 1, 2, 3, ... T; T — number of the last period of the implementation of the project; e - the discount rate; recommended value e = 0.03 and below;

$\frac{B_T}{e \times (1+e)^T}$ — reversion or the capitalized value of benefits in the post-forecast period (i.e., the benefits, discounted for the infinite period of time). This value is taken into account in calculations only in cases when the estimated effects can be obtained for unlimited period of time, including after the end of the project.

$$PVC = \sum_{t=0}^{T} \frac{C_t}{(1+e)^t},$$ where C_t — the costs of implementation of the project per year t; t — number of period of the effect receiving, t = 0, 1, 2, 3, ... T; T — the number of the last implementation period of the project; e — the discount rate; recommended value e = 0.03.

The benefits/costs ratio (BCR) indicates the ratio of discounted benefits to discounted costs: $BCR = \frac{PVB}{PVC}$.

The payback period is a period for which the net cash flow is compared with the sum of the initial investments. It shows the time required to cover the initial investments at the expense of the net cash flow generated by the project. The payback period can be defined in two ways: graphical and mathematical. It is believed that the graphic method is more accurate one.

Relevant benefits. A feature of the methodology and its difference from the evaluation of the commercial effectiveness is the monetization of non-market effects, and in particular the economic benefits of society. These may include such factors as:

- ✓ market or cadastral value of recultivated land or plots;
- ✓ income from the sale of secondary raw materials obtained as a result of work on the liquidation of objects (calculated as per market rates on the corresponding raw material);
- ✓ benefits from reducing of population morbidity, living in the region of location of PES objects;
- ✓ reduction of greenhouse gas emissions (calculated at market rates of emission quotas);
- ✓ reduction of emissions of major pollutants in the atmosphere;
- ✓ benefits from prevention or elimination of pollution of drinking water sources (calculated at market rates for drinking water or for cost savings for water supply of the population, the water that meets sanitary requirements);
- ✓ benefits from prevention or elimination of pollution of water resources, which are not sources of drinking water (is calculated as per water tax according to the volume of water consumption required for a conditional water dilution to obtain regulatory quality indicators).
- ✓ benefits from increase of the cadastral value of land in areas adjacent to the PES sites, after their elimination;
- ✓ benefits from the elimination of waste production and consumption (calculated per payments for their placement in landfills);
- ✓ other benefits.

Accounting of the additional environmental benefits is not a mandatory procedure, since it may require specific economic studies.

Project costs taken into account. The following costs are taken into account - allocated from the funds: the federal budget; the budgets of subjects of the Russian Federation; local budgets; private investors.

Estimate of efficiency. The project is considered to be effective and acceptable, if the net present value is a non-negative one, the ratio of "benefits / costs» (BCR) is equal to or greater than one, so the inequalities are observed: NPV ≥ 0 and BCR ≥ 1. If NPV becomes negative (NPV < 0) by taking into account the benefits of only one parameter — the cadastral value of the recultivated lands, then it is advisable to conduct extra analysis and to use other indicators as benefits, which can be measured, such as reducing of greenhouse gas emissions, reduction of incidence of disease of the population, supply of the population by drinking water that meets the health and hygiene requirements and others. The list of the benefits is determined in process of the analysis at the appropriate stage of the estimate of the efficiency.

If it is impossible or difficult to include in calculations other cost indicators, characterizing the environmental benefits of the project for to take a decision on the selection of projects, it may be required to consider the qualitative characteristics of environmental benefits, not expressed in

monetary form, and the estimate of efficiency of the project in terms of the obtained results (cost effectiveness).

Cost effectiveness or the ratio of invested costs (estimated cost) to the expected results. The purpose of the calculation is the choice of a specific project or event with the criterion of the lowest costs to the resulting reduction of the negative impact: E = C / (Δ R), where $E = \frac{З}{\Delta P}$, where E — the effectiveness of the event; C — the estimated costs of the project or specific activity; ΔR — the obtained result or the increment, such as emission reduction, reduction of morbidity, etc.

the resulting reduction of negative impact: — the impact of the event; W — the estimated cost of the invested cost of the project or specific activity; Δ P — the result obtained or the increment, such as emission reduction, reduction of morbidity, etc.

Selection of the projects

Selection of the projects is arranged as follows:

1. At the beginning the projects with NPV ≥ 0 are selected.
2. Then, the projects are ranked with BCR ascending and
3. reduction of the payback period of projects.

Preference is given to the projects with higher BCR and lower payback periods. Then projects and specific events may be ranked in terms of cost indicators to the result obtained. According to this indicator, the option with the lowest costs per unit of obtained effect is selected from the alternative variants.

Table 1

Comparative example of three conventional projects on basic effectiveness indicators

Indicators	Projects		
	А	Б	В
Discounted benefits	120	400	400
Discounted costs	60	60	80
NPV	60	340	320
BCR	2,0	6,6	5,0
Payback period	3	2,5	2,5

The presented data show that the highest efficiency is obtained in B project.

Calculation example of the ecological and economic efficiency of the project of the restoration of land areas, contaminated with oil products, the territory of heat infrastructure MUE "HUA", city: Mirny

To calculate the environmental and economic efficiency (EEE) of the restoration of land areas project, following initial data were used: costs of works broken into 3 stages; information that the works are carried out in summer and autumn period; land square, which is planned to

recultivate; volume of the collected heating oil, which is planned to be used as secondary raw material in the form of the heating oil.

Limitations. Calculation is made with the following limitations: the lack of information about the period of the project with periodic time schedule of the planned costs, for example, per years, quarters or months. The lack of information about land sizes of fully recovered plots of land at the end of each stage (period) of works. Assumptions: the discount rate of 3%, or 0.03 is used in the calculations.

The project is divided into seven periods with duration of 0.5 year. This breakdown is made on the basis of the work schedule, consisting of 3 stages, as well as indication that the works are carried outduring warm period (p. 40 of the project materials). It is suggested that each stage corresponds to one calendar year. Accordingly, the project is designed for 3 years. The area of recovered land is determined directly proportional to the cost of each stage according to their share in the total costs of the project.

The main benefits of the project are following:

- ✓ the cadastral value of the recovered lands;
- ✓ the value of the collected heating oil, used as a secondary raw material;
- ✓ the value of carbon deposition by restored soil.

***The cadastrial value of* lands** is determined as average value of the specific indicators of the cadastral value of land of cadastral quarters of Mirny for the 9th kind of permitted use, approved by the Resolution of the Government of the Arkhangelsk region dated 12.18.2012, № 595[3], in the amount of 1 265.84 rub./ m2. The 9th kind the permitted use of lands of the settlements includes lands intended to accommodate industrial and office buildings, industrial facilities, public utilities, logistics, food supply, sales and procurement in accordance with Guidelines for the state cadastral valuation of land settlements, approved by the Order of the RF Ministry of Economic Development dated 15 February 2007, N 39 "on approval of the guidelines for state cadastral valuation of land settlements" (with amendments and additions)[4].

The value of the collected heating oil is defined as the minimum value of the heating oil prices, offered in the Arkhangelsk region according to Internet sources. The price of the heating oil

[3] Postanovlenie Pravitel'stva Arkhangel'skoi oblasti ot 18 dekabria 2012 goda № 595-pp «Ob utverzhdenii rezul'tatov gosudarstvennoi otsenki zemel' naselennykh punktov na territorii Arkhangel'skoi oblasti». URL: http://old.dvinaland.ru/files/power/departments/depugi/cadastr/595pp.pdf (Accessed: 11 October 1016).
[4] Sistema GARANT. URL: http://base.garant.ru/2162391/#block_1121#ixCzz410Ox2dmk (Accessed: 11 October 2016).

is from 4700 RUR / t[5]. Conversion factor of m3 of heating oil into tons is based on the data of Tab. 2.

Table 2

Conversion factor of weight and volume of the heating oil[6].

Heating oil	Weight, т	Quantity in litres, l
M 100, M100B, M 40, M40B.	1	1176

1 ton of heating oil containes 1176 liters. Conversion factor of 1 m3 per ton is equal to: 1000 * 1/1176 = 0,850.

The cost of deposited carbon in the recovered soil is determined on the basis of data on carbon stocks in the soil and the market price for CO_2 emissions on the exchange of quotas for greenhouse gas emissions. In the first half of 2015 the average price of CO_2 emissions amounted to € 7.47 per ton[7]. As a rule, carbon dioxide streams (CO_2) are estimated by measuring the carbon (C). 1 kg of carbon (C) is equivalent to 3.7 kg of CO_2. Therefore, 1 kg of CO_2 containes 0,27 kg of C. This means that 1 ton of carbon contained in the soil is equivalent to depositing of 3.7 tons of CO_2. Accordingly, the value of carbon deposition can be estimated in prices of 2015: 3.7 t of CO_2 * 7,47 € / t = 27.64 € per ton of soil carbon.

Based on the reserves of humus in a certain type of soil, you can get a valuation of ecosystem services of soil to deposit carbon in conversion to 1 hectare. Stocks of organic carbon in soils of northern tundra zones in Russia is 168.5 t / ha [10, Stetsenko A.V.; 12, Artemenkov A.I., Medvedeva O.E., Solovyova S.V.]. Hence, the estimated specific cost of the carbon deposition in soils of the recovered lands can be estimated as 68.5 t / ha * 27.64 € / t. = 4657,34 € or approximately 4.7 thousand € / ha. Data on organic carbon stocks in soils of main natural zones of Russia, including per hectare, and their cost estimates are shown in table 3. If the average euro exchange rate is 80 rubles[8], the specific cost of the deposited soil carbon will be: € 4.7 thousand / ha * 80 RUB / RUB = 357.2 rubles / ha.

[5] Topochnyi mazut v Arkhangel'ske. URL: http://arhangelsk.tiu.ru/Topochnyj-mazut.html?no_redirect=1 (Accessed: 11 October 2016).
[6] Skol'ko litrov v tonne mazuta. URL: http://kovka-dveri.com/metal_stroitelstvo0084qq0788.HTML (Accessed: 11 October 2016).
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[8] Kurs dollara i evro v 2015 godu. URL: https://www.consultant.ru/law/ref/stavki/kurs-dollar-euro-2015/ (Accessed: 11 October 2016).

Table 3

Evaluation of ecosystem functions of agricultural land soil on carbon deposition in Russia

№	Nature zones	Land size, mln. ha	Stocks of organic carbon in soils, mln. Tons[9]	Stocks of organic carbon in soils per hectare, t / ha	The cost of soil organic carbon (at 27,64 € / t of carbon), thousand € / ha, (Article 5*€/ ha)	The cost of soil organic carbon (at 2156 rub./ ton of carbon), thousand rub. / ha, at rate: € = 78 rubles on 12.14.2015 (Article 6*78)
1	2	3	4	5	6	7
1.	Northern forest tundra	233.6	39357.8	168.5	4.7	366.6
2.	Middle forest zone	237.8	51988.4	218.6	6.0	468
3.	Southern forest zone	236.6	61952.2	261.8	7.2	561.6
4.	Forest-steppe zone	126.4	38378.1	303.6	8.4	655.2
5.	Steppe zone	79.9	21347.9	1267.2	35.0	2730
6.	Dry steppe zone	28.2	2824.9	100.2	2.8	218.4
7.	Semidesert zone	14.7	1092.3	72.8	2.0	156

The initial data used in the calculations of EEE project of the resoration of land areas of territory of heat economy of MUE "HUA", Mirny, are presented in tables 4, 5.

Table 4

The Initial data: The total area of the recovered lands — 11.35 ha. The project is realized for 3 years in 3 phases with the work in the summer-autumn periods.

Costs as per project stages, mln. rub.	
1 stage	75.113
2 stage	69.706
3 stage	30.093
Total:	174.912
Amended initial data for calculating of the environmental and economic efficiency	
The share of costs as per project stages	
1 stage	0.43
2 stage	0.40
3 stage	0.17
Total:	1.00

***Expected benefits*:** the cost of recovered lands; the cost of collected heating oil used as recycled; the value of the deposited carbon by recovered soils.

Table 5

Indicators/numbers of periods	1	2	3	4	5	6	7
Years of project realization	0	0.5	1	1.5	2	2.5	3
Size of recultivated lands as per periods of the project, m^2	-	-	48,741	-	45,232	-	19,527
Specific cadastral value of land in Mirny, rub. / m^2	-	-	1,265.84	-	1,265.84	-	1,265.84
Collected heating oil, t	-	-	3,500	-	3,658	-	1,066
Rate of convertion of m^3 of heating oil		-	0.85	-	0.85	-	0.85

[9] Evaluations of A.V. Stetsenko.

in ton	-						
Collected heating oil, m^3	-	-	2,975	-	3,109	-	906
Market price of heating oil	-	-	4,700	-	4,700	-	4,700
The specific cost of carbon, deposited by soil (at 27,64 €/t of carbon), thousand € / ha	-	-	4.7	-	5	-	5
Exchange rate: ruble against euro (2012)	-	-	76	0	76	0	76
The specific cost of carbon, deposited by soil (at 27,64 €/t of carbon), thousand rubles/ ha	-	-	357.2	0	357.2	0	357.2

Calculation of basic indicators of EEE project of the resoration of land areas of the territory of heat economy of MUE “HUA”, city Mirny, is arranged in EXCEL program. The calculation is made for two variants — with the account as benefits of cost of deposited carbon of soils (option 1) and without account as benefits of cost of deposited carbon of soils (option 2). The results and the calculation are presented in tables 7 and 8. The results are also reflected in the graphic form in Fig. 1,2.

Table 6

Calculation of environmental and economic efficiency of the project.
Option 1 — benefits include deposition of carbon

Indicators	Units of measure	Periods							Amount as per periods of project
		1	2	3	4	5	6	7	
Periods of realization of the project	Years	0	0.5	1	1.5	2	2.5	3	-
Benefits of the project									
Cadastral value of land	Mln. Rub	-	-	61.70	0.00	57.26	0.00	24.72	-
Cost of heating oil	Mln. Rub	-	-	13.98	0,00	14.61	0.00	4.26	-
Cost of deposited carbon	Mln. Rub	-	-	1.74	0,00	1.62	0.00	0.70	-
The total benefits of the project	Mln. Rub	-	-	77.42	0,00	73.48	0.00	29.68	-
Discounted rate		0.03	0.03	0.03	0.03	0.03	0.03	0.03	-
Discounted coefficient		1	0.99	0.97	0.96	0.94	0.93	0.92	-
Discounted benefits	Mln. Rub	0	0	75.10	0.00	69.08	0,00	27.30	171.48
Costs	Mln. Rub	-	-	75.113		69.706		30.093	-
Discounted coefficient	items	1	0.99	0.97	0,96	0.94	0,93	0,92	-
Discounted costs	Mln. Rub	0	0	72.86	0.00	65.52	0,00	27.69	166.07
Net present value (NPV)	Mln. Rub	0	0	2.24	0,00	3.55	0,00	-0.38	5.41
Net present value (NPV) accrued total	Mln. Rub	0	0	2.24	2.24	5.79	5.79	5.41	-
Benefits-costs ratio						1.03			
Payback period						The project is paid off from the first year			
The effectiveness of the project	Mln. Rub/ha					15,41			
Costs – benefits ratio						0.97			

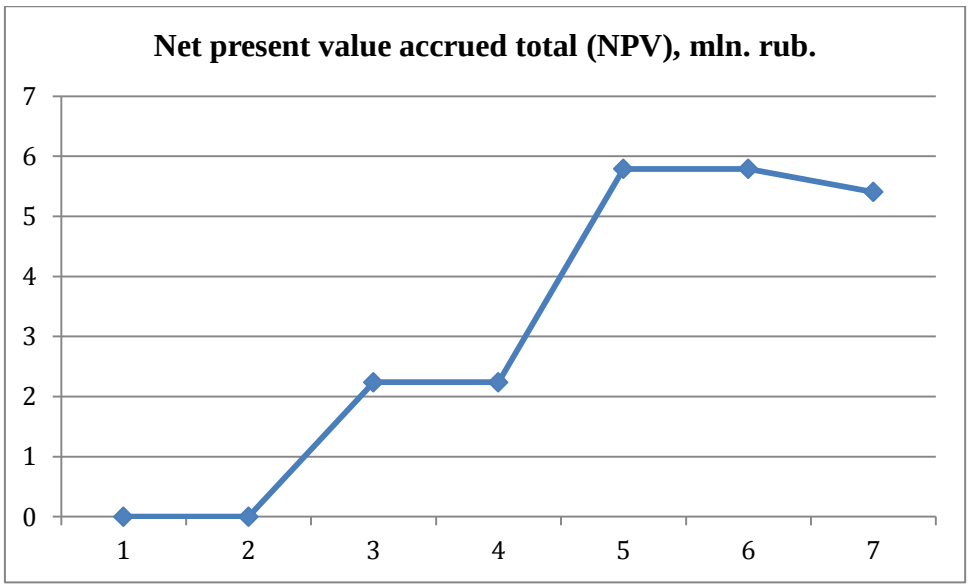

Figure 1. Diagram of NPV project (option 1).

Table 7

Calculation of environmental and economic efficiency of the project. Option 2 — benefits do not include deposition of carbon

Indicators	Units of measure	Periods							Amount as per periods of the project
		1	2	3	4	5	6	7	
Periods of realization of the project	Years	0	0.5	1	1.5	2	2.5	3	-
Benefits of the project									
Cadastral value of land	Mln. Rub	-	-	61.70	0.00	57.26	0,00	24.72	-
Cost of heating oil	Mln. Rub	-	-	13.98	0.00	14.61	0.00	4.26	-
Cost of deposited carbon	Mln. Rub	-	-	0.00	0.00	0.00	0.00	0.00	-
The total benefits of the project	Mln. Rub	-	-	75.68	0.00	71.87	0,00	28.98	-
Discounted rate		0.03	0.03	0.03	0.03	0.03	0.03	0.03	-
Discounted coefficient		1	0.99	0.97	0.96	0.94	0.93	0.92	-
Discounted benefits	Mln. Rub	0	0	73.41	0.00	67.56	0,00	26.66	-
Costs	Mln. Rub	-		75.113	-	69,08		30.093	-
Discounted coefficient	items	1	0,99	0.97	0.96	0.94	0.93	0.92	-
Discounted costs	Mln. Rub	0	0	72,86	0.00	64.93	0.00	27.69	165.48
Net present value (NPV)	Mln. Rub	0	0	0.55	0.00	2.63	0.00	-1.03	2.15
Net present value (NPV) accrued total	Mln. Rub	0	0	0.55	0.55	3.18	3.18	2.15	-
Benefits-costs ratio					1.01				
Payback period					The project is paid off from the first year				
The effectiveness of the project	Mln. Rub/ha				15.41				
Costs – benefits ratio					0.99				

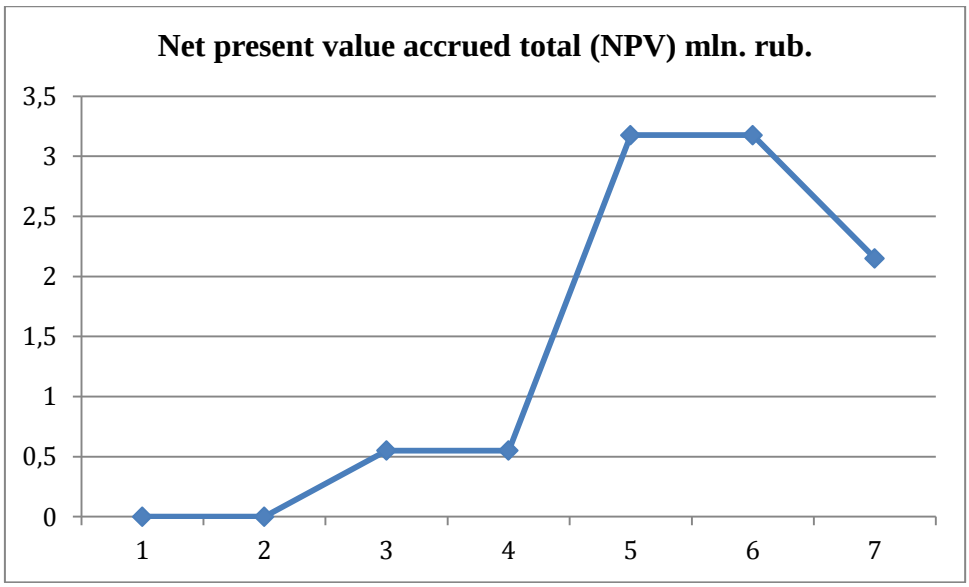

Figure 2. Diagram of NPV project (option 2).

The obtained values of the net present value have positive values (NPV>0): option 1 NPV = 5.41, option 2 NPV = 2.15.

Benefit-cost ratio is more than 1 (BCR>1): option 1. BCR = 1.03.

Option 2. BCR = 1.01.

According to figures 1 and 2, the payback period comes during the first year of project realization for two options.

Based on presented data, we can conclude that the project is economically feasible and efficient. Calculating value of the expected benefits exceeds the planned costs. If there are a few options of projects, the obtained indicators can be used for selection of the most effective options. Decisions may be based on additional indicators of efficiency of the incurred costs.

For this project, this value amounts to 15.41 mln. rub. / ha. Since this figure takes into account only one component of the benefits, measured in real indicators — the area of recultivated land, then to evaluate the efficiency of costs of all benefits, the indicator of costs-benefits ratio can be used for all benefits arising from the project (ruble of costs to ruble of benefits).

For this project, this value is:

Option 1. Ruble of costs per ruble of benefits = 0.97.

Option 2. The ruble of costs per ruble of benefits = 0.99.

It is possible to carry out a sensitivity analysis for more detailed consideration of projects and selection of the most appropriate ones.

Conclusion

Corresponding legal regulation is required for realization of this method in practice. One of the trends of this regulation is acceptance of legal norms on assessment of environmental and economic efficiency of investments and developed recultivation and restoration projects.

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The possibilities of social planning in the aspect of training of children-northerners with special needs to independent adult life

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Abstract. The problem of lack of training of northerner children with special needs to adulthood is investigated using the definition of independence, and possible solution to this problem is to implement such a technology of social work as social project planning. The phenomenon of self-sufficiency is analyzed as a criterion of maturity and features of formation of such quality for children with special needs. The possibilities of social project planning in the frame of preparation of northerner children with special needs to adult independent living are conceptually stated. Empirical research conducted in January — May 2016 by the expert survey with the help of a specially designed questionnaire. In the process of realization of the project "School of independence for children with disabilities in the North" in Arkhangelsk the technique of social project planning has been tested. According to the results of the study, the specific recommendations addressed primarily to non-profit organizations have been developed. Formation of independence will enhance the borders of safe and comfort life for northerners with special needs and disabilities in adverse climatic conditions. In the frame of implementation of the social engineering technique the creation of the "Arctic school of independence for northerners with special needs" is possible.

Keywords: *children with disabilities, independence, social engineering, northern living conditions*

The presence of human being in the North is associated with increased morbidity, tendencies to chronic disease, stipulated by climatic factors (primarily, it is heat and sunlight deficit), resulting in adaptive-regulatory shifts. The above is complemented by the influence of social, economic and psychological factors. Research data confirm the dominant influence of the latter on the level of morbidity and disability of the child population [1, Nesterova I.V.]. Disability during childhood is connected primarily with social insufficiency due to the initial lack of function of organs or systems, manifesing not in disability (as for an adult disable person), but in particular disability — reducing the ability to control themselves, gaming activities, communication in team of peers, in learning [2, D'yachenko V.G.].

Among the range of problems arising as a result of disability, the lack of independence of maturing children with special needs is brightly expressed, and, as a consequence, their lack of preparation for adult life. We estimate the degree of elaboration of the scientific problem as extremely insufficient due to the lack of knowledge regarding the specifics of the system of independence formation of children with special needs. Among the works focusing on this issue, there is only a guide "Preparing of disabled children to family and adult life", published under the editorship of E.R. Yarskaya-Smirnova [3], where adulthood is considered as synonymous with the family life.

Practical aspects of solution of this problem are also inconspicuous, only a few examples of the social projects are known which have been implemented in recent years in St. Petersburg, Moscow, Vologda Region, Belarus. They are mostly designed only to work with children with mental retardation and severe intellectual disabilities. We have not brought to life the specific methods and technologies of preparation of children with special needs to adulthood. This is astonishing that the problem of lack of independence of maturing children with special needs is stated as a fact, without getting a full explanation and adequate solutions both in the scientific community and in society.

I would like to underline: I deliberately use the phrase "children with special needs" (though quite debatable) to focus attention on the need to work with both children-invalids and children with disabilities, who, for some reasons do not have official legal status of a "child invalid". We consider the problem of lack of training of children-northerners with special needs to adult life, basing on definition of independence, and finding possible solution in implementation of such technology of social work as social planning, evaluating its potential in this context.

About the phenomenon of self-reliance and peculiarities of formation of this quality for children with special needs

At the first stages of research we analyzed the works of psychological and pedagogical orientation that demonstrated the integrative essence of self-reliance and helped to identify the stages of its formation and development. On this basis, we considered the features of the development of this quality for children with special needs, and argued the reasons of their impreparation for adult life.

Self-reliance is rather a kind of "evaluative" judgment, than a clear working definition. There are many works where this quality is considered from a completely different angle. We shall not stop on the presentation of detailed results of the study of approaches to self-reliance, we note only that the theoretical concepts of self-reliance as a social phenomenon are extremely diverse, fragmented. Our analysis confirmed the integrative nature of self-reliance as a special, holistic human characteristics opposite to the complex of symptoms of personal helplessness [4, Tsiring D.A.], static quality which is not losing the potential ability to dynamics and change. Development and formation of self-reliance occurs gradually, in the process of maturation and social and personal development, it is determined by both external and internal factors. Formation of self-reliance contributes to the development of personality of a child as a whole, where the development is understood as a transition to more perfect state, from simple to complex, from

lower to higher - to the degree of spiritual and mental maturity, consciousness and civility [5, Danyluk A.Y.].

Self-reliance can be both the real and formal, caused by various circumstances, or provided by adults [6, El'konin D.B.]. Self-reliance is a criterion of adulthood: if the child's repertoire of independent activity is expanding, it means that child's development goes on the normal path.

Self-reliance is special social psychological characteristics that determines the success of a person today, in general sense, it implies the willingness of the individual to the implementation of life choices. Applying this concept to a group of people with disabilities, it should be noted: it is an important factor of their full integration in the society, exclusion of non-discrimination, social deprivation and insularity from society during the expansion of the field of declared rights and guarantees, the development of inclusion.

A priori, the formation of autonomy hardly occurs with maturing children with special needs, their development "does not fit" the usual frameworks, has other aspects, and their ability to live is very different from the ability to live for "normal" children as a result of the negative impact of disease — the disease, defect, abnormality, injury. The disability of a child occurs during the formation of higher mental functions, the assimilation of the key knowledge, skills, therefore, has a strong influence on the social and personal development. The process of formation of self-reliance disrupts significantly, in addition as children grow lder, the existing problems are getting richer social dimension. The research confirm that even with minimal debilitating disease the social integration of children is broken, and the reason for this — lack of self-reliance [7, Fedoseyeva O.A.], its main stages of formation are significantly deformed. Willingness of children with special needs to be integrated into the society is determined to a greater degree by social, rather than biological factors, for example, for teen-agers with intellectual disabilities these factors are terms of development and upbringing, satisfaction with social and economic needs, formedness ofsocial needs and constructive coping strategies [8, Konovalova N.L.].

The insulating environment, the atmosphere of hyperprotection of a child in the family leads to a special mental state — deprivation. Hyperprotection is a basic error of adults in upbringing of children's independence — even "rudiments" of formation of this quality are suppressed, all attempts to display the independence are cut out [9, Yavbatyrova B.G., Mahmurova N.]. The situation is made worse by the fact that most families do not possess special knowledge about education of self-reliance of a special child, do not pay enough attention to his self-development and self-determination [10, Mironova M.V.]. Thus the focus in the family is on illness, the emotional coloring of the child is most often negative [11, Kulik A.A.]. Knowledge of

children about the real life remains superficial, ideas about other people — inadequate and distorted. Subsequently, the lack of independence of disabled children is transformed into a different negative sets of the person, helplessness, dependence, immaturity, sponging, conformism, social passivity, inadaptability to independent life in society.

The phenomenon of self-reliance in conditions of the North and the Arctic gets its special, unique sound. The specific regional factors, such as living in severe ecological and climatic conditions, historical social and cultural features have additional requirements for people here: to lead a full life activity in the North and to function successfully in the society it is necessary to be strong and independent person, to have activity and determination, skills of independence and autonomy, to consider this aspect in the construction of work with children with disabilities and their families.

The results of the research showing the possibilities of social planning in the aspect of training of the special children-northerners to independent adult life

Prior to study each technology of social work has been considered in detail, with assistance of which possible solution of the problem of lack of independence of disabled children can be found. The social planning has been accepted as most suitable and it is explained as follows. Project activity is always scientific-theoretical and subject-practical at the same time, it implies approbation, introduction of innovations: even the word "projectus" means literally from the Latin "thrown forward." This concept refers to the process of construction of social activity aimed at overcoming of any problem, change or development of social relations [12, Plokhova I.A.]. Social planning is different from other technologies by relatively fast way of getting the scientific and operational information, complete and separate area, flexible way to solve social problems. Any social project is a kind of model of the proposed changes in the immediate social environment.

Thus, the positive aspects of the planning as one of the technologies of the social work, are particularly important in training of children with special needs and disabilities to adult independent life: the implementation of projects takes place through dialogue, a full discussion of the problem with the subsequent decision-making, monitoring of results, assessment of the future prospects. The need for such an integrated approach has already been argued earlier [13, Melkaya L.A, Rybak E.V., pp. 13–19], such system should include work at five levels: federal, regional, public, family and individual.

Now let's move on to the results of the research regarding the possible application of social planning in this context. A few words about the general characteristics of the study. Empirical research was conducted in January — May 2016 in line with the paradigm based on the method of

expert survey. The bases of the study were NArFU named after Lomonosov M.V. and Regional Public Organization of Parents of Children with Disabilities "Blagodeya".

The aim of the study was found to define the place and role of social planning as a technology in the training of children with special needs to adult independent life, to establish its possibilities in this context. The general hypothesis of the study is that social planning acts as the most promising technology of social work in the training of children with special needs to adult independent life at this stage of its development. Expert (specialized) survey has been conducted using a specially designed questionnaire. The Group of experts (10 persons) has been divided into "theorists" (scientists conducting diverse research in the mainstream of pedagogics, psychology, sociology, theory and technology of social work) and "practicians" (competent professionals in different fields, their professional activity is connected with the aid and support for children with special needs and their families). Experience of each expert in the field of activity is more than 10 years. Research concept was to comprehend and compare points of view on the problem from the standpoint of theory and practice. Although this approach, bearing in mind the inextricable connection between theory and practice in social work, is rather relative, it, in general, let us to reveal some contradictions here.

The experts estimate the availability of information about the lack of self-reliance of children with special needs, as "probably not sufficient" (60%) and "insufficient" (30%), the degree of elaboration of the issue and its presentation in the scientific and methodological works, according to respondents, is negligible. If we talk about the reasons of lack of self-reliance, the theoretical experts have more comprehensive vision of the problem — their answers are more diverse, though practicians place greater focus on the social aspects. In general, such indicators as "limited set of social roles, difficulties in the process of socialization, lack of experience of social life" are leading (80% for practicians and 60% of the theorists) and "personal characteristics of disabled children — self-doubt, anxiety, a sense of inferiority, worries about inferiority, passivity and low self-esteem "(80% for practicians and 60% for theorists).

The views of the expert groups about the need of special training of children with special needs to adult independent life are shown in Fig. 1.

Figure 1. Comparative analysis of the views of the expert groups about the need of special training of children with special needs to adult independent life. Most of the expert think that the training should be complex and personal.

The majority of experts (90%) confirms thesis about the need of systemic training of children with special needs to adult independent life. The theorists emphasize the need to work with each special child. The best comment for the drawing is the respondent quote: "First, you need to establish the infrastructure and special assistance, and only then to work with parents, and then with personal features of children. While there is no environment, it is useless to work with the person "(profile of the expert-theorist).

Among the structures that need to conduct such training, the family (80% of all responses), rehabilitation centers, care and support centers (60%) and the society in general (60%) are highlighted. We note that the experts do not pay enough attention to non-profit organizations (NPOs). According to respondents, they do not have significant impact on the improvement of life of persons with disabilities (40% of all responses), or such effect is negligible (50% of responses).

Practicians are more categorical in this matter. Thinking about these results, some controversial conclusions are formed. On the one hand, non-profit organization is the most "plastic" structure allowing to test and implement new and effective ways of working for people with disabilities. Just NPOs develop and implement most part of social projects, conduct public campaigns, represent the interests of this category of the population in the process of dialogue with the authorities. More detailed information is provided in the form of a bar graph in Fig. 2.

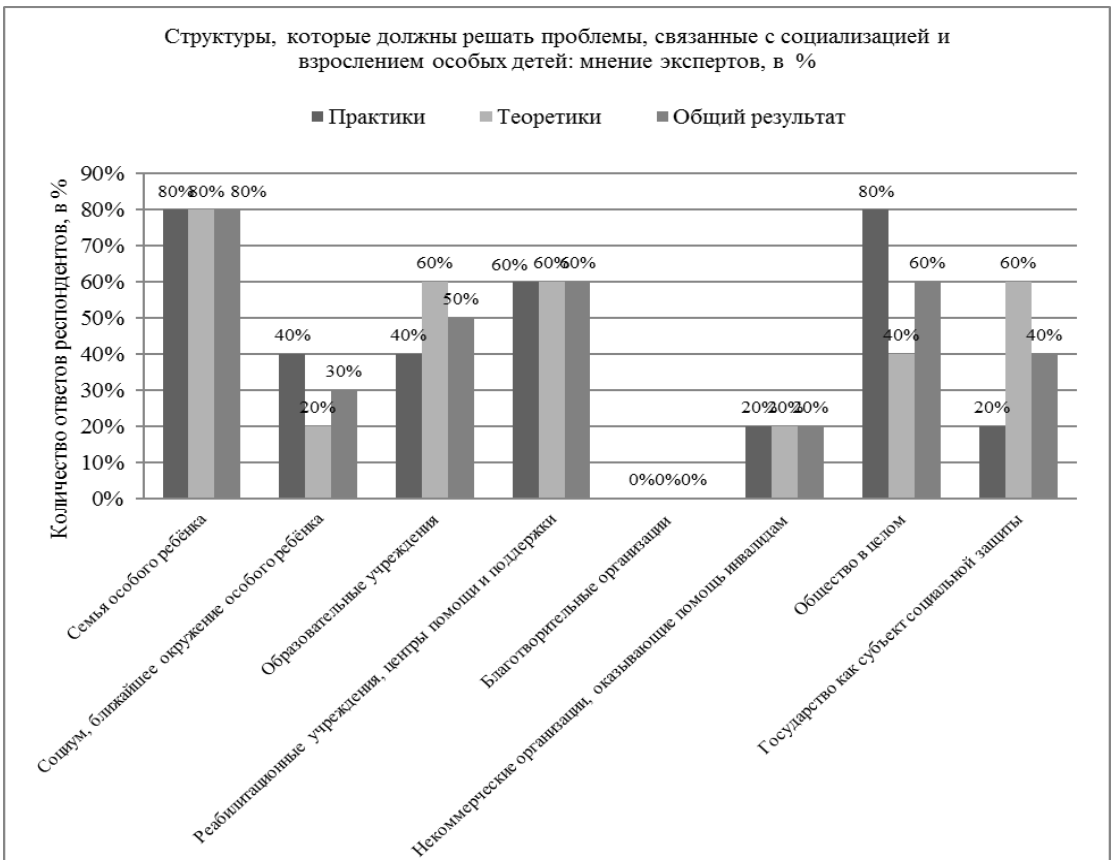

Figure 2. Comparative analysis of views of groups of experts about basic structures able to solve the problems connected with growing up and socialization of children with special needs

There is a paradox: the potential of social planning is noted by the experts, but the role of NPOs of Arkhangelsk and Arkhangelsk region as the main contractors of social projects is practically not taken into account. Apparently, it is connected with the underestimation of non-profit organizations in social work by the experts, with their subjective positions, as well as with the complexity of evaluating of the work of public organizations in our region. These data require further study and analysis in view of the fact that the NPOs are rather active recently in the region, according to our observations, and their impact on the social sphere is doubtless. NPOs today are the social resource that can and should be used in solving the problems of people with disabilities.

At the same time, experts have noted a number of problems of social planning in the sphere of work of promotion the independence of children with special needs in the Arkhangelsk region: insufficient financing of projects of social sphere of this orientation (70%), the lack of large-scale projects aimed at solving the problems of children with disabilities (70%), lack of the necessary level of background of this problem (60%). Theorists have pointed out to the lack of accounting of interrelation of goals, priorities of helping process, the interests of families and adequate support for scientific data (60%), theorists have underlined the lack of public initiatives on possible solutions of the problem of unpreparedness of special children to adult life (60%). According to one expert, the problem is in the fact that "the self-sufficiency of children / people as

a scientific category, is not included in the system of priority areas, the social planning, financing is devoted to" (profile of expert from the group of theorists).

Experts have not given any examples of social projects aimed at the development of self-sufficiency of children with disabilities. Following organizations have been noted as the most active in Arkhangelsk and the Arkhangelsk region: Arkhangelsk regional branch of the All-Russia Society of the Deaf and Arkhangelsk local organization of the All-Russia Society of the Blind, nonprofit public organization "Bridges of Mercy" (each of the organizations is mentioned in two questionnaires of the experts), "Blagodeya" (mentioned three times). In addition, the conditions for the development and implementation of social projects (the Arkhangelsk region as the example), aimed at promoting of the independence of children-northerners with special needs, are marked as soon as favorable (40% of all responses, this option is often chosen by practicians), although there is some complexity in such evaluation.

The experts identified the most actual areas of training of children with special needs through social planning. First of all, these are projects with the aim of overcoming the psychological and pedagogical incompetence of parents of special children (70% of all responses). This option is selected by 80% practicians and 60% theorists. The highest percentage in such areas as social adaptation (60% from all the responses) and the development of medical-social and psycho-pedagogical support (total result of 60%). There were no significant differences between the opinions of the theorists and practicians on this issue (see Fig. 3).

The results confirm a formula inherent in the concept of the study: no need to "impose" the independence to people with disabilities, but it is important to create the most favorable conditions conducive to the development and maximum display of this feature. "Self-sufficiency is impossible to develop en masse, otherwise it is not self-sufficiency, but the instruction", said one of the experts. What social projects in this aspect will be particularly relevant for the Arkhangelsk region? First of all, these are the projects in which the system "a person — the Arctic" is in center, where attention focuses on working with people who live in northern latitudes in order to improve their quality of life and to create the conditions for a comfortable and secure life. Bearing in mind the climatic and geographical and environmental factors, social and cultural characteristics, regional specificity, it is possible to make the work more systematically and comprehensively.

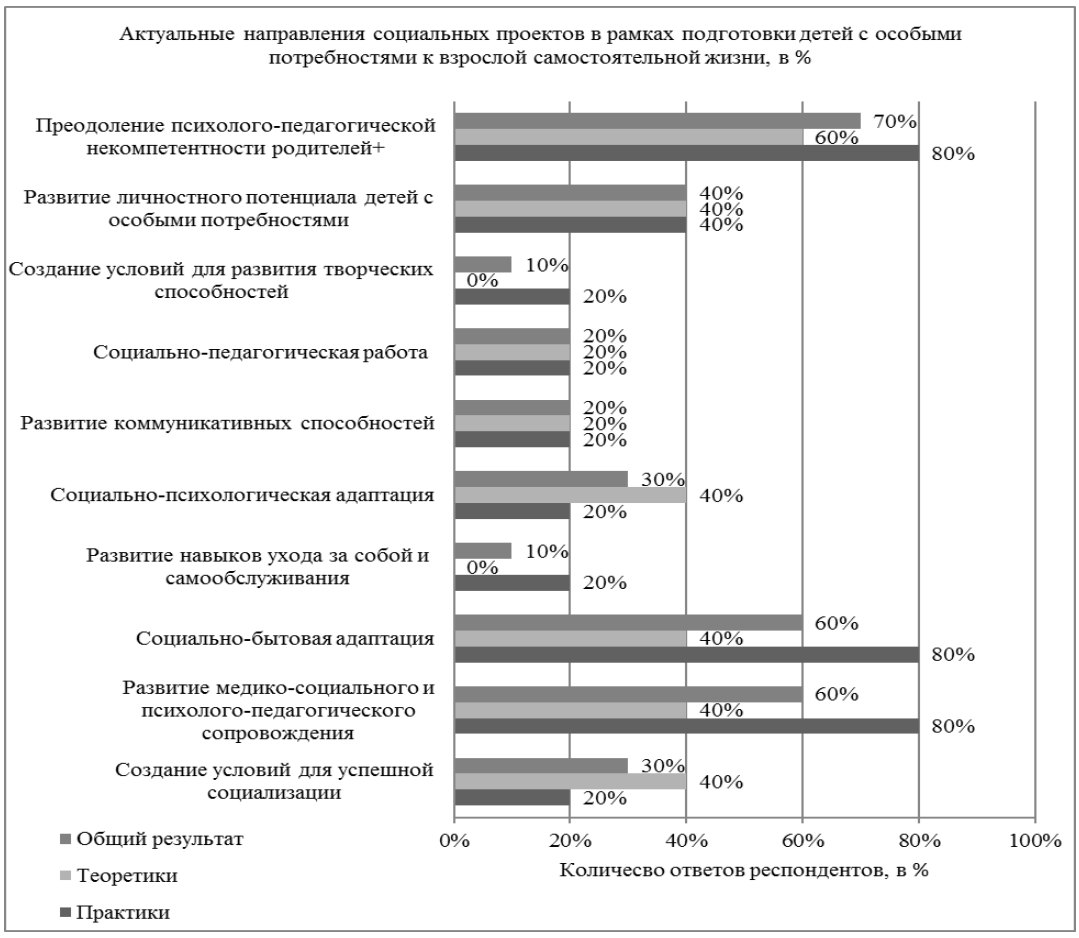

Figure 3. Comparative analysis of expert opinions on the actual trends in social planning within the frames of preparing children with special needs for adult independent life.

We also tested the technology of social planning in this context — we are talking about the project the "School of independence for children with disabilities in the North", which was supported by Arkhangelsk city administration for the public organization "Blagodeya". The project had mainly educational purposes. In September — October 2015 three sessions were held — two interactive lectures and parent-child discussion / conference, where we discussed the importance of independence for a northerner, the problems and ways of development of this feature in children with disabilities [14, Melkaya L.A.] One of the most important results of the implementation of this social project was the publication of recommendations specifically designed for parents of special children, teachers and specialists in various fields, providing assistance and support to children with special needs and disabilities and their families [13, Melkaya L.A., Rybak E.V.] Books have been sent to social institutions and organizations of Arkhangelsk and Arkhangelsk region.

Guidelines and research perspectives

The above-mentioned hypothesis can be considered partially proven. According to the results of the study specific recommendations are arranged addressed primarily to non-profit

organizations. Together with the results of the study, they have been transferred to "Blagodeya". Let us point out some aspects of the recommendations. The development and implementation of social projects should be related to the system of training of special children to adult life, bearing in mind the opportunities at the national, regional, public, family and individual levels.

Structures implementing project activities, should develop particular forms, areas of work in the field of training of children with special needs and disabilities to an independent life, which should be family-oriented, that is, to provide assistance for the development of self-reliance of such children. It is necessary to create conditions for the family to effectively carry out its functions (first of all - educational) and to develop independent living skills for such children, all of this will create a foundation for development of other life competences. As we have already noted, the projects aimed at improving the psychological and pedagogical competence of parents of children with special needs, have the highest priority. It is important for non-profit organizations to ensure the investment of social projects, that is, to carry out more active work to raise funds and resources for their implementation.

Social projects should be realized in tandem with special investigations of various trends suitable for the specified problems. In accordance with this, it is necessary to draw activities of NPOs of higher education institutions to the project activities, and this will allow to come to more comprehensive understanding of the problem of lack of independence of children with special needs and ways of solution both with the theorists and practicians. Publication activity of public organizations leaders (by which we understand just the information sharing about social projects, the results of their implementation, as well as publication of scientific methodological and scientific methodic works) in this matter will contribute to bringing the results to society in whole and to scientific community in particular. The prospects for research are rather extensive. It is very interesting to study the lack of self-reliance of children with special needs bearing in mind the category of personal helplessness, allowing to determine the impact of traumatic events on personal development. It is also possible to use a definition of resilience, as an integral characteristic, belief system and a personal ability to adapt.

The research devoted to self-reliance of children-northerners with special needs through the prism of *social competence* will have particular importance for social work. Such approach will allow to create more distinct theoretical positions, to develop specific criteria of evaluation with correlation with age norms. It is very important to define the general problematic aspects, as well as particular aspects specific to every type of pathology. However, such studies can be carried out only in the larger scale - this area of research requires a significant investment of resources, it is relevant

only for the research team with specialists in various fields. Northern context is not a "far-fetched" here: account of regional specific character, of northern mentality plays if not the key but rather essential role in training of children-northerners with special needs to independent life.

Conclusion

Thus, just the implementation of social planning technology is very actual in modern reality, it has the greatest opportunities and potential in aspect of training of children-northerners with special needs to adult independent life. Social projects are the "first signs", thanks to which the information field will be created, and it will allow to organize the further study of the problem of lack of independence of children with special needs and to find other, more substantial, variants of its solution, to organize systematic work in this area.

Social work stands here as consolidating and coordinating link — the accumulation of experience and understanding of the implementation of special social projects will allow to improve the work in the system of training of children with special needs to adult independent life, which takes just a formative stage now.

The Arctic, the northern living conditions, destabilizing processes of maturation and socialization, on the other hand, may become a *potential factor of the development of self-reliance,* manifestation of autonomy and independence. Formation of independence will enhance the borders of safe and comfort living of the northerners with disabilities. For example, within the frame of the social planning technology it is possible to create "the Arctic school of self-reliance for northerners with special needs" a structure which can hold special sessions to facilitate the development of self-reliance and social competence of special children, to organize special courses for parents on particular subjects and etc. Such projects can become a speciality of our region, because people with disabilities are components of human capital of Russia, the social resource, which is especially important for the North and the Arctic.

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Ethnonational policy of the Komi Republic: normative and infrastructural support[1]

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Abstract. The territory of the municipality of the city district "Vorkuta" is referred to the Arctic zone of the Russian Federation in the Komi Republic. It is not necessary to talk about some specific "Arctic" ethno-national policy in that municipality, different from the model of the national scale. Therefore, ethno-national policy is analyzed in general for the whole Republic, and then its features are revealed in the municipality "Vorkuta," which is the part of the Russian Arctic. The analysis of the list of regulating and strategic documents reflecting the specifics of the matter, together with an extensive existing infrastructure, allows to conclude about the formation of a regional model of ethnic policy in the Komi Republic. In addition, the incoordination of a number of documents is noted, as well as some inconsistencies of ethno policy to federal standards. Ethno policy in municipality "Vorkuta" is generally carried out in the framework of a regional trend. Standard maintenance includes various municipal programs and plans. The conclusion about the need to improve the conceptual foundations of the Arctic vector of ethno policy has been made.

Keywords: *Komi Republic, Vorkuta, ethnonational policy*

In modern geopolitical conditions, along with increasing of the power presence and activation of industrial development of the land and sea areas of the Russian Arctic, one of the determining factors of the success of these processes becomes a factor of stability in international relations. Ethnonational, or, according to the official terminology, the national policy of the Russian Federation (RF) at the end of 2012 got the strategy, the validity of which is marked up to 2025[2]. In this regard, at the level of the RF subjects, the intensive regulatory work has begun in order to develop various strategic plans, concepts and documents which realize or provide the implementation of goals and objectives denoted in the strategy. This applies also to the regions of the Russian Arctic, whose ethnic and cultural landscape has been changing rapidly within the last 20 years [1, Zaykov K.S., Tamitsky A.M.]. In this connection the question of the quality of regulatory and infrastructural support of ethnic policy in the Arctic and in the North of Russia has theoretical and practical interest. In accordance with Presidential Decree of 2 May 2014, № 296 the territory of the municipality Vorkuta in the Komi Republic refers to the Arctic Zone of RF

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[2] Ukaz Prezidenta RF ot 19 dekabria 2012 g. N 1666 «O Strategii gosudarstvennoi natsional'noi politiki Rossiiskoi Federatsii na period do 2025 goda». URL: http://base.garant.ru/70284810/ (Accessed: 13 October 2016)– Editor's note.

(AZRF). Population of Vorkuta is 81,442 people. More than 100 nationalities live here, among them are the Russians — 66%, the Ukrainians — 6.8%, the Tatars — 2.5%, the Komi — 1.5%, the Belarusians — 1.3%, and others[3]. Despite the special legal status of Vorkuta urban district, there is no question of specific "Arctic" ethnonational policy different from the policy of the national scale. Therefore, we initially focus on the ethnonational policy of the Komi Republic of in general.

Ethnonational policy of the Komi Republic

For the last few years the construction of the ethnonational KR has been replenished by a few policy documents. In December 2013 the Government of KR adopted a regional program "The Komi Republic is the territory of interethnic peace and accord (2014-2020)". (Hereinafter — "the KR Program 2020")[4]. In April 2015 the Government of the KR accepted the Decree № 133-p in which the "Strategy of national policy in the Komi Republic for the period up to 2025" was approved (hereinafter — "Strategy of KR 2025")[5].

The "Strategy of KR 2025" as a concept paper has two main functions: instrumental and ideological, forming definite quality of ethnonational relations, "the strengthening of the state unity and integrity of RF, the formation of the all-Russian civic identity of multinational population of the Komi Republic, the development of national languages and cultures of its peoples."[6]. The trend of this functional content is inherent to the majority of similar documents, in which the principle of "tie-in" or "alignment" is inserted, on the one hand, the general constitutional principles (respect for the rights and freedoms of citizens, the legal nature of state, state sovereignty), on the other — the need to solve particular political and economic problems, including at the regional level.

Instrumental function is expressed in solving of such tasks as improving of state management in the area of the state national policy and strategic comunications for its implementation, as well as improving of the interaction between government agencies and local government bodies and civil society institutions.

It is revealing that the "Strategy of KR 2025", according to official statements, was taken in the KR in the process of serious and thoughtful work of the scientific and expert community and

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[3] Realizatsiia gosudarstvennoi natsional'noi politiki v Respublike Komi: praktiki munitsipal'nykh obrazovanii. Informatsionnyi biulleten', Noiabr' 2015. URL: http://kultura.mouhta.ru/addinfo/nka/%D0%B8%D0%B1%20%D1%80%D0%B5%D0%B0%D0%BB%D0%B8%D0%B7%D0%B0%D1%86%D0%B8%D1%8F.pdf (Accessed: 12 October 2016).

[4] URL: http://www.consultant.ru/regbase/cgi/online.cgi?req=doc&base=RLAW096&n=122194&rnd=228224103737438&from=87939-0#0 (Accessed: 13 October 2016). – Editor's note.

[5] Utverzhdena Strategiia natsional'noi politiki v Respublike Komi na period do 2025 goda // Novosti. Ofitsial'nyi portal Respublika Komi. URL: http://rkomi.ru/news/29131/ (Accessed: 30 July 2016).

[6] Strategiia natsional'noi politiki v Respublike Komi na period do 2025 goda. URL: http://law.rkomi.ru/files/44/17501.pdf (Accessed: 13 October 2016). — Editor's note.

wide public discussion. This means either the authorities' attention to the opinion of the immediate objects of national policies (national minorities, indigenous peoples, the Komi people), or the competent use of political technologies of manipulation by the public opinion.

Despite the simplicity of this dichotomy, the first case also has its pitfalls. In the scientific literature there is an opinion that excessive administrative influence of ethnic entrepreneurs makes the ethnic organizations as the organic part of the political design of the Russian regions, and ethnopolicy itself instead of unambiguous focusing on the interests of society and the state (and, consequently, on strengthening of all-Russian identity) is more concentrating on meeting interests of individual ethnic groups and their leaders (ie. e., basically on increasing reproduction of cultural distinctiveness and the weakening of the integration trends in Russian society) [2, Shabayev Y.P., Sadokhin A.P.] In other words, both the tactics of creating visibility of social dialogue with the government, and lobbying of the ethnic interests by means of administrative resources is a serious risk of making ethnic effective policy in the Komi Republic, considering features of its ethnonational landscape and, what is very importantly, the legal status of the Komi people.

Formative function of the "Strategy of KR 2025" is carried out by achieving the following objectives:

- ✓ to ensure the equality of citizens, exercising of their constitutional rights, ensuring of international peace and concord, harmonization of interethnic and interfaith relations;
- ✓ preservation and development of ethnic and cultural diversity of the peoples living in the Komi Republic;
- ✓ the development of the system of ethnocultural education, civil and patriotic education of younger generation;
- ✓ to ensure optimal conditions for the preservation and development of the state languages of the Komi Republic.

The improving of the state management in the sphere of the national policy is a task which is inherently permanent. The most tangible wordings in practical terms, are related to the need of additional vocational training of civil servants, methodical support of activity of experts in the field of national policy and, of course, the monitoring of interethnic and interfaith relations. The tradition of annual monitoring for "measurement" of national tension in the region has been formed on the KR. For the first time such "measurement" was carried out in 2008 [3, Fauzer V.V.]. The basis of the national coloring of the Komi Republic is enshrined in its Constitution. Article 3

states that "the formation of the Komi Republic and its name is associated with the original settlement of the Komi people on its territory "[7].

Such norm-declaration is a legal fixation of collective right to ethnic identity, at the same time being the continuation of the constitutional principles of the Russian Federation. It is worth noting that the positive abstraction of the Komi people from other nations in law testifies about its crucial role in the formation of the historical territory of the Komi Republic, and groundless claims of ethnic dominance, which is confirmed by the recognition of the Komi language, along with Russian, as the official one. These tasks do not go beyond the state national strategy of RF. There are quite a few notable drawbacks in the mechanism of their achievement. In general, regional programs, activities of the state and municipal programs are used as tools for implementation of the national strategy in KR. There is also an "Action Plan of the implementation in 2016-2018 on the territory of the Komi Republic of the Strategy of the state national policy of RF for the period till 2025" approved by the decree of the Government of KR № 117-p of 29 March 2016[8]. It is obvious from the name and the content that it is the "road map" of the state national policy of KR, but this plan is not formally associated with the "Strategy of KR 2025", as it does not realize it, but the strategy of the state national policy of RF. (SNP of RF)[9].

The legal nature of the “Strategy of KR 2025” also remains unclear. According to the criteria defined by the federal law of June 28, 2014 № 172-FZ "On the strategic planning in RF", it is not related to the documents of strategic planning, and in the strategy of SNP of RF, the regional and municipal targeted programs are proposed as the tools of its realization.

Speaking about the implementation mechanism, which can be seen in the mentioned plan of events, for example, citizens 'equality, the realization of their constitutional rights in the area of the state national policy is provided only by one type of event, namely the monitoring of citizens' complaints about violations of the principle of equality regardless of race, nationality, language in employment, during the substitution of positions of state civil and municipal service. That is according to the logic of the authors of the plan, to ensure citizens' rights is a process of passive surveillance, which is totally unacceptable in a legal state. Provisions for the establishment of

[7] Konstitutsiia Respubliki Komi. URL: http://docs.cntd.ru/document/951600634 (Accessed: 13 October 2016). — Editor’s note.

[8] Plan meropriiatii po realizatsii v 2016-2018 godakh na territorii Respubliki Komi Strategii gosudarstvennoi natsional'noi politiki RF na period do 2025 goda. URL: http://docs.cntd.ru/document/438845934 (Accessed: 13 October 2016). — Editor’s note.

[9] V punkte pervom plana meropriiatii opredeleno: «Realizatsiia regional'noi programmy Respubliki Komi po ukrepleniiu edinstva rossiiskoi natsii i etnokul'turnomu razvitiiu narodov Rossii «Respublika Komi – territoriia mezhnatsional'nogo mira i soglasiia (2014-2020 gody) ». URL: http://docs.cntd.ru/document/4388459 34 (Accessed: 13 October 2016). — Editor’s note.

conditions within the legislation of RF and RK, could become possible addition to the mechanism, to ensure equality in this sphere, or to develop and recommend preventive measures in this respect[10].

Some aspects of the federal strategy have not been mentioned in the “Strategy of KR 2025”, namely the tasks have not included the indigenous peoples (referred to only in principles), and the migration aspect of the ethnonational policy. Migration is a risk of inter-ethnic relations. According to the Federal Migration Service of Russia in the Komi Republic, 5416 foreign citizens and stateless persons were registered in migration service of Vorkuta in 2014, in 2012 — 4,457 persons, in 2013 — 4,504. Most of them are citizens of Ukraine: in 2012 — 1468, in 2013 — 1,578, in 2014 — 2,926; citizens of Uzbekistan: In 2012 — 1,096, in 2013 — 669, in 2014 — 338; citizens of Azerbaijan: in 2012 — 647, in 2013 — 656, in 2014 — 554; citizens of Kyrgyzstan: in 2012 — 330, in 2013 — 570, in 2014 — 746 persons[11].

The plan includes a number of measures aimed at the social and cultural adaptation of migrants. Among them are the legal education of foreign nationals, methodic support and development of cooperation with the national-cultural autonomies and communities. The key aspect is the activity to legalize the stay of foreign citizens in Russia. We are talking here about the effective and efficient organization of activity on preparing and carrying of complex exams.

We scratch our heads about the issue of non-inclusion of the task of sustainable development and support to indigenous peoples living in the KR, into the strategy. Thus, according to the Constitution of the KR, the joint jurisdiction of the Russian Federation and the KR includes the protection of original habitat and traditional way of life of small ethnic communities, among them are Komi, Nenets, Khanty, Veps living at the territory of the RK. In 2011, the law "On reindeer herding in the Komi Republic" was enacted establishing social and economic measures of support for herders. In addition, one of the tasks of the Ministry of National Policy of the KR is to promote the preservation of original habitat and traditional way of life, social and cultural development of the indigenous peoples of the Russian Federation, residing at the territory of the Komi Republic.

Thus, it can be stated that the "Strategy 2025" does not fully reflect the specifics of the ethnonational issues in the KR and is a kind of a palliative in its normative support. It is possible to agree with the opinion that there is a clear need to make significant changes in the conceptual

[10] The action plan includes 60 items in XII sections to improve state management, to ensure the equality of citizens, exercising their constitutional rights, to promote the preservation and development of ethnic and cultural diversity, and others. — Editor’s note.

[11] Report of FMS of Russia in the Komi Republic, dated 18 of September 2015. — Editor’s note.

approaches, and in the mechanisms of implementation of the state national policy realized in the Komi Republic, to bring them in line with the objectives set forth in the " Strategy of the state national policy of the Russian Federation for the period until 2025 "[4, Rozhkin E.N., Shabayev U.P., p. 40].

"Program of the KR 2020", as a full-fledged strategic planning document postulates such tasks as: provision of interethnic peace and consent, harmonization of international (interethnic) and interfaith relations; ensuring of ethnocultural and linguistic development of indigenous ethnic groups and other peoples living in the Komi Republic.

Various aspects of national policy are reflected also in 6 state programs affecting all spheres of life's activity: "the culture of the Komi Republic ", "development of education", "development of the state and municipal management system", "protection of the population and territories of the Komi Republic from emergencies, fire safety and safety on water bodies "," economic development", "development of physical culture and sports". The complex of the presented programs forms the funding structure (financial support) of ethnic policy in KR. The list of acts of ethnic and national construction also includes the "activity plan for the implementation of strategy of active measures against extremism in the Russian Federation up to 2025 in the Komi Republic for 2015-2020", approved by decree of the Government of the KR dated 12 August 2015, and the complex of measures for the development of traditional culture of the peoples of Russia in the KR for 2015-2017, approved by decree of the Government of the KR dated December 29, 2014.

Realization of ethnic policy areas is arranged by the legislative and executive authorities of the KR in cooperation with government agencies, local governments, civil society institutions. Instrumental function embedded in the "Strategy 2025" is aimed on the improvement of this mechanism. Infrastructure of the ethnic policy in the KR includes, first of all, the Ministry of National Policy of the KR and its subordinate institutions ("Heritage Center "named after Pitirim Sorokin, "House of Friendship of Peoples of the KR") and Tourism Agency of the KR, which carries out the functions and powers of the founder of the state autonomous institution of the KR"Finno-Ugric ethnic and cultural park." The structure of the Ministry includes analysis and forecasting department of ethnic relations, the official languages department and the department for work with ethnocultural and religious associations. The main tasks of the Ministry are:

- ✓ to secure, within their powers, state guarantees of equal rights, freedoms and legitimate interests of a person and citizen, regardless of race, nationality, language, religion and other circumstances;

- ✓ to provide conditions for preservation and development of national identity, language and culture of the Komi people, as well as the languages and cultures of other peoples living in the Republic of Komi;
- ✓ to provide conditions for maintaining of the ethnic Komi groups residing outside the KR, and to support the compatriots living abroad;
- ✓ to provide conditions for the development of ethnocultural, scientific and business links with the regions and countries of the Finno-Ugric world and to establish the holistic Finno-Ugric cooperation system in the KR;
- ✓ to promote the preservation of original habitat and traditional way of life, social and cultural development of the indigenous peoples of the Russian Federation, residing in the territory of the KR.

The ministry has a public council. Its main function is the public scrutiny and the involvement of the non-profit / non-governmental sector in the implementation of the national policy. Regional ethnic and cultural infrastructure consists of twenty-three centers of the national cultures in all municipalities of the republic.

The public ethnic policy is presented by actors of different forms of organization. These are mainly national cultural autonomies and national cultural public associations. According to official data, there are 51 public associations at the whole territory of the KR. Analysis of the list of the registered non-profit organizations at the informational portal of the Ministry of Justice of RF shows that 32 associations are registered, the other 29 do not have registration. Speaking about the role of social actors, it should be said that according to official reports, representatives of ethnic public organizations are included in the public councils of KR executive bodies involved in the implementation of the state national policy. The Public Chamber of the KR has the Commission on legal affairs, ethics, interethnic and interfaith relations. Social activists are actively involved in the development of the national legal acts, reflecting the scope of international relations.

Thus, ethnonational policy of the Komi Republic has a significant list of normative and strategic documents, reflecting in general the specifics of the issue in the region, and in conjunction with an extensive infrastructure allow for some researchers to conclude about the formation of a regional model of the ethnic policy [4, Rozhkin E.N., Shabayev J.P.]. But at the same time, there are such problems as lack of coordination of some documents with each other, and in some parts there is the discrepancy of ethnopolitics to the federal standards. In our view, the model can not be described as something absolutely. On the one hand, there is a tendency to the formation of civil identity, though declaratively, on the other hand, mechanisms and practices of ethnic policy testify about the maintaining of the alarmist approach. When assessing the status of ethnic and religious relations at the end of 2015, for example, it was noted that in the Komi

Republic, in spite of the quiet situation, absence of conflicts on ethnic grounds, some negative developments are identified, and there is a latent tension[12].

According to the latest official reports in the area of national policy, both in 2014 and in 2015, in the Komi Republic a stable situation in the sphere of international relations has been preserved, as well as low level of interethnic tension and full absence of conflicts on ethnic or religious grounds. At the same time, in the materials of the monitoring, systematically lead by the Institute of language, literature and history of Komi, Science Center of the Ural Branch of the Russian Academy of Sciences, it was noted that the latent interethnic conflict still exists in the KR.

The data of the various sociological studies show that ethnic prejudice and intolerant sentiments that threaten the positive interethnic cooperation, are natural for large proportion of the respondents [4, Rozhkin E.N., Shabayev U.P.]. Such a discrepancy in the estimates between different subjects of ethnopolitical processes (power structures and scientific community) only confirms the belief that the bureaucratic tradition makes not only to "visualize" the national policy, but also to idealize the nature of interethnic relations in the national republics, which does not help to solve the most complex problems of the real ethnic policy [2, Shabayev Y.P., Sadokhin A.P.].

Features of ethnic policy in Vorkuta

Ethnopolitics in Vorkuta is generally carried out in the framework of a regional trend. Standard maintenance includes various municipal programs and plans. Among them are the program "Ensuring the security of the the population at the territory of the municipality Vorkuta 2015", "The development of the social sphere 2015"; "Development of Culture" in 2013 and "The Action plan for implementation in 2014-2016 of the strategy of the state national policy of the RF for the period till 2025 on the territory of Vorkuta. The special features of ethnonational landscape include: low percentage of the Komi people (1.5%); area inhabited by indigenous peoples; a small proportion of foreign citizens (3.4%); a high level of tolerance of people regardless of nationality and religion.

Within the framework of the Regional program "Social and economic development of the Arctic zone of the Komi Republic for the period till 2020 the need for compliance with the interests of the population of the Arctic zone of the KR is postulated. The tasks within the ethnonational policy are aimed at the development of traditional economies, ensuring the strengthening of employment and self-employment of the indigenous peoples and other ethnic communities living

[12] V Komi podveli itogi realizacii Strategii gosudarstvennoj nacional'noj politiki v 2015 g. URL: http://finugor.ru/news/v-komi-podveli-itogi-realizacii-strategii-gosudarstvennoy-nacionalnoy-politiki-v-2015-godu (Accessed: 12 November 2016). — Editor's note.

in the Arctic zone of the Komi Republic, the protection of their original environment and traditional way of life.

According to the official information, for these purposes the support in maintenance and development of trading posts is arranged, the access to educational services is improved, the social infrastructure in areas of compact residence of indigenous peoples is upgraded[13].

In Vorkuta there is sanatorium boarding school № 1, which is the only institution for children in the republic, where the conditions for adaptation of indigenous peoples' children (Nenets) to modern life are created, preserving and developing their traditional way of life. The projects aimed at preserving the traditional forms of farming, and crafts are realized. Social policy division is engaged in the national policy issues of the municipality Vorkuta. There is no particular department for issues connected with small indigenous peoples of the North (SIPN). The municipal budget institution of culture "The city center of national cultures, and leisure activities" deals with the implementation of national policy in the sphere of preservation, development and study of languages of the peoples living in the KR, the traditional and modern culture of folk art of KR peoples and other countries. The operational headquarters for informational analysis and rapid response to prevent the possibility of interethnic conflict in the territory of Vorkuta was formed in August 2013. Unfortunately, traces of its work are not found at the moment.

The analysis of the monitoring data in the sphere of interethnic relations in the Komi Republic and in particular in Vorkuta allows to talk about peaceful and stable situation there, which generally refers to the adequacy of regulatory and infrastructural support in this field. At the same time, we should mention the difficult economic (employment) and demographic situation among the existing risks (negative migration). The uncommercial sector is represented by several cultural national associations (branch of the interregional civil society movement "Komi Voityr", Jewish community "Shalom", Tatar-Bashkir company "Chulpan", Cossack brotherhood "Spas", Vorkuta public organization "Ukraine", the German community "Renaissance", the community "Dagestan", the community "Kergezstan").

In conclusion it should be noted that the Komi Republic experience in regulatory and infrastructural support of the ethnic policy is one of the foremost both in the North-West and in the constituent territories included in the Russian Arctic. But at the same time there is a need to improve the conceptual foundations of just the Arctic vector of the ethnic policy.

[13] Informacionnyj bjulleten' «Realizacija gosudarstvennoj nacional'noj politiki v Respublike Komi: praktiki municipal'nyh obrazovanij». Nojabr', 2015 god. URL: http://minnats.rkomi.ru/page/13828/ (Accessed: 30 July 2016)

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Creation of development zones in the Arctic: methodology and practice

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Abstract. The article describes the basic principles and methodological bases of formation and development of the supporting areas of the Russian Arctic. The work emphasizes that the basis of the methodological approach in the formation of the supporting areas is a vector of development of the territory as an integral project on the principle of coordination of all "industrial" activities in the planning, goal-setting, financing and implementation, which will allow to reduce all kinds of costs and expenses, as well as all the projects included in the supporting areas should be aimed at the development of the macro-region as a whole, not just to solve individual tasks of the industry. The article underlines that the formation of the supporting areas is aimed at achieving a single global goal — to encourage efficiency and diversification of the economy of the Arctic zone, oriented to the preservation and development of the Northern Sea Route.

Keywords: *Arctic, supporting areas, strategic planning, the NSR, regional economics, spatial development, national security, the government program, the development of the Northern Sea Route*

The complex of basic strategic documents of the Arctic zone consists of "Fundamentals of the state policy in the Arctic" (2008), "The Strategy of the development of the Arctic zone of the Russian Federation and national security for the period up to 2020" (2013), and the state program of RF "Social and economic development of the Arctic zone of the Russian Federation for the period up to 2020 "(2014). However, the entire list of basic instruments for achieving the strategic

objectives in the Arctic is much wider. They are reflected in the strategies and programs of the federal and regional level, in the development strategies of branches of economy and social sphere and federal districts. The complex of questions in the frame of the strategic planning includes the issues of budgeting and monitoring, interaction of medium and long-term planning, the implementation of the principles of balance, consistency [1, Smirnova O.O.].

In this regard, it makes sense to analyze not only the strategic documents of ministries, federal districts of the RF for the unity of the strategic objectives of development of the Russian Arctic, and the analysis of all the funds allocated through the federal and regional programs for the development of areas of the Arctic zone, the registry of capital construction projects funded from the budgets of different levels, social programs, and others. [1, Smirnova O.O.]. This allows consolidating the efforts on specific priority areas, creating a multiplier effect of development without any additional federal budget spending, to focus on certain points of growth in the Russian Arctic by implementing the project-based approach.

In September 2016 the Government of RF considered the updated draft of the Action plan for the implementation of the Strategy, which defines the responsible executors, deadlines and arrangements for the implementation of key provisions of the Strategy. In result, the priorities set by the state got its concrete expression in this document. The federal law "On the development of the Russian Arctic" is finalizing. Thus, the Arctic is highlighted as a priority of the state policy, and the activities of state bodies on the Arctic is practically integrated into the framework defined by the strategic and normative documents.

The new edition of the state program "Social and economic development of the Russian Arctic" for the period till 2030

A key tool in the implementation of the integrated development of the Arctic zone is the new edition of the state program "Social and economic development of the Russian Arctic for the period till 2020 and long term". This project of this state program is different from the previous one, which had only the analytical character. The new version of SP provides the allocation of funding, the target indicators will be determined which will allow monitoring its effectiveness. The issues related to the clarification of the list of priority investment projects will be strongly actualized, meaning projects having a significant multiplier effect and able to become "drivers" of the complex social and economic development of the macro-region, linking them with the national, sectoral and corporate strategies, programs and plans.

In new edition of the state program of the Russian Federation it is intended to include among 5 programs the following sub-program "Balanced social and economic development and

national security. Formation of the supporting zones of the Arctic development and maintenance of their functioning" [2, Smirnova O.O.]. As part of the financing of the state program it is necessary to mention the specifics of the Arctic zone. The activity of large companies established in the territory of supporting zones determines the financing structure in the framework of the state program, where extra-budgetary funds constitute the vast majority of funds. Fully legitimate participants in creating the supporting development zones under the SP are regions and businesses operating in the Arctic. We are talking about the projects, which should be implemented with the efforts of all "interested parties": the state (represented by both federal and regional governments), business and the population. The basic difference between the forming state program on social and economic development of the Russian Arctic has become a new, integrated approach to the development of specific areas in the Arctic. Based on the existing administrative territorial division, functioning of transport nodes, including the Northern Sea Route and the resource base, the Russian Ministry of the Economic Development at the meeting of the presidium of the State Commission in March 2016 proposed a new mechanism for regional development — the "supporting zones".

Eight supporting zones of the Russian Arctic

Currently we identify eight "supporting zones" in 8 territorial entities of the AZRF. These zones are indicated on the map (Fig. 1).

Figure 1. The map of the supporting zones of the AZRF.

1. Kola supporting zone. The advantages of this zone are favorable geographical location, ice-free year-round ports, the presence of mineral resources, as well as a relatively well-developed transport, energy, industrial, scientific and educational infrastructure.

2. *Arkhangelsk supporting zone* is characterized by favorable geographical position, associated with a well-developed railway infrastructure and year-round port (November - March are only for ice-class vessels or with icebreaker assistance).

3. Nenets supporting zone includes a number of promising areas of the economy, primarily related to the development of the Northern Sea Route and mining.

4. Vorkuta supporting zone includes municipality Vorkuta of the Komi Republic.

5. *Yamal-Nenets supporting zone* is one of the most promising and capable to ensure ports of the Northern Sea Route with stable cargo traffic.

6. Taimyr-Turukhansk supporting zone at the territory of Krasnoyarsk region has extracting and industrial orientation. It comprises the largest metropolitan area in the Arctic - Norilsk industrial district (with the center in Norilsk).

7. North Yakut supporting zone in the Republic of Sakha (Yakutia), the center of which is one of the key points of the eastern part of the Northern Sea Route - the port Tiksi.

8. Chukotka supporting zone, where a number of systemically important objects of transport infrastructure of Chukotka autonomous area are located, which can become the main points of growth in the eastern sector of the North Sea Route and the Arctic zone of the Russian Federation[1].

Formation of "supporting zones of the Arctic provides the approach to the development of the territory as an integral project with principle of insuring of coordination of all industrial activities at the stages of planning, goal-setting, financing and implementation, which will allow to reduce all kinds of costs and expenses. It will be federal projects, as first of all they should be aimed at the development of the Arctic macro-region as a whole, but not just at the decision of the individual sectoral objectives. The supporting zones will influence on the development of "neighbouring territories", whose economic activities directly depends on the state of the Russian Arctic and its infrastructure. Orientation of supporting zones to sea ports of the Northern Sea Route will enhance the activity of shipbuilding and ship-repairing enterprises of the Arctic zone and other regions of Russia. Complex projects provide linkages between activities to create the Arctic transport system, the development of energy infrastructure, industrial facilities, synchronized interlinked use of existing tools of territorial development and mechanisms of support of the investment projects. Each project is a contribution to issues of the development of

[1] A.V. Ulyukayev, speaking at a meeting with members of the Government in the Kremlin on 07.09.2016, noted: "To match the projects, in order to use the synergies that can occur here, the concept of the supporting zones of the Arctic region was accepted. They are Kola, Chukotka, North Yakutian, Yamal, Taimyr, Nenets, where the development of projects at the basis of common infrastructure can occur, and this significantly saves the initial financial costs. "

the supporting zone and the Northern Sea Route "[2, Smirnova O.O.]. Such an integrated approach in practice is very difficult not so much financially as in terms of the coordination of all participants in order not to miss any single detail. That is why, the main task of the formation of the state program "Social and economic development of the Russian Arctic for the period up to 2020 and long term" is a synchronization of events in periods for the production of complex and inter-regional effects during the implementation of the program.

The Arctic projects in the supporting zones

Nowadays so-called "anchor projects" are defined, as well as the sources and amounts of funding. On the basis of the proposals of the authorities and management at the federal and regional levels, as well as Russian Railways, Norilsk Nickel, ALROSA, Gazprom, LUKOIL, NOVATEK, the list of projects implemented or planned for implementation on the territory of the Russian Arctic has been formed, consisting of 145 projects in the following areas: mining and processing of mineral resources — 38.9%; transport — 18%; mining and processing of diamonds — more than 15%; exploration — 7%; industry — 5%; energy — 5%; fishing industry and agriculture — more than 4%; ecology — 2%; telecommunications — 1.5%; tourism — less than 1%; social services — less than 1%; others — 2%[2].

17 priority projects among 145 have been allocated: the creation of the Northern latitudinal way, complex development of Murmansk transport hub and the construction of seaport in Sabetta, "Yamal LNG", the development of oil field Prirazlomnoe, etc. At the same time, the projects for the construction of the railway Belkomur and the deepwater seaport area of the Arkhangelsk sea port, construction of the deepwater port of Indiga and the railway to it, though have been included in the Transport strategy, strategy of social andeconomic development of the Northwest Federal district, but have not had necessary studies and accurate calculations on them, so the final decisions about their implementation have not been accepted[3].

The Arctic project management is assumed by the statement of D.O Rogozin 13.10.2016: "Creating of the project offices in frames of each Arctic subject, linked together by a single control system, as well as the economic, transport and social infrastructure"[4].

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[2] O perechne prioritetnykh proektov, realizuemykh na territorii Arkticheskoi zony Rossiiskoi Federatsii. 19.05.2016. 19.05.2016. URL: http://arctic.gov.ru/FilePreview/9053275b-7821-e611-80cc-e672fe4e8e4e?nodeId=7a70427c-ea71-e511-80bf-e14c6e493e30 (Accessed: 21 October 2016). — Editor's note.

[3] Ibid.

[4] Rogozin: V Arktike budut sozdany «proektnye ofisy». URL: http://ru.arctic.ru/infrastructure/20161013/ 464888.html (Accessed: 21 October 2016).

The Arctic National Educational Consortium

External and internal challenges, creating of supporting zones, comprehensive evelopment of the Russian Arctic set new tasks for science, require modern, innovative technologies for effective management in the extreme conditions. The role of the human resourcing in the context of the project approach to the social and economic development of the Russian Arctic becomes decisive in the life of a project, the Arctic projects actually form the order for the staff, it is expected to create conditions for the development of primarily those areas that have the potential of human resources [3, Tsybulsky A.V., Fishkin D.O., p.43].

Consolidating force for scientific and professional development of the Arctic is the "Arctic National Educational Consortium", created on the basis of NArFU named after M.V. Lomonosov. [4, Kudryashova E.V., p. 25]. The activity of the Consortium aims to create conditions for inter-agency coordination of educational, scientific and industrial organizations, cooperation with the authorities, business community in the Arctic, combining all available resources of all interested parties [5, Kudryashova E.V., Tyukina S.L., p. 179]. This project has all grounds and opportunities to become one of the priority mega-projects within the framework of the new edition of the State Program on social and economic development of the Russian Arctic at all three stages of its development: 2017-2020, 2021-2025, 2026-2030.

The Northern Sea Route — the key national megaproject

One of the large-scale national projects in the Arctic, the key element connecting all eight supporting zones is, of course, the Northern Sea Route and major seaports on its way.

V.V. Putin said about its significance at the International Arctic Forum in Arkhangelsk in 2011: "The Northern Sea Route ... we are going to turn into one of the key trade routes, with global importance and global scale. ... In general, I think that it is transport — the creation of new sea and air corridors is capable of becoming one of the breakthrough projects uniting the Arctic states"[5].

In June 2015 the Government of the RF approved comprehensive project of the development of the NSR, providing a wide range of activities: from the development of the port infrastructure and navigational support to emergency measures and the construction of the modern marine equipment[6].

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[5] Predsedatel' Pravitel'stva RF V.V. Putin prinial uchastie vo vtorom mezhdunarodnom arkticheskom forume «Arktika – territoriia dialoga». URL: http://archive.government.ru/docs/16536/print/ (Accessed: 21 October 2016).

[6] Spravka o Kompleksnom proekte razvitiia Severnogo morskogo puti. 8 iiunia 2015. URL: http://government.ru/orders/selection/405/18405/ (Accessed: 21 October 2016).

Ministry for Development of Russian Far East with the participation of the analytical center of the Russian Government designed in 2016 the financial and economic model of the Northern Sea Route (NSR FEM) as a competitive transport corridor of global importance, including for the container transportations. This model has been discussed in the framework of the 2nd Eastern Economic Forum in Vladivostok. The investment costs for the implementation of only the main part of the conversion of the project into the transportation corridor of global significance are 114.5 billion rubles [7]. NSR FEM has been transferred to the Japan Bank for International Cooperation (JBIC), it will allow the Ministry for Development of Russian Far East to go to concrete investment decisions.

Modernization and reconstruction of the entire system of the NSR as the main latitudinal transport route in the Arctic, a link between the Russian Far East and the western parts of the country, certainly also aims at the implementation of the effective inter-continental transport links between Europe, Asia and America. One of the challenges of the innovative development of the NSR is the development of the Arctic integrated geographic informational system, where the modernization of navigation, including the military and boundary infrastructure of dual use is becoming the main component [6, Lipina S.A., p. 72].

Conclusion

An integrated approach, balancing of sectoral and territorial approaches are designed to provide a synergistic effect of the development of the Northern territories (supporting zones of the Russian Arctic), and revitalization of the NSR, especially in its eastern sector. Solving the set tasks, already today the supporting zones and the development of the NSR should be considered as links of one chain, because the growth of the volume of cargoes and transit growth through the NSR involves the use of port capacities in the Arctic Ocean basin.

The partnership of business and government and municipal management is extremely important, coordination of plans of large companies, corporations and other strategic documents of the federal and regional levels of social and economic development of the Russian Arctic due to the fact that investments are made on the implementation of the priority projects in the supporting areas.

During the development of promising hydrocarbon projects in the supporting zones, especially those related to the production of hydrocarbons on the continental shelf in the Arctic, today it is necessary to take into account that the progressive development of world energy is

[7] Sevmorput' kak transportnyi koridor global'nogo znacheniia. URL: http://oko-planet.su/finances/financescrisis/335006-sevmorput-kak-transportnyy-koridor-globalnogo-znacheniya.html (Accessed: 21 October 2016).

accompanied by a restructuring of the energy balance, the change of the role and importance of certain energy carriers. Cost of goods and services produced in the high latitudes, is much higher, which creates certain difficulties in their competitiveness [7, Lipina S.A., Smirnova O.O.]. We can not ignore the social and economic consequences of global climate change, reducing the area of ice and changes in the conditions of navigation of the seas of the Arctic Ocean.

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Migration processes in the Russian Arctic[1]

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Abstract. On the basis of analyzing and summarizing of official statistics, the article reveals the dynamics of migration processes in the Russian Arctic in XXI century, which is important in conditions of intensification of population movements in the country and the world, and is significant in the context of defending the country's national interests in the Arctic and strengthening the human potential in the region in order to ensure its sustainable innovative economic and social development. It is noted that throughout the history of Arctic exploration, migration has been a major factor in its socio-economic and cultural development. The 20th century was marked by intensive migration of the population influx, which contributed to the transformation of sparsely populated areas into an industrially and culturally developed region. The dynamics of migration processes in the beginning of the 21st century shows the opposite trend. The migration outflow of the population, which has slowed down in the first decade of the 21st century (compared to the 1990s), in recent years has once again started to gain pace. The regions of the Arctic have a rapidly declining population, there is a trend of outflow of young and highly qualified personnel. The existing structure of the population and labor migrants does not fully meet the labor market demand for suitably qualified personnel. The region is experiencing an acute need for government support and well-thought-out policy to consolidate and attract population.

Keywords: *The Russian Arctic, 21st century, population, migration, migration processes*

Since the time of the appearance of mankind, the earth world space has been mastered by means of migrations. However, only at the turn of II-III millennia, territorial movements of individuals or groups of people got global nature and turned into a global trend. According to the UN global migration statistics, in 2013 there were 232 million of migrants in the world living outside their countries (3.2% of the world population), while in 1990 their number did not exceed 154 million of people[2].

Well-known expert in the field of demography and migration L.L. Rybakovsky correctly points out that "the intensity, direction and composition of migration flows, their social, economic and demographic consequences are significantly different not only in different historical periods, but in countries with different levels of economic development, different natural and geographical conditions and structures of the population" [1]. However, at the beginning of the XXI century the

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[2] Press reliz OON po dannym global'noi statistiki migratsii. 2013. URL: http://www.un.org/ru/ga/68/meetings/migration/pdf/internationalmigrantsworldwide_totals2013.pdf (Accessed: 07 July 2016)

scope and comprehensiveness of migration processes became obvious, they have a significant impact not only on specific countries and regions, but on the entire world civilization as a whole. On the one hand, migration accelerates the processes of globalization, i.e, contributes to the establishment of integrated and interdependent world, intercultural interaction and mutual enrichment of peoples and the formation of a single global economy, more proportional distribution of labor resources, on the other — cultural, mental and religious differences of people in the absence of proper tolerance are grateful ground for inter-civilizational clashes, ethnocultural and ethnopolitical conflicts . Transparency of state borders facilitates the ability to penetrate international terrorism and crime, creating a security threat to all countries and continents. Knowledge and understanding of the migration situation in the world and in particular country or region is the basis for the effective regulation of these processes.

In context of the implementation of the "Strategy of the Arctic zone of the Russian Federation and the national security for the period up to 2020"[3], the following problem is getting the special significance: the issue of strengthening of competitive advantages of Russia in the Arctic and protecting of the border areas against the penetration of international terrorism, which is especially active in recent years in the context of the events in Syria and the mass migration of the population from the fighting zones. In turn, the need for implementation of the state program of the RF "Social and economic development of the Russian Arctic for the period till 2020"[4], which aims to improve the social and economic development of the Russian Arctic under conditions of low fertility rates and labor shortages, actualizes the problem of human resource capacity, including at the expense of migrants.

The subject of migration and demography of population of the Far North and its regions, including the Russian Arctic now is a source of concern for researchers. Works of Kudryavtsev V.A. and Efremov I.A. are of considerable interest in this respect. The dissertation of Kudryavtsev V.A. presents the analysis of demographic and migration processes in the European North of Russia in 2000-2004 [2]. Age features of migration processes in the Far North of Russia are considered in the works of Efremov A.G. [3, pp. 54-62]. However, in the modern historiography the migration situation in the Arctic regions of Russia is only indirectly addressed in the context of the analysis of

[3] «Strategiia razvitiia Arkticheskoi zony Rossiiskoi Federatsii i obespechenie natsional'noi bezopasnosti na period do 2020 goda», utverzhdennaia Prezidentom Rossiiskoi Federatsii 8 fevralia 2013 goda № Pr-232. URL: www.consultant.ru/law/review/1729879.html. http://government.ru/info/18360/ (Accessed: 07 July 2016)

[4] Gosudarstvennaia programma Rossiiskoi Federatsii «Sotsial'no-ekonomicheskoe razvitie Arkticheskoi zony Rossiiskoi Federatsii na period do 2020 goda», utverzhdennaia Postanovleniem Pravitel'stva RF ot 21 aprelia 2014 goda № 366. URL: http://arctic.labourmarket.ru/official-docs (Accessed: 07 July 2016)

demographic processes, factors of formation and the state of human development of the region [4, Sushko O.P.; 5, Shelygin K.V.]. There is a territorial and temporal limitations of the research.

The majority of publications is devoted to the analysis of migration processes in specific northern regions of RF and chronologically limited by 2010. [6, Konstantinov A.S.; 7, Nazarova I.G.; 8, Mazharov V.F., Grigoryev Y.A., Plotnikov N.U, Baran O.I.; 9, Vereschagin I.F.; 10 Fauzer V.V., Lytkina T.S., Fauzer G.N.]. Currently, there is no holistic vision and understanding of the extent and dynamics of migration gain / outflow of population, the main ways of movement, the scope of labor immigrants, the extent of correspondence of their level of education and qualification to the needs of the region, which actualizes the current study.

Undoubtedly, it is extremely difficult to consider the whole complex of the set problems within limited frames the article. Migration of population is a multidimensional social phenomenon. Without making any pretence to exhaustive coverage, the author tries to present the dynamics of migration processes in the Russian Arctic in the early 21st century relying on historical excursions[5].

The concepts "the Arctic zone of the Russian Federation" (AZRF), the Russian Arctic, the Arctic region are used as belonging to the same order. Among the Arctic constituent territories in this study are those which are included into the Russian Arctic land areas completely or partially: Republics of Komi and Sakha (Yakutia), Krasnoyarsk region, Arkhangelsk and Murmansk regions, Nenets, Yamalo-Nenets, Chukotka Autonomous areas. The works of the eminent scholars in the field of migration: Denisenko MB, Iontsev VA Rybakovsky L.L. and others make the theoretical basis of the research, they recognize the complexity and multidimensionality of the investigated object, the diversity of its species, and they treat migration as any intersettlement movements of people broadly speaking (within the region, inter-regional, inter-state), and in a narrow sense as the final form of the territorial displacement, ending by relocation and change of residence [1, Rybakovsky L.L.; 11, Denisenko M.B.; 12, Iontsev V.A.].

The sources of the research base is represented by legal documents, All-Russian census materials for the period of 1989-2010; annual statistical books, "the regions of Russia: social and economic indicators", "Labor and Employment in Russia" for 2000-2015; periodically issued statistical bulletins: "Economical and social indicators of the Far North regions and areas equivalent to them in 2000-2014", "The size and migration of the population of the Russian Federation in 2015", extracted from the official website of the Federal State Statistics Service of

[5] The concepts "the Arctic zone of the Russian Federation" (AZRF), the Russian Arctic, the Arctic region are used as belonging to the same order.

the RF[6]. Valuable information about the number of international immigrants, purposes of their entry and countries of outcome for 2012-2014 was received at the official request in the framework of a grant from the territorial bodies of the Federal Migration Service, engaged in the current account of foreign nationals who have entered the region.

The results of the selective survey about the use of migrant labor in Russia, carried out in 2014, the materials of a poll of leading companies-employers, operating in the Arctic zone of the Russian Federation, have revealed the scope of migrant labor, the degree of their compliance with the qualitative composition (qualifications and education) to the requirements of employers.

The author has solved the set tasks, being guided by general scientific, historical and statistical research methods. The use of the method of comparative analysis, the principles of consistency and complementarity of sources allows to provide their representativeness and credibility. On the whole, the totality of the materials involved in the scientific rotation, has allowed to solve the designated problem.

The dynamics of migration processes in the XXI century.

The Russian Arctic initially, since the 9th century — its European part, since the 16th-17th centuries — the Eastern territories, was developed mainly by migrants. It is possible to identify a number of migration trends in historical and political retrospect, which influenced the formation of the pattern of the population of the studied area.

First, until the early 1990s the immigration to the Arctic region prevailed over emigration. There was a systematic build-up of human potential due to the positive dynamics of natural growth, and through voluntary, mandatory and forced migrations. Voluntary personalized motivated migration was present at all the historical time interval of the Arctic exploration. At the same time, during the 20th century, the state policy of the incentive immigration to the region was clearly expressed. It was the peasants' resettlement program in Siberia and the Far East as part of the Stolypin agrarian reform; the Soviet state encouraged migrants by system of privileges and references to provide the population inflow to the northern circumpolar areas in order to develop natural resources there.

Second, the migration pattern of the Russian Arctic was largely determined by forced migration. As in the pre-revolutionary period, as well as during the Soviet period, the Arctic regions were the place of political exile. The resettlement of not completely loyal people as the authorities supposed, became rather considerable in 1930-1950s.

[6] Federal State Statistics Service, web site: URL: http://www.gks.ru/ (Accessed: 14 October 2016).

Mass migration to the North of dispossessed peasants during collectivization, the creation of an extensive network of prison camps of Gulag, with all the tragic social consequences, contributed to the economic development of the region. According to data, presented in the publication of V.V. Fauzer, only in the Komi Republic at the beginning of 1941 there were 11.2 thousand exiles, 37.8 thousand special settlers and 249.3 thousand prisoners, in total: 298.3 thousand people of forced labor [10, p. 156]. Forced migrations were not so ambitious, but particularly evident during the First and Second World Wars, when the population of the border areas moved from the zone of active combat operations to the Far North, as well as during the years of the Civil war and Foreign intervention.

Third, the unevenness of migration processes is obvious in temporal and territorial space. In 1930-1960s the migration was more intensively manifested in the European part of the Russian Arctic (Arkhangelsk, Murmansk region, the Republic of Komi), starting from 1970-1980s and especially in the 21st century the migration vector turned to the north-eastern territories, especially to the Yamal-Nenets Autonomous Area. Export raw economic paradigm of the state exerted significant influence on the direction and scope of migration processes in the Arctic region. During the first half of the 20th century, the resources of the European North of Russia were rapidly developed, at the expense of migrants: forest resources, coal, metals and minerals. Since 1970s of the 20th century the concern of the state to the oil and gas industry, mining of gold, diamonds, precious metals of the North East part of the country predestined to change of the vector of migration.

Throughout the 20th century there was a systematic migration gain in the Arctic region. Starting from 1990s the trend has been reversed and has not been overcome till now. Despite the fact that in 2011-2012 a positive demographic dynamics occurred in the majority of sub-federal units of the Russian Arctic, the population started to decrease rapidly. So, for the period of 1989-2002 total population reduced from 9.4 million people to 7.8 million, for 2002-2014 by another 3 million people[7].

Emigration from the region significantly prevailed over immigration. In 2000, 114,514 people arrived at the Arctic areas, 154,906 people left, in 2014, respectively 186,649 people arrived, 250,352 people left. The exception is the Nenets Autonomous Area, where since 2009 there is a slight but steady dynamics of migration growth of the population. Net migration loss of

[7] The author calculated here: Vsesoiuznaia perepis' naseleniia 1989 g. Chislennost' naseleniia SSSR, RSFSR i ee territorial'nykh edinits po polu. Demoskop №651-652, 24 avgusta — 6 sentiabria 2015 g. URL: http:// demoscope.ru/weekly/ssp/rus89_reg1.php (Accessed: 10 September 2015); Ekonomicheskie i sotsial'nye pokazateli raionov Krainego Severa i priravnennykh k nim mestnostei v 2000-2014 godakh. Otsenka chislennosti postoiannogo naseleniia. URL: http://www.gks.ru/bgd/regl/b15_22/Main.htm (Accessed: 18 July 2016).

population amounted to 293.7 thousand people for the period of 2008-2014. However, for 2000-2010 in all regions of the Russian Arctic the number of persons involved in the territorial displacement reduced, it was due to the economic crisis in the country, but since 2011 migration has started to grow again. For example, in 2010, 78,014 people (68% compared to 2000) arrived in the region, 97 893 left (63.2% of 2000 level). During 2011-2014 the number of arrivals compared to 2010 increased by 239.3%, those who left — by 255.7% [8].

The particularity of the Arctic region is the high migration activity of the population. Among the areas of the Far North, the Arctic ones[9] are the leaders in the number of persons involved in territorial movements. So, for the period of 2000-2014, 222,493 people (23% of the population) arrived at the Republic of Sakha (Yakutia), in 2014 289,593 (30% of the population) left; 12,178 people (28% of the population) arrived at the Nenets AA, 12 433 (28.6% of the population) left; 236,331 people (43.7% of the population) arrived at the Yamal-Nenets Autonomous Area, 257,655 (47.7% of the population) left[10].

The intensity of migration exchange is stipulated by several factors. Among them are intraregional migration (of rural population to cities, relocation of people to more prosperous areas of the constituent unit, nomadic migration of indigenous peoples and others.); outflow of young people in promising regions of the country; departure of persons of retirement age in favorable climatic zones, shift methods of work. According to official data, in the Arctic zone of the Russian Federation 14% of payroll employees work in shifts, in the Yamal-Nenets area their number reaches 46%, in the Nenets Autonomous Area — 25%, in the Republic of Sakha (Yakutia) — 20%[11].

Modern state policy also contributes to move from the Arctic region, as it is aimed at supporting citizens willing to leave the Far North and equivalent areas. Real political practice started in 2002 with the adoption of federal law "On housing subsidies to citizens leaving regions of the Far North and equivalent areas", it continues to be implemented now, with some changes and additions[12].

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[8] The author calculated here: Ekonomicheskie i sotsial'nye pokazateli raionov Krainego Severa i priravnennykh k nim mestnostei v 2000-2014 godakh. Obshchie itogi migratsii naseleniia. URL: http://www.gks.ru/bgd/regl/b15_22/Main.htm (Accessed: 18 July 2016).

[9] All the constituent units of the AZRF are included into the regions of the Far North.

[10] The author calculated here: Ekonomicheskie i sotsial'nye pokazateli raionov Krainego Severa i priravnennykh k nim mestnostei v 2000-2014 godakh. Obshchie itogi migratsii naseleniia. URL: http://www.gks.ru/bgd/regl/b15_22/Main.htm (Accessed: 18 July 2016).

[11] Kadrovoe obespechenie dlia razvitiia Arkticheskoi zony Rossii. URL: http://arctic.labourmarket.ru/interview/ results (Accessed: 18 July 2016).

[12] "O zhilishchnykh subsidiiakh grazhdanam, vyezzhaiushchim iz raionov Krainego Severa i priravnennykh k nim mestnostei". FZ RF №125 ot 25.10.2002. URL: https://rg.ru/2002/10/31/subs-dok.html (Accessed: 07 July 2016).

The analysis of the distribution of the number of arrivals / departures in the Arctic is extremely diverse and stipulated by the specific economic development of the territory, the level and quality of life, the features of work. In the Republic of Sakha (Yakutia) and the Krasnoyarsk region with vast, uneven developed areas, intra-regional movements of population are dominated, in the Republic of Komi and Arkhangelsk region intra immigration of rural population to cities and interregional emigration from depressed regions are more expressed. For Murmansk region, Nenets and Yamal-Nenets and Chukotka Autonomous District, where the shift method of work is developed, inter-regional migration is typical[13].

International migrations in the Arctic region in general are not large and below the Russiawide figures. Thus, the share of international immigrants from the total number of departures in 2014 was 7.1%, the proportion of arrivals from abroad in the Russian Federation in the Russian Federation — 12.5%. On average in the Arctic region of 4.3% and 9.3% respectively. The exception is the Yamalo-Nenets Autonomous District, where the proportion of international migrants is much higher national importance: 18.5% and 28.4%, respectively, due to the intense entry and exit of foreign experts to work on joint oil and gas companies

Thus, the share of international immigrants from the total number of departures in 2014 was 7.1% in RF, the proportion of arrivals from abroad in the RF — 12.5%. On average in the Arctic region 4.3% and 9.3% are respectively. The exception is the Yamal-Nenets Autonomous Area, where the proportion of international migrants is much higher of the Russianwide figures: 18.5% and 28.4%, respectively, due to the intense entry and exit of foreign experts to work on joint oil and gas companies[14].

International population movements in the country and the region during the monitoring period were undulating in nature and were caused by the general economic and political situation in the former Soviet Union, countries and regions. In 1990s, in connection with the fall of the “Iron curtain”, the collapse of the Soviet Union, the liberalization of all spheres of public life, their intensity significantly increased. There was a return of compatriots from neighboring countries, in turn, the tendency of outflow from Russia and its regions increased of those originating from foreign countries (Germans, Jews, and others) and former Soviet republics.

During the 2000s, in connection with the stabilization of the social and economic situation in the country, the scale of international migration considerably reduced, but in recent years in

[13] Found by the author: Regiony Rossii. Sotsial'no-ekonomicheskie pokazateli 2015. Raspredelenie chisla pribyvshikh i vybyvshikh po napravleniiam peredvizheniia. URL: http://www.gks.ru/bgd/regl/b15_14p/Main.htm (Accessed: 18 July 2016).

[14] Regiony Rossii. Sotsial'no-ekonomicheskie pokazateli 2015. Raspredelenie chisla pribyvshikh i vybyvshikh po napravleniiam peredvizheniia. URL: http://www.gks.ru/bgd/regl/b15_14p/Main.htm (Accessed: 18 July 2016).

connection with the events in Ukraine and increase of the crisis in the economy once again is gaining momentum. So, in 2000 in the country on the whole the proportion of immigrants from the total number of arrivals was 13.5%, in 2005 — 8.5%, in 2010 — 9.1%, in 2014 — 12.5%. The share of immigrants among the total number of departures: 2000 — 6.0%, 2011 — 1.2%, 2014 — 7.1%[15]. A similar trend is observed in the Arctic regions of Russia. The regional average share of international immigrants from the total number of arrivals in the region in 2000 was 10.8%, in 2010 — 7.5% in 2010 — 9.3%. The share of international immigrants from the total number of drop-outs, respectively, in 2000 — 7.1%, in 2010 — 1.5%, in 2014 — 4.3%[16]. According to the countries of origin, in the Arctic region, as well as as a whole in Russia, the immigration from neighboring countries dominates, although in the border regions of the Arctic there is a significant proportion of people from abroad. For example, in the Arkhangelsk region 38.4% of migrants were from foreign countries, from the total number of migrants registered in 2012, in Murmansk region — 58.6%. Main countries of origin of migrants: Azerbaijan, Armenia, Belarus, Uzbekistan, Tajikistan, Kyrgyzstan, Republic of Moldova, Ukraine. In 2014, due to the events in Ukraine the flow of migrants from Ukraine has increased in 1.5-2 times in the region[17].

The analysis of the age structure of the persons involved in the migration processes allows us to conclude that the more mobile part of the population is working-age persons. For example, 73.6% of migrants in the Russian Federation are persons of working age. The share of working-age persons among the Arctic migrants exceeds the average Russian values only in the Komi Republic (75.8%), the Sakha (Yakutia) — 81%, the Yamal-Nenets (76.7%), and Chukotka (77.8%), which is associated with the arrival of the working population in the oil and gas producing regions, working in shifts and outflow of retired people to more favorable climatic regions. In turn, this indicator in the Arkhangelsk region is 72%, which is largely due to high unemployment, which for the period of 2011-2014 increased from 5.8% to 7.3%[18].

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[15] Regiony Rossii. Sotsial'no-ekonomicheskie pokazateli. 2011 god. Raspredelenie chisla migrantov po napravleniiam peredvizheniia. (v protsentakh ot obshchego chisla pribyvshikh i vybyvshikh). URL: http://www.gks.ru/bgd/regl/B11_14p/IssWWW.exe/Stg/d01/03-13.htm (Accessed: 18 July 2016). Regiony Rossii. Sotsial'no-ekonomicheskie pokazateli 2015. Raspredelenie chisla pribyvshikh i vybyvshikh po napravleniiam peredvizheniia. URL: http://www.gks.ru/bgd/regl/b15_14p/Main.htm (Accessed: 18 July 2016).

[16] The author calculated here: Regiony Rossii. Sotsial'no-ekonomicheskie pokazateli. 2011 god. Raspredelenie chisla migrantov po napravleniiam peredvizheniia (v protsentakh ot obshchego chisla pribyvshikh i vybyvshikh). URL: http://www.gks.ru/bgd/regl/B11_14p/IssWWW.exe/Stg/d01/03-13.htm (Accessed: 18 July 2016).
Regiony Rossii. Sotsial'no-ekonomicheskie pokazateli 2015. Raspredelenie chisla pribyvshikh i vybyvshikh po napravleniiam peredvizheniia. URL: http://www.gks.ru/bgd/regl/b15_14p/Main.htm (Accessed: 18 July 2016).

[17] Official data of the territorial bodies of the Federal Migration Service of Russia for 2012-2014.

[18] Vozrastnoi sostav migrantov po sub"ektam Rossiiskoi Federatsii v 2015 godu. Biulleten' «Chislennost' i migratsiia naseleniia Rossiiskoi Federatsii v 2015 godu»: URL: http://www.gks.ru/bgd/regl/b16_107/Main.htm. (Accessed: 18 July 2016). Regiony Rossii. Osnovnye kharakteristiki sub"ektov Rossiiskoi Federatsii 2015. URL: http://www.gks.ru/bgd/regl/b15_14s/Main.htm (Accessed: 18 July 2016).

However, in contrast to the Russian Federation as a whole, where there is a migration flow of the working population, in the Arctic regions, except the Nenets Autonomous and the Krasnoyarsk areas, the outflow is obvious. Only in 2014 the net migration loss of able-bodied population was 32,816 people[19].

The peculiarity of the Arctic region is active departure from the harsh climatic zone of people of retirement age. The proportion of people older than working population among leaving is significantly higher than the national average: 10.6% in the region compared with 9.6% in the Russian Federation [20]. The outflow of young people is also noticeable in the investigated regions of the Russian Arctic. The net migration loss of people below working age in 2014 was 4035 people. However, this trend is more characteristic for the Republic of Komi and Sakha (Yakutia), the Arkhangelsk region. In other regions, there is a positive migration dynamic. For instance, in the Murmansk region in 2014 the gain of people below working age exceeded the outflow in 587 people[21].

According to the objectives, the migration in the Arctic region is represented by all its kinds: labor, business, educational, tourism. The region, where is a significant number of small indigenous peoples lives, nomadic migration is present. Labour international migration in the region varies between 20-50% of the total arrivals, depending on the constituent territory. For example, in 2014 40.3% of the foreign nationals, who arrived at the Arkhangelsk region, intended to work, 50% — in the Nenets Autonomous Area, 21.2% — in the Murmansk region, 20.3% — in Vorkuta (the Komi Republic), about 30% — in the Krasnoyarsk region% [22].

During the analyzed period, there is a trend of steady increase in number of inter-regional migrants almost in all the Arctic regions of Russia. In 2005 24.9 thousand of people arrived at the areas of the Russian Arctic to be engaged in labour activities and in 2014 - already 140.3 thousand of people. the Yamal-Nenets Autonomous Area is the the leader in the attractiveness of domestic migrant workers in absolute values, where 70.8 thousand of people or 50% of the total number of labor migrants to the Russian Arctic arrived to be employed from other regions only in 2014[23]. In general, the entry of labor migrants exceeds the departures from the Arctic region in several times. For example, in 2005, 4.9 thousand of labour migrants left the Arctic areas in other regions of the country, 71.9 thousand arrived. In 2014, respectively 22.4 thousand of people and 140.3

[19] Ibid.
[20] Ibid.
[21] Ibid.
[22] Official data of the territorial bodies of the Federal Migration Service of Russia for 2012-2014.
[23] Mezhregional'naia trudovaia migratsiia v Rossiiskoi Federatsii. // Trud i zaniatost' v Rossii. URL: http://www.gks.ru/bgd/regl/b15_36/Main.htm (Accessed: 18 July 2016)

thousand. The exception is the Arkhangelsk region, where the number of those leaving to work in other regions of the country exceeds the entry in several times, due to low social and economic attractiveness of the region, high unemployment, relatively low wages[24].

Average nominal monthly wages of employees of organizations in the Arkhangelsk region is the smallest in the Russian Arctic, in 2014 it barely exceeded 36 thousand rubles, and there is the maximum rate of unemployment: 7.3%. In turn, the proportion of migrants traveling from the Nenets, Yamal-Nenets, Chukotka autonomous district is extremely low, where the wage level is 2 times higher, the opportunities for employment are wider, the unemployment rate is minimal, 3-5%[25].

The analysis of the educational level of migrants allows us to conclude that one of the negative migration trend is typical for the Russian Arctic as a whole — the outflow of highly educated and skilled workers, "brain drain", observed in almost all areas. Only in 2014 the net migration loss of people with higher and incomplete higher education amounted to almost 13 thousand people, more than 11 thousand people with secondary vocational education, more than 1 thousand people with an initial vocational education. Similar trend involves negative consequences, as it slows down the pace of innovation and social and economic development of the Russian Arctic. In turn, in Russia there is an absolute increase in the migration of persons with education. In 2014 the intellectual potential of the country was added by 76 thousand people with higher and incomplete higher education, 68.6 thousand people with secondary vocational education[26].

Areas of the professional activity of inter-regional labor migrants have not got good representation in official statistics. There are only selective survey data of 2014 about the use of labor migrant by entrepreneurs. They show that the entrepreneurs of the country prefer to employ their compatriots from other regions in the area of wholesale and retail trade, repair of motor vehicles and household equipment (36.4%), operations with real estate, renting and providing services (18.5%), transport system of and communication services (12.2%), manufacturing (8.2%), construction (7.6%). In the Arctic areas the number of the Russian labor migrants attracted by entrepreneurs is extremely low — 7.5 thousand people and they are mainly work in the field of transport and communications. 76% of domestic labor migrants, attracted by

[24] Ibid.

[25] Ekonomicheskie i sotsial'nye pokazateli raionov Krainego Severa i priravnennykh k nim mestnostei v 2000-2014 godakh. Sredniaia nominal'naia nachislennaia zarabotnaia plata rabotnikov organizatsii. URL: http://www.gks.ru/bgd/regl/b15_22/Main.htm (Accessed: 18 July 2016); Regiony Rossii. Osnovnye kharakteristiki sub"ektov Rossiiskoi Federatsii - 2015 g. URL: http://www.gks.ru/bgd/regl/b15_14s/Main.htm (Accessed: 18 July 2016).

[26] Raspredelenie migrantov v vozraste 14 let i starshe po urovniu obrazovaniiai sub"ektam Rossiiskoi Federatsii v 2015 godu. Biulleten' «Chislennost' i migratsiia naseleniia Rossiiskoi Federatsii v 2015 godu»: URL: http://www.gks.ru/bgd/regl/b16_107/Main.htm (Accessed: 18 July 2016)

entrepreneurs work in the Yamal-Nenets Autonomous Area. The ratio of the application fields of their activity is similar to the all-Russian data[27].

Foreigners who have received permission to work, are used in Russia mainly in the field of mining and construction (27%), as unskilled workers in all sectors of the economy (20.8%), the specialists of the average level of qualification of physical and engineering activities (10.2%). In the Arctic regions of Russia, the share of persons employed in mining and construction, is significantly higher than the average Russian values and is 43.5% in total. In particular, in the regional cross section, the picture is differentiated: Chukotka — 29.9%, the Murmansk region — 32.3%, the Yamal-Nenets Autonomous area — 36.9%, the Nenets Autonomous area — 42.8%, the Republic of Sakha (Yakutia) — 65, 6%, the Arkhangelsk region — 72%.

Then the priorities of employers in terms of the use of labor of international migrants are distributed as follows: drivers and machinists of mobile equipment — 10.7%, workers in metal-working and machine-building enterprises — 9.3%, operators and machinists of industrial plants — 5.5%, heads of institutions, organizations, enterprises and their structural units — 4.2%, the specialists of the average level of qualification in physical and engineering activities — 4%, experts in the field of natural and engineering sciences, operators, machinists and mechanicians of stationary equipment — 3.8% (each category). It is necessary to recognize that in the Arctic areas the labor of unskilled workers is less required. Only 3.5% of international migrants are engaged in this activity[28].

According to official data, the use of migrant labor generally in line with the needs of the Arctic zone of the Russian Federation, foreign citizens are mainly used in those areas where there is acute shortage of staff[29].

According to results of the survey of leading companies-employers, operating in the Arctic zone of Russia, mostly the skilled workers and mid-level professionals will be needed in the region, within next three years, in the following economic activities: extraction of fuel and energy resources, especially in the Nenets Autonomous Area and Krasnoyarsk region, mining except fuel and energetic; metallurgical production and production of vehicles and equipment, especially in the

[27] Chislennost' rossiiskikh trudovykh migrantov, privlekavshikhsia na rabotu predprinimateliami po vidam ekonomicheskoi deiatel'nosti i sub"ektam RF. Po dannym vyborochnogo obsledovaniia ob i pol'zovanii truda migrantov v 2014 g.) URL.: http://www.gks.ru/free_doc/new_site/imigr/index.html (Accessed: 18 July 2016).
[28] Chislennost' inostrannykh grazhdan, imeiushchikh deistvuiushchee razreshenie na rabotu po professional'nym gruppam v 2014 godu. Po dannym vyborochnogo obsledovaniia ob i pol'zovanii truda migrantov v 2014 g. URL.: http://www.gks.ru/free_doc/new_site/imigr/index.html (Accessed: 18 July 2016).
[29] Vostrebovannye professii AZRF. Top 25. Kadrovoe obespechenie dlia razvitiia Arkticheskoi zony Rossii. URL. http://arctic.labourmarket.ru/prof/index (Accessed: 18 July 2016).

Murmansk region[30]. Successful solution of the existing problem will be possible in two ways: through the training of specialists inside the region and by engaging appropriately qualified migrants.

Conclusion

Summing up, it should be noted that in general, throughout the study period one of the most important factors of settlement and development of territories of the Far North and the Arctic was migration, which was presented in all its aspects.

The state forced and incentive migrations played prominent role in forming the picture of the region's population. Forced methods of population transfer were used in 1930-1950, when hundreds of thousands people, the so-called "dispossessed peasants" and political prisoners were exiled to the Arctic regions. At the same time, during 1930-1980s, the involvement of the population in the region was carried out through a developed system of social benefits and guarantees for people living and working in the harsh northern climate.

Vectors of migration (inflow/outflow of the population), their intensity were directly dependent on the state policy of development of circumpolar regions. The Soviet concept was based on the idea of need for integrated social economic and cultural development and the improvement of territories, the creation of appropriate conditions for the people living and working in the region. Social and economic attractiveness of the region, high level of wages stimulated the inflow of migrants. Accordingly, the population size in the region steadily increased due to positive demographic dynamics and the gain of migrants.

Starting from the 1990s the theory of shift method of development of natural resources prevailed in government circles, especially for the north-eastern regions, so respectively, permanent population, especially in the "old" centers of industrialization, was left to the mercy of fate. As a result, rapid decline in population began due to negative demographic and migration dynamics, which has not been overcome till now. During the period 1989-2014 the number of population of the Russian Arctic decreased practically double.

As noted above, in the Arctic zone of the Russian Federation 14% of payroll employees work in shifts, in a number of areas this figure exceeds the mark of 40%. Undoubtedly, this method of development of areas is due to severe social and economical situation in the country and lack of funds for the integrated development of the country and the region. However, the preference of the shift method without due attention to the problems of old-population can have significant negative consequences: the depopulation of areas, further deterioration of the

[30] Rezul'taty oprosa rabotodatelei. Kadrovoe obespechenie dlia razvitiia Arkticheskoi zony Rossii. URL: http://arctic.labourmarket.ru/interview/results (Accessed: 18 July 2016).

economic and social and cultural infrastructure, predatory attitude to the environment. Population, staying in the territory for some period of time only, will hardly be concerned about the historical fate of the region. The situation is made worse by the outflow of the most creative and innovative part of the population from the region, those with high levels of education and skills, that will hardly contribute to strengthening of the country's position in the Arctic, will significantly complicate the implementation of the strategic goal — improving the social and economic development of the Russian Arctic, designated in the State Program "Social and economic development of the Russian Arctic zone for the period up to 2020".

The labor immigration of compatriots and foreign citizens in the region is still present, that can partially solve the problem of labor shortage. It is more significant in the Arctic entities of oil and gas orientation. The region badly needs the support of the state, without which the sustainable economic and social development and strengthening of the country's competitive advantages in the Russian Arctic is difficult. Well-thought-out policy is necessary here, aimed at preserving and strengthening the population in the Arctic region and at the same time attracting migrants of appropriate qualification and level of education.

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Strategic positioning of the Arctic region as an object of territorial development (on the example of the Khatanga-Anabar region)[1]

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Abstract. The paper analyzes the current state and problems of social and economic development of the region located in the Arctic zone of Eastern Siberia at the territory of two entities of the Russian Federation (Krasnoyarsk region and Republic of Sakha (Yakutia), in the catchment of rivers Khatanga and Anabar, running into Laptev Sea of the Arctic Ocean. The possibilities, restrictions and prospects of implementation of priority investment projects of development of mineral raw material resources of the region are considered. Feasibility of forming of the aqua-territorial industrial complex (ATIC) based on the use of the integrated transport logistics of the Northern Sea Route and rational schemes of power supply in the region is shown. Scientific, methodical, organizational, economic tasks on development of strategy of forming of Khatanga-Anabar ATIC are considered.

Keywords: *strategic positioning, strategic potential of development of the region, priority investment projects, transport and energy infrastructure, the Northern Sea Route,* aqua-territorial industrial complex (ATIC)*, strategy of forming of ATIC*

The development of the Arctic territories is essential for the sustainable development of Russia, provoding its geopolitical interests, defense capability and environmental safety and is one of the most important and most difficult tasks for Russia in the 21st century. All this makes necessary the strategic positioning of the Russian Arctic, enabling to determine the map of promising projects of development of the Arctic regions. This article discusses the features of the

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strategic positioning of one of the most promising Arctic regions — Khatanga-Anabar region, located on the Arctic edge of the Krasnoyarsk Territory and the Republic of Sakha (Yakutia).

The strategic positioning of the region means to identify opportunities and constraints of its strategic potential. Within the frames of the strategic positioning it is necessary to determine the possibility of using available natural resources for the formation of modern high-tech industries, to identify mechanisms of organization of the development processes, including the mechanism of public-private partnership. The process of strategic positioning can be divided into the following main stages: 1) assessment of the current social and economic condition of the region; 2) identification of strategic potential of development and priority areas of sectoral specialization of the region in the external economic space; 3) the formation of rational industrial cooperation and social economic relations, intra- and inter-regional infrastructure; 4) determining the organizational and economical measures aimed at the efficient use of the strategic potential of the region.

Assessment of the current social and economic condition of the Khatanga-Anabar region

The economic and geographical situation and administrative and territorial division. The Khatanga-Anabar region is located in the Arctic zone of Eastern Siberia. Its territory includes basins of Khatanga and Anabar rivers flowing into Laptev Sea of the Arctic Ocean. The long-term specialization and possibilities of an integrated economic development of areas close to the Northern Sea Route in the western waters of the Laptev Sea, determined similarity of their resource potential, development prerequisites, social and economic problems and their solutions. The same factors stipulated feasibility to consider these territories as a single economic and geographical region and predetermined its name — the Khatanga-Anabar region.

The total area of the Khatanga-Anabar region is 482 thousand square km, and the population on 01.01.2016 was 8,902 people, including 6919 representatives of Indigenous small-numbered peoples of the North (ISPN). Within the boundaries of the region there is one municipal district of the Republic of Sakha (Yakutia) (Anabar settlement) and two rural settlements - rural settlement Khatanga of Taimyr municipal district of the Krasnoyarsk Territory and Zhilindinsky nasleg of Olenek settlement of the Republic Sakha (Yakutia) (Table 1) [2].

[2] Here and elsewhere: data of Federal Service of State Statistics are used as the statistical base of research, including Database of Indicators of municipalities. URL: http:// www.gks.ru/free_doc/new_site/bd_munst/munst.htm (Accessed: 16 August 2016)

Table 1

Administrative and territorial division and population size of the Khatanga-Anabar region (as of 01.01.2016)

Administrative territorial units	Administrative center	Number of residential places	Area, thousand sq.km,	Population size, people
		the Krasnoyarsk Territory		
Rural settlement Khatanga of Taimyr municipal district	Khatanga	9	336,4	4,788
		the Republic of Sakha (Yakutia)		
Anabar settlement	Saksylakh	2	55,6	3,430
Zhilindinsky nasleg of Olenek settlement	Zhilinda	1	90,0	684
Total		12	482,0	8,902

Geographical location of the Khatanga-Anabar region is characterized by remoteness from industrial centers and market channels (Tab. 2).

Table 2

Distance table (km on map)

	Krasnoyarsk	Yakutsk	Saint-Petersburg	Murmansk	Vladivostok
Khatanga	1,914	1,551	3,300	2,475	3,597
Saksylakh	2,046	1,265	3,696	2,838	3,366
Zhilinda	1,914	1,155	3,729	2,904	3.234

The region is characterized by extremely high territorial disunity and inaccessibility of settlements, remoteness from administrative centers of settlements. There are no permanent roads between the settlements and towns within the settlements, intersettlement infrastructural links, inter-settlement social, cultural and consumer services are difficult to provide.

Territories of the Khatanga-Anabar region are cut off from important transport communications. The region has no year-round communication with the nearest railway terminals (Yakutsk, Ust-Kut, Krasnoyarsk (Lesosibirsk), there is no year-round water transport connection, there is no reliable road transport communication between settlements. The possibilities of maritime transport are not practically used because of the lack of development of transportations along the Northern Sea Route and the limitations of the existing sea ports of the Eastern Arctic.

Prospects for the inclusion of the region into the global world economy are associated primarily with the development of the Northern Sea Route (NSR) and the creation in the region of transport and logistics hub based on the NSR. In the longer term the development of the region can go on the basis of the formation of the year-round land ways.

Resettlement and demography. In the structure of the resident population of the region it is possible to emphasize two contrasting groups significantly different in demographic and resettling behavior: 1) newcomers (non-indigenous) (social migrants, which primarily include the Russian and Yakut population, as well as representatives of a number of other important national regions of Siberia and the Russian Federation as a whole); 2) the indigenous population (the Indigenous small-numbered peoples of the North), mainly engaged in traditional economic activities.

The village of Khatanga and two settlements — Kayak and Ebel (now liquidated) — are the settlements of the first type in Khatanga-Anabar region. The second type settlements are 8 villages in the Khatanga rural settlement: Zhdaniha, Katyryk, Kresty, Novaya, Novorybnaya, Popigaj, Syndassko, Kheta, 2 villages in Anabar settlement (Saskylakh and Yuryung-Khaya), and village Zhilinda in Oleneksky settlement. Tab. 3 reflects the dynamics of the resident population of the Khatanga-Anabar region for the period of 2002-2014.

Table 3

Changing of the resident population of the Khatanga-Anabar region for the period 2002-2014 (assessment)

	2002 r. (beg.of the year)	2015 r. (beg.of the year)	Changes for the period 2002-2014
Settlements with predominance of new comers (alien population)			
(Khatanga, Kayak, Ebelyak)			
- number of people	4,750	1,649	2.9-fold decrease
-share of ISPN, %	19.3	49.2	
Settlements with predominance of ISPN			
(Zhdaniha, Katyryk, Kresty, Novaya, Novorybnaya, Popigaj, Syndassko, Kheta, Saskylakh, Yuryung-Khaya, Zhilinda)			
- number of people	6,953	7,253	+4.3%
-share of ISPN, %	85.4	84.2	
All settlements of the Khatanga-Anabar region			
-number of people	11,703	8,902	-23.9%
-share of ISPN, %	58.6	77.7	

The analysis of the data about number and composition of the population of the Khatanga-Anabar region for the period of 2002-2014 leads to the following conclusions.

1. There is a steady decline in the total resident population of the region, primarily due to a sharp decrease in the alien population. The number of ISPN remains relatively stable. The number of resident population in Khatanga has been sharply reduced in the result of a significant reduction in administrative status (from the district center to the center of the rural settlement) and general economic stagnation of the surrounding areas. The total number of villages for reporting period decreased in more than doubled — from 3,450 in 2002 to 1,649 in 2015. In addition, the proportion of indigenous population increased from 23.2% in 2002 to 49.2% in 2015. At the beginning of the 2000s about 300 people lived in the village Kayak which is liquidated now. From 1947 to 2009, here

at the mine "Kotui" the extraction of coal for the needs of Khatanga was made. In liquidated village Ebelyak from 1999 to 2007, Anabar Mining and processing works of "Alrosa" acted and about 1 000 people lived there in the early 2000s. In contrast to the settlements with alien population, the second type places (settlements with compact residence of ISPN) show the relative demographic stability. The total population of the settlements with predominance of ISPN increased in 4.3%: from 6,953 people in 2002 to 7,253 in 2015.

2. The most numerous ethnic group among ISPN is dolgans. They compose 76.3% of the total number of indigenous people, and about 60% of the total population of the Khatanga-Anabar region. Resettlement of dolgans in the Khatanga-Anabar region is reflected in the tab.4.

Table 4

Resettlement of dolgans in the Khatanga-Anabar region (people, as per 01.01.2015)

	Number of people	Share in total number of population of the region,%
Rural settlement Khatanga	3,789	71.8
Anabar settlement	1,489	28.2
Total:	5,278	100.0

Other significant ethnic groups of ISPN in the region are the Evenki and Evens (1,521 people, 22% of all ISPN), specializing in reindeer herding and living in nasleg Saskylakh and Zhilinda. The remaining representatives (Nganasan, Enets, Nenets) accounts for less than 2% of the number of the indigenous people.

The current situation in the economy. Extreme climatic conditions (duration of the heating season in the region ranges from 296 days (Zhilinda) to 325 days (Yuryung-Khaya, Novorybnaya, Syndassko), low population density, high resource consumption, the focal nature of industrial and economic development, the use of decentralized systems of electricity and heating, a significant remoteness from major economic centers, and the dependence of life on the northern delivery stipulate a significant rise in the social and economic development of the Khatanga-Anabar region.

The situation becomes complicated that during the years of the market reforms the serious dilapidation happened, physical and moral depreciation of fixed assets of all sectors of the region: transport, energy, social infrastructure and public utilities.

Currently the level of budget expenses on one inhabitant is 200-220 thousand rubles per year. This is much higher than in average in the municipalities of the European part of the country (20-25 ths. rub.), of the Siberian Federal District (28.1 ths. rub.) and several times higher than in the regions of the Ural (53.0 ths. rub.) and Far East (84.5 ths. rub.) federal districts.

Incomes of the main economic activities in the region (wild reindeer hunting, fishing, hunting of fur animals) and domestic reindeer herding are not able to provide the required level of

budgetary expenditure. The average annual income per person employed in the sector is less than 8-10 ths. rub. per month when minimum living wage for the 1st quarter of 2016 in the rural settlement Khatanga is 26.7 ths. rub. per month, and in Anabar and Oleneksky settlements — 18.4 ths.rub. per month[3].

Specific support for the population and local budgets of the Anabar and Olenek settlements is activity in extraction of alluvial diamonds, which is arranged by the company "Diamonds of Anabar" (subsidiary of JSC "ALROSA") on the territory of these areas. The volumes of sales of "Diamonds of Anabar" (15 489.4 mln.rub.) correspond to the level of 600 largest Russian companies, and net profit (1 697.4 mln.rub.) to the level of 200 largest companies in Russia[4,5].

At the same time, the share of settlements (taxes to the local budgets and payment of wages to local workers) is not more than 2-3% of the income of the diamond mining company, and the rest is distributed to the federal and republican budgets, for payment of wages to employees - residents of other regions of the republic, as well for as the implementation of investment programs of the company.

Region belongs to zone of shift development. The number of non-permanent population (working in the region in shifts) varies significantly during the year due to the seasonal nature of employment. For example, the total average number of shift workers of the company "Diamonds of Anabar", involved in the territory of Anabar and Olenek settlements, is about 1.2-1.4 thousand people (varies throughout the year from 1 thousand to 3 thousand people). The share of the local population in this number does not exceed 20-30%, and the rest of shift workers of the company "Diamonds of Anabar" is formed by the inhabitants of other regions of the Republic of Sakha (Yakutia).

Under these conditions, the main source of financing of the sphere of life in the region is subsidies and grants. Incomes of local budgets in 35-40% are formed at the expense of grants, and the share of own tax and non-tax revenues does not exceed 20-25%.

Strategic potential of the development and priority areas of industry specialization of the region in the foreign trade field

Prospects of development of the Khatanga-Anabar region are connected with the development of significant reserves of solid minerals and hydrocarbon resources, some of them have federal significance. Among top-priority objects are: Tomtor deposit of rare earth metals (REM); development of the Laptev Sea shelf and coastal waters of Khatanga and Anabar Bay;

[3] Resolution of the Government of the Republic of Sakha (Yakutia) № 166 dd 24.05.2016.
[4] Reiting 600 krupneishikh kompanii Rossii. URL: http://raexpert.ru/ (Accessed: 16 August 2016).
[5] Godovoi otchet kompanii «Almazy Anabara» za 2015 god. URL: http://alanab.ykt.ru/uploads/files/2016/07/otchet 2015.pdf (Accessed: 16 August 2016).

development of deposits of alluvial diamonds of Ebelyakh-Gusiny; the development of Kotui coal deposit; the development of Popigai field of impact diamonds (Fig. 1).

Figure 1. The review scheme of the projects of development of mineral raw resources of the Khatanga-Anabar region.

Identification marks:

★ – rare earth metals ★ – alluvial diamonds ★ – impacting diamonds

★ – oil and gas ✿ – cogenerative energy plants ——— – winter snow roads

——— – water ways ⚓ – ports (sea and river ports)

The development of Tomtor deposit of the rare earth metals (REM)

The feasibility and possibilities of development. The development of Tomtor deposit is one of the main elements of the program of mining and processing of rare earth metals up to 2020 (in the framework of State Program of RF "Development of industry and increase of its competitiveness for the period till 2020", approved by the Government Decree of RF dated 15.04.2014, № 328) [6].

Stocks of only one section Burannyi (comprising about a third of all the resources of the deposit) can provide domestic and export needs of Russia, set by the program, for hundreds of years in advance. At the same time, minerals of the deposit (including the ratio of world prices of rare elements) are the most attractive among all the Russian deposits and significantly (more than 2 times) excel in this parameter the minerals of the world's largest rare earth deposit Baiyun Obo (China)[7].

Technological and transport scheme of development. For the development of the deposit the Russian Academy of Sciences (Institute of Geology and Mineralogy (IGM), Institute of Chemistry and Chemical Technology (ICCT) and the Institute of Economics and Industrial Engineering (IEIE)) proposed a three-tier production chain: 1) extraction of ore (at the first stage up to 100-200 thousand tons, at the second — up to 500-1000 thousand tons); 2) processing of the initial ore to produce a collective carbonate of the rare earth elements (REE or individual oxides of the rare earth elements; 3) separation of oxides and individual rare earth elements in chains and getting more valuable end products [1, Pokhilenko N.P., Kryukov V.A., Tolstov A.V., Samsonov N.Y., pp. 22-35]. Primary processing of Tomtor ore can be produced at Zheleznogorsk MCC (transportation of the Tomtor ore — Zheleznogorsk on the winter road to the pier Yuryung-Khaya and then by river-sea vessels), the ultimate recycling — at the plant of production of rare metals company (Novosibirsk or Krasnoyarsk) [2, Yatsenko V.A., pp. 26-30]. The selection of specific technological schemes of deep and complex processing of primary concentrates, as well as the establishment of the necessary facilities to obtain the end product, requires additional research.

The prospects of the project implementation. Currently, the joint venture "TriArk Mining" (under the auspices of the State Corporation Rostech and ICT Group) launched the development of

[6] Gosudarstvennaia programma «Razvitie promyshlennosti i povyshenie ee konkurentosposobnosti» (podprogramma 15. Razvitie promyshlennosti redkikh i redkozemel'nykh metallov). URL: http://programs.gov.ru/Portal/programs/passport/17 (Accessed: 16 August 2016).

[7] Gosudarstvennyi doklad «O sostoianii i ispol'zovanii mineral'no-syr'evykh resursov Rossiiskoi Federatsii v 2014 godu» (Redkozemel'nye metally p. 239-246). URL: http://www.mnr.gov.ru/regulatory/detail.php?ID= 143955 (Accessed: 16 August 2016).

the richest area of Tomtor — Buranny .The project cost is about $ 1 billion, for the period until 2021-2023, it provides the creation of the mining production in Tomtor with the capacity of 100 thousand tons of ore, development of monazite dumps in Krasnoufimsk (Sverdlovsk region) and the creation of a hydrometallurgical plant (the placement has not been defined yet) with a capacity of 4.5 ths. tons of ferroniobium and 10 ths. tons of the rare metal earth oxides per year[8].

Weaknesses and risks of the project. Tomtor ores are radioactive, due to the presence of uranium and thorium. This stipulates the need to to keep the relevant safety precautions working with them and requires additional costs for disposal of radioactive wastes. The emergence of new foreign competitors in the countries of the South East Asia (Korea, Japan), the development of their own high-tech production of REM and products using them, creates additional competitive challenges for the prospects of the Tomtor project. REM prices are subject to significant fluctuations. High volatility of REM prices creates additional difficulties in attracting investments for this project. Insufficient level of development of high-tech industries, forming the demand for REM in the domestic market, increases the risk of low liquidity of the obtained products.

Oil and gas complex (development of the Laptev Sea shelf and coastal waters of Khatanga and Anabar Bay)

The feasibility and possibilities of formation. According to US Geological Survey estimates, the North-Western and Eastern Laptev Sea shelf plates are among the 25 largest hydrocarbon reserves of the Arctic provinces of the world, ranking among them, respectively, the 20th and the 8th place in the resource potential. Their probable reserves amount to 1,425 million tons of oil equivalent (2.5% of total hydrocarbon resources in the Arctic)[9]. Taking into account the inventory of available resources (with the extraction ratio 0.3-0.4), it is possible to create a large oil and gas complex in the region, in future (with a peak production of 5-6 million tons of hydrocarbons per year), ensuring its continual stable functioning for several decades. Location of the Laptev Sea shelf in the region of the Northern Sea Route and in the area of coastal infrastructure of the Khatanga-Anabar region (Khatanga and Yuryung-Khaya ports) provides the necessary conditions for a stable and competitive production and transportation of oil to areas of consumption.

Technological and transport scheme. For the arrangement of oil and gas deposits in the waters of the Laptev Sea, the technology development scheme of Prirazlomnaya field can be used, which is situated in Pechora Sea on the basis of the marine ice-resistant stationary platform

[8] Gruppa Ist i «Rostekh» imeiut vidy na Tomtor (25.04.2013). URL: http://www.yktimes.ru/%D0%BD%D0%BE%D0%B2%D0%BE%D1%81%D1%82%D0%B8/gruppa-ist-i-rosteh-imeyut-vidyi-na-tomtor/ (Accessed: 16 August 2016).

[9] Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle, 2008 URL: http://pubs.usgs.gov/fs/2008/3049/fs2008-3049.pdf (Accessed: 16 August 2016).

(MISP)[10],[11]. MISP (capacity up to 6 million tons per year) is designed for year-round operation for 25 years in extreme natural climatic conditions under cyclic loads of drifting ice. The transport scheme of the project involves the use of multifunctional icebreaking vessels and two shuttle tankers. The coastal infrastructure has been created for efficient production management and delivery of shift personnel and cargo on the platform. Its structure includes transshipment base with Varandey field camps for the temporary placement of personnel, supply base and production base services in Murmansk.

The prospects of the project. A number of domestic companies have already showed their interest in geological exploration and development of the Laptev Sea shelf. Rosneft and Lukoil at the end of 2015 divided the East Taimyr deposit in Khatanga Bay. Rosneft received the marine field of the deposit (Khatanga section) with expected resources of 82,8 mln tons of oil and 228.2 billion cubic meters of gas. LUKOIL acquired a license for exploration and development of the coastal (East Taimyr) area. The resources of this section are 4.5 million tons of oil, 9.3 billion cubic meters of gas, 0.5 million tons of condensate[12,13]. Further development of events will depend on the speed of confirmation and volume of the oil potential of the acquired areas, as well as hydrocarbon market. Taking into account a period from pre- exploration till making of the investment decision, as well as the duration of the development and approval of projects, construction and installation of the platform, tanker and the icebreaker fleet, preparations of the necessary marine and coastal infrastructure, the beginning of exploitation of the deposit and the production of the first tons of oil is expected not earlier than in 2025 in the most optimistic scenario.

Weaknesses and risks of the project. Hydrocarbon potential of the eastern Arctic shelf has not been practically studied. Potential oil and gas waters of the Laptev Sea are very poorly explored geologically. The density of seismic works of the Laptev Sea (0.08 lineal km/sq km) is significantly lower than in the western Arctic seas (in the Kara Sea — 0.21 lineal km/sq km, in the Barents and Pechora Seas — 0.5 lineal km/sq. km), as well as in the Norwegian part of the Barents Sea (1.01 lineal km/sq km) [3 Konoplyanik A., Buzovsky V., Popov U, Troshina N.]. Similar level of

[10] Razrabotka mestorozhdeniia Prirazlomnoe URL: http://shelf-neft.gazprom.ru/d/blockonthemainpage/04/4/prezentatsiya-proekta-prirazlomnoe.pdf (Accessed: 16 August 2016).

[11] Transportnaia skhema osvoeniia Prirazlomnogo mestorozhdeniia URL: http://ru.rfwiki.org/wiki/ Fail: Transportnaia_skhema_osvoeniia_Prirazlomnogo_mestorozhdeniia.jpg (Accessed: 16 August 2016).

[12] «LUKoil» nachinaet razrabotku neftianogo mestorozhdeniia v Krasnoiarskom krae URL: http://fedpress.ru/news/econom/industry/1450160746-lukoil-nachinaet-razrabotku-neftyanogo-mestorozhdeniya-v-krasnoyarskom-krae (Accessed: 16 August 2016).

[13] Rasporiazhenie Pravitel'stva RF ot 17.12.2015 «O peredache uchastka nedr federal'nogo znacheniia v pol'zovanie OAO «NK «Rosneft'» URL: http://government.ru/docs/21193/ (Accessed: 16 August 2016).

study of the waters of the Barents and Pechora Seas will be essentially complicated due to climatic factors and will lead to a significant cost increase for the development of identified fields.

Transportation conditions of the functioning of the oil platform in the Laptev Sea are more complex (compared to deposit "Prirazlomnoe" in Pechora Sea). In order to organize year-round vessel voyages in the area, the strengthened ice class vessels will be required (Arc7 and above). However, nuclear-powered icebreakers of this class will not be able to enter the shallow mouth of the river Khatanga because of their drafts. Therefore, the year-round use of Hatanga port will require to build a special fleet.

In oil market the pricing environment remains unfavorable. Profitability of the project of the development of the field "Prirazlomnoe" substantiated at oil price of $ 100 per barrel, while in 2015-2016 it did not exceed $ 50 per barrel.

The development of alluvial diamond deposit Ebelyakh-Gusiny

Long-term development strategy of the leading Russian and world diamond mining company Alrosa, including its subsidiary company Diamonds of Anabar, is based on the priority development of large deposits of diamonds prepared for the industrial development. Alluvial deposit in the river Ebelyakh and creek Gusiny (hereinafter Ebelyakh-Gusiny) is Russia's largest deposit of alluvial diamonds with proven reserves of 25.6 mln. carat (2.1% of the total balance reserves of the Russian diamonds). The diamond placers of the deposit Ebelyakh-Gusiny (1.43 carats/cub.m) exceed in quality and content the actively developed alluvial Ghana objects (1 carat/ cub. m) and Guinea (0.7 carats / cub.m)[14]. The development of this field will allow the company Alrosa (and Diamonds of Anabar) to maintain and strengthen its position in the diamond market for a few more years.

Technology and transport scheme. Technology and transport scheme of the development of the project of deposit Ebelyakh-Gusiny is based on the actual experience of the operation of the similar alluvial diamond deposits in Oleneksky and Anabar settlements by the company Diamonds of Anabar (placers of the rivers Morgogor, Mayat, Kula, Ol, Kurung-Yuryakh). The development of alluvial deposits by the company Diamonds of Anabar is based on a three-stage scheme: 1) carrying out of strip mining with the extraction of diamond sands; 2) transportation and primary processing of the sands in concentrate at the sites of mobile sorting and processing facilities; 3) transport and final extraction of diamonds in production units of the seasonal enriching factory

[14] Gosudarstvennyj doklad «O sostojanii i ispol'zovanii mineral'no-syr'evyh resursov Rossijskoj Federacii v 2014 godu» (Almazy p. 221-230) URL: http://www.mnr.gov.ru/regulatory/detail.php?ID=143955 (Accessed: 16 August 2016).

(SEF) (Udachninsky MPP). This technology has proved its economic efficiency and environmental safety[15].

The prospects of the project. The realization of the project goes according to the plan. The section Ebelyakh-Gusiny already in 2014 went on the design performance of diamond mining sand — 1.6-1.8 mln cubic meters per year (2.2-2.5 mln. carats of diamonds). The total volume of recoverable diamonds for the period of operation of the field in 2014-2021 will amount to 16.7 mln. carats (2.3 mln. carats per year), including the river Ebelyakh 13.4 mln. carats (1.7 mln. carats per year) and the creek Gysiny 3.3 mln. carats (600 thousand carats per year). In the developing of the fields in accordance with the calendar schedule of the project, creek Gusiny reserves will be exhausted by 2019. The development of the field of Ebelyakh river can be extended to 2027[16].

Weaknesses and risks of the project. Threats to the project are related to the general trends of the development of the diamond market and long-term downward trend in the average prices for natural diamonds. According to some forecasts, natural diamonds (including gem diamonds) in 15-20 years will completely give up their place in the market to the synthetic diamonds[17]. There are general risks associated with environmental protection, labor protection and industrial safety in the area of mining of the fields of Ebelyakh river and creek Gusiny.

The development of Kotui coal deposit

The feasibility and possibilities. Total demand for coal for heating needs of rural settlement Khatanga is 40-50 ths. tons of coal per year. Delivery of such quantity of coal in the conditions of underdeveloped transport infrastructure and remoteness from the coal-mining regions (Norilsk industrial area, Sakha (Yakutia), the Kemerovo region, Murmansk, etc.) creates high risks for local sustainment of the people and is very expensive. However, the area of rural settlement Khatanga has significant reserves of its own coal. The development of these reserves will reduce the costs of coal provision and will increase the reliability of heat supply of the economy and population of the region. The reserves of Kotui coal deposit (40 km from Khatanga) are more than 320 mln.tons and

[15] Godovoj otchet kompanii «Almazy Anabara» za 2015 god. URL: http://alanab.ykt.ru/uploads/files/2016/07/otchet 2015.pdf (Accessed: 16 August 2016).
[16] Otchet nezavisimykh ekspertov o zapasakh i resursakh mestorozhdenii almazov gruppy kompanii «ALROSA», gl.11 «Ekonomicheskii analiz», p. 11.8 «Otrabotka mestorozhdeniia reki Ebeliakh i ruch'ia Gusinyi» URL: http://www.alrosa.ru/wp-content/uploads/2013/11/Alrosa_Independent_Expert_Report-2013.pdf (Accessed: 16 August 2016).
[17] Iskusstvennye almazy ostaviat Iakutiiu bez deneg (interv'iu s ekspertom almaznoi otrasli Iuriem Danilovym). URL: http://yakutia.com/diamond/558/ (Accessed: 16 August 2016).

allow to provide reliable long-term supply of coal for the population and enterprises of rural settlement Khatanga[18].

Prospects of the project. Despite reasonable economic and high social efficiency, Kayak-2 mine construction project has not been realized yet and will not be implemented in plans of its participants. The main reason for this is that the main beneficiary of the project - the regional and local budgets can not become the investor due to deficiency (limitations) of their financial capabilities. For private investors, the project is not of much interest due to the fact that the budget savings for the "northern delivery" associated with the project, is out of their "purse". Project funding problem can be successfully solved by the creation of an effective mechanism of state and public partnership.

The development of Popigai deposit of impact diamonds

The feasibility and possibilities. Nowadays the global sales of diamonds of technical purposes (15,7 bln. dollars) exceed in 1.5 times the volume of gem diamond sales and is developing much faster. It is expected that the market of the industrial diamonds will grow at the average annual rate of 7% in period of 2016-2023 [19]. These circumstances actualize the issues associated with the development of the unique Popigai field of impact diamonds. The giant reserves of technical diamonds (impact diamonds) are placed within this field. The estimated total number of diamonds contained in Popigai meteorite crater is several trillion carats. These volumes will be enough to meet the modern world technical diamond market needs (10 billion carats per year) for hundreds of years.

Technology and transport scheme.

The development of Popigai deposit does not have any technical and technological difficulties. The technological and organizational cheme can be used for this purpose, which has been using successfully for many years in fields of alluvial diamonds in Anabar and Oleneksky settlements. Two explored areas — Skalny and Udarny (0.5% of the total area of the field) — can become the primary targets for the development. Their total reserves (A + B + C1 and C2) reach almost 268 billion carats, while the average diamond content in the ores are unique (in 2-3 times

[18] Dolgosrochnaia tselevaia programma «Stroitel'stvo shakhtnogo uchastka №2 Kaiakskogo kamennougol'nogo mestorozhdeniia» (reshenie Dumy Taimyrskogo Dolgano-Nenetskogo munitsipal'nogo raiona ot 12.12.2008 g. №02-0017). URL: http://zakon-region3.ru/4/147741/ (Accessed: 16 August 2016).

[19] Synthetic Diamond Market – Global Industry Analysis, Size, Share, Growth, Trends and Forecast 2015–2023 URL: http://www.transparencymarketresearch.com/synthetic-diamond-market.html (Accessed: 16 August 2016).

higher than the maximum concentrations of kimberlite diamond pipes) — 18,47 carat /ton and 7, 13 carat / ton respectively[20].

Bearing in mind such a high concentration of diamonds, their production costs can amount to $ 2.5-3/carat. Taking into consideration the small load capacity of production of Popigai deposit, air transportation is the most advantageous for its transportation. Depending on the final processing site of the receiving of diamond concentrate, different options of transport routes can be chosen: Saskylakh — Udachny (Mirny) — Novosibirsk or Saskylakh — Khatanga — Krasnoyarsk [4, Kryukov V.A., Samsonov N.Y., Kryukov Y.V., pp. 51-66].

Prospects of the project. Preliminary estimates show that the use of impact diamonds of Popigai deposit can form the basis of formation of a new generation industrial diamond market and products based on them. Formation of such a market requires the development of a long-term system strategy and a wide range of scientific and complex technological research. The concept of such a strategy has been proposed by the scientists of the SB RAS. On the basis of scientific and technological complex of RAS, enterprises of the republic of Sakha (Yakutia) and the Krasnoyarsk Territory, as the final stage of project implementation can become the creation of the technological platform for the processing and use of diamonds for the purpose of technical and scientific application projects of natural micro, nanopolycrystal diamonds [5, Pokhilenko N.P., Kryukov V.A., pp. 30-35].

Formation of rational cooperative industrial social and economic relations, intra- and inter-regional infrastructure

Features of the present social and economic situation, as well as the complexity of the tasks related to the implementation of the development projects in Khatanga-Anabar region, stipulate the need to consider the strategy of development based on the use of program-oriented approach and the concept of aqua-territotial and industrial systems (ATIS), aimed at the implementation of programs (strategies) of the development of the coastal areas [6, Baklanov P.Y.; 7, Baklanov P.Y.; 8, Bondarenko L.A., Ionova V.D., Malov V.Y., Tarasova O.V.].

The objective prerequisites for the formation of ATIS in the Khatanga-Anabar region are the following factors: 1) the objects of the specialization of the region operate on the shores of seas and at the areas of seas; 2) there two sections in the structure of economic: territorially fixed (industrial activity on the shore) and aqua-territorially migrating (mobile production activities in the water area); 3) connection of the sections into a single unit is provided by sea transport. In

[20] Gosudarstvennyi doklad «O sostoianii i ispol'zovanii mineral'no-syr'evykh resursov Rossiiskoi Federatsii v 2014 godu» (Almazy p. 221-230) URL: http://www.mnr.gov.ru/regulatory/detail.php?ID=143955 (Accessed: 16 August 2016).

general, the ATIS includes sea ports (and river ports, available for "river - sea" vessels), industrial enterprises, coastal settlements;

4) the key requirement for the formation of industrial structure of ATIS is observed: the objects of sea transport, objects of oil and gas offshore and onshore, mining companies not only co-exist at the territory, but also interact; 5) the effectiveness of the interaction is manifested not only in increasing the level of technical and technological capacities of economic activity, but also in strengthening of the revenue of the regions, where ATIS will be formed (Krasnoyarsk Territory and the Republic of Sakha (Yakutia); 6) significant role in the economy of the region is given the external economic relations.

The main advantages of the implementation of regional development projects in the ATIS format is the integrated approach, providing expand cooperation ties and effective interwork between the participants at the expense of integration (in the rational scale), production (transport, energy) and social infrastructure. By means of it, the cheapening of the projects, increasing of value and in the end the increase in the revenues of the administrative units. As a consequence, it can create better conditions for the solution of other economic, social and environmental objectives. There is also one more important result here — the emergence of real prerequisites for the creation and improvement of the investment climate, conducive to investments, including foreign ones.

Transport infrastructure. A key factor in the effective implementation of development projects and economic development of the Khatanga-Anabar region is the establishment of intensive and reliable transport links with major Russian and world commodity markets. Despite the well-known difficulties of its economic and geographical location, the Khatanga-Anabar region has good pportunities to meet this challenge. Prospects for the region's output in the external economic space is connected with the development of the transport corridor "the Northern Sea Route", inclusion of ports Hatanga Yuryung-Khaya in it, and the formation of the corresponding port and coastal infrastructure.

Today Khatanga sea port (Fig. 2) has a low level of development adequate to the level of social and economic development of the areas of the rural settlement Khatanga, the port serves for. The port handles food and refrigerated cargoes, different general cargoes for the Arctic settlements, timber, bulk cargo (coal, sand and gravel), oil cargo. The port also works with regular passenger traffic on the river Khatanga and its tributaries to the settlements of Khatanga rural settlement. The port operates only during the summer season (from mid-June till end of September). Vessels with drafts up to 4.6 m may call this port. The transshipment from sea vessels

is provided at Kosisty Cape. Port capacity is 95 thousand tons of cargoes per year (maximum cargo turnover of of 350 thousand tons was recorded in 1976)[21].

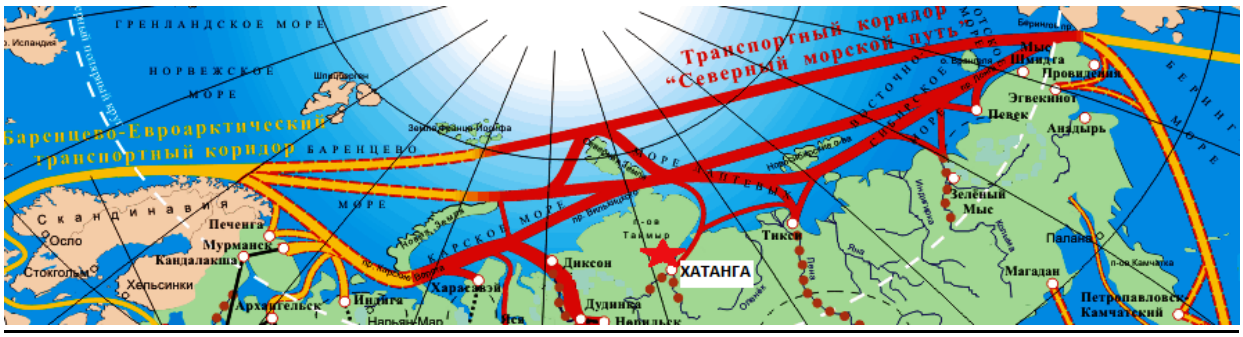

Figure 2. Khatanga port in the system of the Russian transport routes in the Arctic ocean [9, Peresypkin V., Yakovlev A.]

The development of oil and gas deposits at the territory of rural settlement Khatanga and the Laptev Sea shelf will be accompanied by increase in the volume and intensity of cargo deliveries and passenger traffic, will require substantial renovation and increase of the port capacity and creation of large transportation and logistics hub on its basis (Fig. 3). The prospects of the transport and logistics hub on the basis of Khatanga sea port provide the following[22]:

1) reconstruction of the port complex with taking into account the requirements of the Maritime Doctrine for the Unification of the infrastructure for military and economic needs, modernization and increase of the port capacities; 2) the expansion of navigation along small rivers; 3) development of warning and communication systems on the Northern Sea Route and all water routes in the zone of its influence: a) the construction of digital radio stations; b) the modernization, reconstruction and technical equipping of the air navigation infrastructure, the introduction of "GLONASS/GPS" system; c) expanding of the network of aerologic stations; d) update of the hydrographic maps of the Khatanga Bay and approaches to the Khatanga seaport, reconstruction of buildings and facilities of the hydrographic base; 4) reconstruction and inclusion of Khatanga airport in the list of alternate aerodromes to ensure safety flights on cross-polar routes and regional air line.

[21] Morskoy port Khatanga URL: http://polartrans.ru/information/morskoj-port-xatanga.html (Accessed: 16 August 2016).

[22] Skhema territorial'nogo planirovaniia Taimyrskogo Dolgano-Nenetskogo munitsipal'nogo raiona (Tom 3) (proektnye predlozheniia Vodnyi, vozdushnyi i avtomobil'nyi transport) //FGUP Rossiiskii gosudarstvennyi nauchno-issledovatel'skii i proektnyi institut «Urbanistika». - Sankt-Peterburg, 2012 URL: http://fgis.economy.gov.ru/fgis/ (Accessed: 16 August 2016).

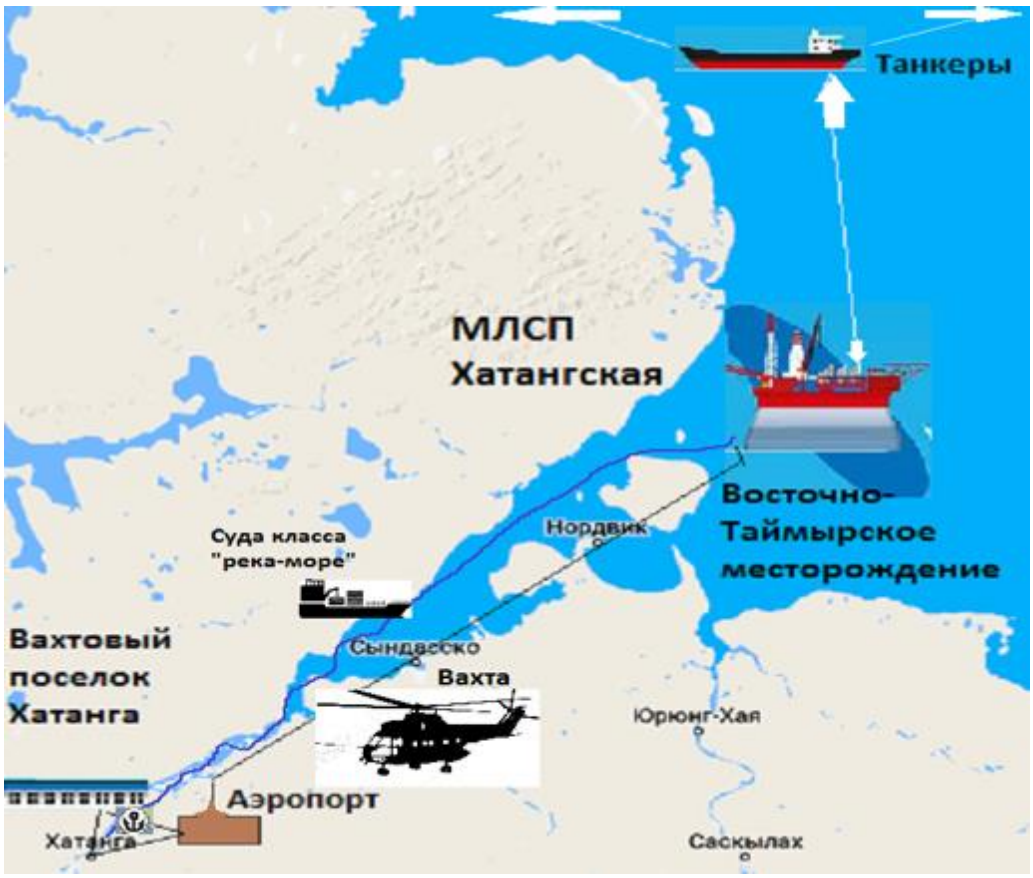

Figure 3. The development of transportations and service in the Khatanga rural settlement during the development of offshore hydrocarbon fields

The pace of development of the Khatanga transport and logistics center will be determined by the timing and scale of the development of oil fields. Bearing in mind that the practical implementation of the oil project is expected not earlier than 2020-2025, the creation of transport and logistics center Khatanga should be divided into two phases: the first (till 2020-2025) to ensure the reconstruction and modernization of existing infrastructure, the second (after 2025) to proceed to increase its capacity and expand the composition — to form the repair and maintenance base of commercial and specialized fleet; to arrange the base of creation and maintenance of high-latitude expeditions; to organize tourist routes with the development of an appropriate infrastructure.

Along with Khatanga port, external transport links will also be provided through another sea port in the region — Yuryung-Khaya, which will receive the appropriate development as transshipment base for the development of alluvial diamond deposit Ebelyakh, Tomtor deposit of the rare earth metals, Popigai field of impact diamonds and local enterprises of the agroindustrial complex[23].

[23] Skhema territorial'nogo planirovaniia munitsipal'nogo raiona MO «Anabarskii natsional'nyi (Dolgano-Evenkiiskii) ulus (raion) Respubliki Sakha (Iakutiia)», tom II. Materialy po obosnovaniiu skhemy (razdel Transport) // Otkrytoe obshchestvo Sakhaproekt – Iakutsk, 2012 //FGIS TP URL: http://fgis.economy.gov.ru/fgis/ (Accessed: 16 August 2016).

Inter-municipal transport links will be developed during winter period along the main winter roads Dudinka — Norilsk — Khatanga (750 km), Hatanga — Popigaj — Syskylah (400 km) and Olenek — Syskylah — Yuryung-Khaya (730 km), as well as along the adjoining winter roads of local significance, during short period of summer navigation — on the rivers Khatanga and Anabar and their tributaries. A*ir transport* will require reconstruction and construction of airfields, runaways and other facilities of airfield infrastructure, formation of modern aircraft fleet, expansion of use of new types of aircrafts (seaplanes, amphibians, aircrafts with air cushion landing system, aerostatic devices).

Energy infrastructure. In connection with the construction and commissioning of large mining companies in the region, significant increase of the consumption of electricity and heat is expected [10, Melnikov N.N, Konuhin V.P., Naumov V.A., Gusak S.A., pp. 198-208]. The total load of current and new customers in the region is estimated to be 70-80 MW (excluding offshore oil needs, provided by its own autonomous power plant), including Khatanga node in 10-15 MW, Popigaj-Anabar-Zhilinda — 60-70 MW. To ensure reliable and efficient supply of new enterprises in the region, it is necessary to reconstruct the existing and to build new generating and grid facilities[24]. First of all, the issue of choosing a rational scheme of power supply should be resolved. Among the main factors influencing the choice, on the one hand, the remoteness from the points of possible connection and restrictions to access to power center is important, on the other — the existence of transportation infrastructure, the possibility and the cost of fuel delivery [11, Ivanova I.Yu., Tuguzova T.F., Izhbuldin A.K., Simonenko A.N., pp. 187-199]. In the first case, as a rule, the reconstruction of existing or construction of new generating facilities and power grid is required, in the second - the construction of new roads (Figure 4.).

[24] See URL: https://www.sakha.gov.ru/files/front/download/id/1186981 (дата обращения: 16.08.2016)

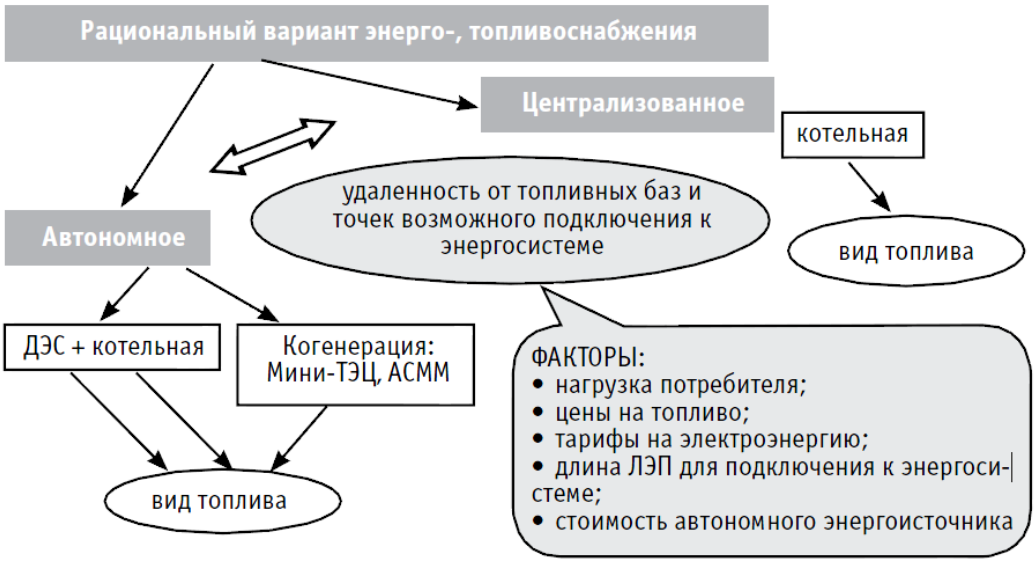

Figure 4. Alternative options of energy supply [11]

Preliminary estimates show the feasibility of the formation of two autonomous power units based on Khatanga coal power generation and Anabar small nuclear power station (SNPP). In the first case the construction of co-generation plant with the capacity of 10-15 MW in Khatanga will be required, in the second — the placing of SNPP on the base of floating power unit (FPU) with reactor unit equipment KLT-40C (Figure 5.).

Figure 5. Floating nuclear thermoelectric plant (FNTP) in Yuryung-Khaya port

Along with this, the staged decommissioning of existing boilers and construction of cogeneration sources in other settlement areas will be arranged.

Organizational and economic measures aimed at effective use of strategic potential of the region

The immensity, comprehensiveness and complexity of the realization of project package, forming the core of the Khatanga-Anabar ATIC, require adequate scientific support as well as long-term and coordinated organizational decisions and measures permitting to effectively use the multiplicative effects of the discussed projects. To create Khatanga-Anabar ATIC it is necessary to find effective institutional solutions providing multi-level, multi-faceted cooperation, including a large number of participants.

That is why one of the important tasks is to seek mechanisms of such interactions. The Khatanga-Anabar ATIC is located at the territory of two constituent entities of the Russian Federation (the Krasnoyarsk Territory and the Republic of Sakha (Yakutia), on the one hand, with their own vision of the future, on the other hand, limited in the ability of investment support of the creating economic complex. Prospective investment projects, forming the Khatanga-Anabar ATIC will be implemented by various economic entities, which complicates the process of creating the integrated transport and logistics, energy and social infrastructure.

To overcome the potential contradictions, to organize integrated development of the territory and to reduce unproductive costs, it is necessary to consider the possibility of including the Khatanga-Anabar ATIC in the Program of development of the northern and Arctic areas of the Russian Federation (new edition of the State Program on social and economic development of the AZRF for the period till 2020 and later on). It is advisable to determine the federal structure as responsible for the further study of the project, at the level of the State Commission on the Development of the Arctic (created by the order №228, dated 14 March 2015, by the decree №431-p dated 14 March, 2015 for interaction of federal and regional executive authorities and local governments, other government agencies and organizations in solving social and economic problems of the development of the AZRF and provoding of the national security).

To form scientifically based, organizational and administrative, social and economic, engineering and manufacturing solutions, it is necessary: 1) to develop and begin implementation of research programs, including geological surveys, economic and social and economic research, the elaboration of the strategy of the integrated development of the Khatanga-Anabar ATIC, evaluation of possible environmental and social and cultural consequences; 2) to begin the development of technological schemes, rules and strategies for implementation of investment projects on the territory of Khatanga-Anabar ATIC; 3) to develop and start the implementation of the federal program for the use of extracted natural resources program (REM, impact diamonds,

etc.) to create new high-tech innovative industries.; 4) to establish effective administrative and economic mechanism for raising of the effects and increasing the capabilities from the use of new materials in the economy of the country.

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ОБЗОРЫ. REVIEWS

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Review of fishing in the Arctic waters

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Abstract. Today the enclave of the central part of the Arctic Ocean is closed by ice for any industrial activity. However, if the process of warming goes on, countries will have a real prospect for development of large-scale economic activities in the area, including commercial fishing. The article offers cross-section of the major activities in 2015 aimed at the establishment of an international multilateral convention on fishery management and scientific fishery research in the Arctic region. The cooperation of the Arctic Council countries in the field of fisheries in the framework of international agreements is considered, as well as the species composition of fish of the Arctic seas is given.

Keywords: *Arctic, the Arctic Ocean, enclave of the central part, fishing potential, fishery*

The relevance of research is determined by the increasing importance of international cooperation in the sphere of fishing in the northern seas, especially in the central part of the Arctic Ocean (AO) in connection with the ongoing climate changes and intensive melting of ice in the Arctic. The scope of fishing in the waters of the Arctic Ocean is currently governed by a number of international conventions (treaties, agreements, commissions, organizations), which mostly do not have a direct relation to the entire Arctic basin.

Among of them are: Northwest Atlantic Fisheries Organization (NAFO) — organization on fishing in the north-west Atlantic; North-East Atlantic Fisheries Commission (NEAFC) — regulating fishing in the North-East Atlantic; international treaties on marine mammal hunting regulations. The Pacific Convention of the North-West Pacific (including Bering Sea, Sea of Okhotsk and other seas) is also partially related to the fishery in the Arctic region. North Pacific Anadromous Fish Commission (NPAFC) regulates the research and management of salmon and trout stocks. The member countries of the Comission are Canada, Japan, Republic of Korea, the Russian Federation and the United States.

It must be borne in mind that international fishing conventions regulate those enclaves and sea fishing areas, which are not included in the special economic zones (SEZ) of the coastal

countries. Accordingly, it is just coastal countries develop the "rules of the game." Other states wishing to fish in areas of use of the international conventions, should comply with these rules.

The quotas for the Atlantic herring, ocean perch, mackerel are set in NEAFC Convention area for Russia. The development of blue whitings and deep-sea fisheries has good prospects for Russia here. In NAFO Russia is among the member countries that have priority in getting the largest fishing quotas. Russia is a member of NPAFC since salmon inhabit near Chukotka and from there comes to the Laptev Sea and other Russian waters. Thanks to the membership in NPAFC, Russia, with research of other countries (Canada, USA and Japan) forms forecasts for salmon approaches for the Russian fishermen. During the years of NPAFC activity, the state of salmon stocks has been improved, in the first place — of humpback salmon and red blueback [1, Okhanov A.A., p. 16].

In 2015, in accordance with international agreements in the field of fishing and preservation of aquatic biological resources (ABR), Russia got quotas for catch of ABR in the exclusive economic zones of foreign states (hereinafter — the EEZs of foreign countries) — 354.1 thousand tons and in convention areas — 297.2 thousand tons. The catch by the Russian vessels in 2015 in the EEZs of foreign countries amounted to 457.9 thousand tons of ABR, in the convention areas - 254.6 thousand tons, which amounted in total 712.5 thousand tons[1]. The mutual two-way exchange of quotas is iImplemented between the countries included in the Arctic Council. The fishing industry of the Russian Arctic zone accounts for up to 15% of the total volume of catches of aquatic biological resources and fishery products produced in the Russian Federation [2, Kochemasov U.V, Morgunov B.A., Solomatin V.I].

Cooperation between Russia and the countries of the Arctic Council in the field of fisheries

Russia's cooperation with the countries of the Arctic Council in the context of the mutual exchange of quotas in fisheries currently looks incoherently. For example, Russia does not have active fishing resource sharing with the US, Canada, Finland, Sweden, but there is cooperation on conservation, joint research of ABR (aquatic biological resources), the conclusion of the international convention on the central part of the Arctic Ocean, the fight against illegal fishing of aquatic biological resources (IUU fishing).

Russia — USA. The cooperation with the USA is very importatnt for Russia in the eastern part of the Russian Arctic waters and adjacent to them high seas areas. In 1988, the Soviet Union signed the agreement with the USA on mutual relations in the field of fisheries. The US-Russia

[1] Itogi deiatel'nosti Federal'nogo agentstva po rybolovstvu v 2015 godu i zadachi na 2016 god. p.11. URL: http: //fish.gov.ru/files/documents/ob_agentstve/kollegiya/itogi_2015_zadachi_2016.pdf (Accessed: 16 October 2016).

Intergovernmental Consultative Committee (ICC) on fisheries has been formed and is working actively. By now (October 2016) already 27 sessions of ICC have been hold. In 2009, in order to preserve the USA's unique Arctic ecosystem, the USA established the moratorium on all fisheries in the Arctic part of their EEZ. September 11, 2015 in Portland, at the 26th session of the ICC, Russia and the US signed an agreement on cooperation in fight against illegal, unregulated fishing of aquatic biological resources (IUU fishing)[2].

The RF and the USA use the information exchange for combating with poaching. There is mutual provision of data on the import of marine biological resources, discharge of products of sea fishing, violations and suspicious ships.

Competent authorities in the RF are Federal Security Service and the Federal Customs Service, in the United States — the National Office for the Study of Ocean and Atmosphere and the Coast Guards. As part of the annual sessions of the ICC on fisheries, these bodies carry out consultations on cooperation in preventing, deterring and eliminating of IUU fishing. At the 27th session of the Russian-American ICC on fisheries, held on 27-28 September, 2016, in Vladivostok, the possibilities of organizing of joint research in 2017 in the Bering and Chukchee Seas were discussed[3].

Russia — Canada. Already in the late 1990s Canada imposed a ban on all foreign fishing in their zone, including the issuance of paid licenses. Within the Arctic Ocean and its seas Canada has never led an active fishing of ABR. In 2014, Canada announced the Arctic fisheries management plan to ensure the sustainability of stocks for the indigenous population. The new fisheries management plan is designed to protect more than 800 thousand km^2 of the Canadian waters of the Beaufort Sea from the large-scale commercial fishing and to ensure sustainability of the resource for local residents[4]. In accordance with the plan, potentially future commercial fishing in this region will be possible only as a scientific research of stock assessment.

Russia — Norway. The permanent Russian-Norwegian Committee on management and control issues in the field of fisheries; the Russian-Norwegian working group on the development of common technical measures regulating fishing in the Barents and Norwegian Seas; the Working Group on conversion factors for the products from the jointly managed stocks of aquatic

[2] Rossiia i SShA zakliuchili antibrakon'erskoe soglashenie. URL: http://fishnews.ru/news/26998 (Accessed: 14 October 2016).
[3] Rossiia prodolzhaet tesno rabotat' s SShA po izucheniiu i okhrane resursov severnykh morei. URL: http:// www.tinro-center.ru/home/novosti/rossiaprodolzaettesnorabotatsssapoizuceniuiohraneresursovsevernyhmorej (Accessed: 16 October 2016).
[4] Promyshlennoe rybolovstvo v arkticheskikh raionakh Kanady mozhet osushchestvliat'sia tol'ko s soglasiia aborigenov / 19 noiabria 2014. URL: http://www.fishnet.ru/news/syrievaya_baza/44600.html (Accessed: 16 October 2016).

bioresources of the Barents and Norwegian Seas; Joint Norwegian-Russian Fisheries Commission function nowadays. Russian and Norwegian fisheries are mainly concentrated in the Barents and Norwegian Seas, are regulated by the exchange quotas. The main objects of these fishing - cod, haddock, halibut, herring, capelin, shrimp, whitings, catfish and flounder. The most valuable commercial species in both countries is the Atlantic cod. Norwegian fishermen catch mainly cod, haddock and northern shrimp in the Russian waters. Russia annually allocates to Norway 7000 heads of harp seals. The main objects of the Russian fishery in Norwegian waters are cod, haddock, saithe, herring, catfish and two species of redfish - Sebastes mentella and golden. The annual volume of shrimp (about 40 ths. tons) is underexploited by countries. [3, Glubokov A.I., Afanasyev P.K., Melnikov S.P., pp. 3-6]. In 2013, the main catch of aquatic biological resources in the EEZs of foreign countries arranged by Russian vessels accounted for Atlantic-Scandinavian herring, its catch in Norwegian zone, in the area of Svalbard, Jan Mayen and in the open area of the North-East Atlantic amounted to 78.3 thousand tons[5]. In October 2015 Federal Agency for Fishery and the Ministry of Climate and Environment of Norway signed a memorandum of mutual understanding in cooperation in the field of management issues, monitoring and research of wild Atlantic salmon in Finnmark and Murmansk region[6].

Particularly noteworthy are some aspects of cooperation between Russia and Norway in Svalbard, which has a special status. On the one hand, the archipelago is under Norwegian jurisdiction, but on the other hand, Norway is obliged to comply with the terms of Spitsbergen Treaty, signed in Paris in 1920. Despite the sovereignty of Norway over the archipelago, all the participants of the Treaty of Paris — more than 50 countries — have the right to carry out economic activities, including fishing in the territorial waters of Svalbard. Now here the most intense fishing is arranged by Russia (up to 60% of catch), Norway, the EU member states, Iceland, the Faroe Islands and Greenland. In the area of Spitsbergen Russian fishermen extract about 80 thousand tons of ABR, in the area of Jan Mayen up to 15 thousand tons. Main objects of fishing in these waters are more than 100 tons of herring, about 13 tons of saithe and up to 3 tons of catfish. At the same time, the Norwegian fishing rules in these waters are observed, constantly cases of arrests and penalizing of Russian ships by Norwegian Coast Quards happen. [4, Zilanov V.K., pp. 9-14]. Portsel A.K. in his monograph emphasizes that the introduction of Norway in 1977 of the legislation on the 200-mile fishery protection zone around Svalbard is not consistent with

[5] Itogi deiatel'nosti federal'nogo agentstva po rybolovstvu v 2013 g. i zadachi na 2014 g. URL: http://www.fish.gov.ru/files/documents/ob_agentstve/kollegiya/Materialy_k_zasedaniyu_Kollegii_Itogi_deyatelnosti_Federalnogo_agentstva_po_rybolovstvu_v_2013_godu_i_zadachi_na_2014_god.pdf (Accessed: 14 October 2016).

[6] Rosrybolovstvo raskritikovalo Norvegiiu za vylov dikogo lososia. URL: https://lenta.ru/news/2016/ 03/15/ stopsalmon/ (Accessed: 14 October 2016).

international law [5, Portsel A.K., pp. 51-54]. Many experts say about the need for more vigorous defense of Russia's economic interests in Svalbard, particularly in the field of fisheries[7]. Zilanov V.K. and others share the view that the areas outside the territorial waters of Svalbard are international waters, where fishing regulations should be applied, which were developed by the Norwegian-Russian Fisheries Commission (the stocks of cod, haddock, halibut, capelin, opilio crab are regulated) or NEAFC.

Russia — Denmark. Russia with Denmark have joint quotas, Denmark here represents Greenland and the Faroe Islands. In the framework of international agreements, Greenland allows Russian fishermen to catch the redfish and black halibut in its economic zone, as well as the possibility to catch 10% of demersal species. The volume of Russian catch in the EEZ of Greenland on the main object of black halibut fishery is about 3-4 thousand tons. Since 2013, Russian fishermen in Greenland EEZ also fish mackerel and herring on commercial contracts. Greenland vessels in the Russian economic zone in the Barents Sea takes cod, haddock and shrimp. During the Russian-Greenland consultations the number of vessels of each of the countries that can receive the permit to fish, is agreed, as well as the number of ships that can be present simultaneously (to fish) in the fishing zone of the country.

In this direction it is important for Russia to increase the exchange Russian quotas on bass and halibut. For Greenland, which is the country with shrimp tradition, with most modern fishing technology of shrimp, the possibility of development of the Russian Barents Sea shrimp fishery is interested, where its fishery is at a very low level, and consists of only a third of the recommended by TAC science. In this context Greenland has good prospects for the development of shrimp fishing in the Russian waters. In EEZ of the Faroe Islands the Russian fishermen produce about 70 thousand tons of ABR, a large proportion of the catch falls on blue whitings — up to 50 tons and mackerel — up to 20 tons. In favorable years, Russian quotas in number of these species, may be increased.

Russia — Iceland. In December 2015, the 15th session of the Joint Russian-Icelandic Fisheries Commission was held in the capital of Iceland. International cooperation in the fishing sector between our countries is based on the existing tripartite agreement between Russia, Norway and Iceland dated 15 May 1999. It concerns the allocation for the Icelandic fishing vessels of quotas for cod, haddock and other ABRs (catfish, American plaice, plaice) in the Russian EEZ in the Barents Sea. The countries annually analyze the results of the fulfillment of "Coordinated

[7] Interesy rybakov v vodakh Shpitsbergena nuzhdaiutsia v zashchite. URL: http://fishnews.ru/news/27580 (Accessed: 14 October 2016).

report of agreements between Russia and Iceland on issues related to satellite ship tracking system", they discuss the issues of bilateral scientific and technical cooperation, as well as the results of the activities of two countries in international fisheries organizations NAFO and NEAFC. For example, in NEAFC area Iceland provides the right for Russian fishermen to catch herring, and we give them the right to catch cod.

The open sea of the central part of the Arctic Ocean: on the way to conclusion of a convention

We are talking about an enclave in the Arctic Ocean, located outside the 200-mile economic zones of the Arctic states, with a total area of 2.8 million sq. km (Fig. 1).

Figure 1. The international waters of the Arctic (in the center).
URL: http://img.rg.ru/pril/article/73/12/92/vodi_arktiki-600.jpg

According to the legal status, the central part of the Arctic ocean is the open sea for all countries, fisheries management here should be based on the UN Law of the Sea (UNCLOS — United Nations Convention on the Law of the Sea) of 1982 and other international legal instruments [6, Bekyashev K.]. Since 2010, the issues of the conservation of fish stocks of the central part of the Arctic Ocean are discussed in the framework of multilateral and bilateral

consultations of the representatives and experts of the Arctic Ocean coastal states — Canada, Denmark, Norway, Russia and the United States. Multilateral consultations were held in Oslo (Norway) in 2010, in Anchorage (Alaska, USA) in 2011, in Washington (USA) in April — May 2013 and in Nuuk (Greenland, Kingdom of Denmark) in November 2013 [7, Zagorski A.V., Glubokov A.I., Khmeleva E.N., p. 26]. The US offered Russia to come up with a mutual initiative to create in the region the international convention for the regulation of fish stocks[8].

However, adhering to the principle that before introducing any prohibitions and restrictions, such a necessity must be proven and scientifically proved. Russia decided at that time to take waiting position. Federal Agency for Fishery Rosrybolovstvo in all international organizations traditionally adheres to the principle — research and study must be the first, then regulation. Several international conferences, multilateral consultations were held, regular expert meetings were organized, and the issue has moved from a dead point. Despite a lot of nuances and contradictions, the countries have begun to seek compromise wordings.

At the international conference of RIAC "The Arctic: the region of development and cooperation" on December 4, 2013 in Moscow, the Foundation Pew Charitable Trusts (Pew) together with representatives of the US State Department offered to sign the international agreement, which would allow to control fishing in the arctic enclave located outside the EEZ of the subarctic states. The proposal was unanimously supported by the experts - members of the RIAC conference.

In addition, the journal "Arctic and North" has already predicted that " the bear`s skin is sold before one has caught the bear" as the Arctic enclave has not been free from ice and ABR in this part of the Arctic Ocean have not been actually studied.

It was proposed to identify the specific steps (roadmap) for: 1) the study of the stocks of the biological resources of the Arctic Ocean in conditions of the climate change (both warming and cooling); 2) the development and negotiation of international legal mechanism for controlling commercial fishing, taking into account the existing UNCLOS (1982); 3) adoption and public discussion of options for the International Arctic Fisheries Agreement — the introduction of a voluntary moratorium on the extraction in the open sea before obtaining the necessary scientific data on stocks of ABR.

[8] Antibrakon'erskoe soglashenie s SShA na podkhode. 13 sent. 2011 g. URL: http://fishnews.ru/news/16560 (Accessed: 17 October 2016).

The moratorium in the international waters of the Arctic must be supported at least declaratively, by all the Arctic G20[9].

The question of the correlation of the definition of the "international waters of the Arctic Ocean" with the term the "continental shelf" also needed to be clarified. "International Arctic waters" — is enclave located outside the EEZ of the subarctic states. However, according to the UN Convention on the Law of the Sea (1982) outside the EEZ there is also the continental Arctic shelf. All the subarctic countries de facto have established their exclusive economic zones. The main “apple of discord" in the Arctic Ocean is now the continental shelf, the seabed. The disputed waters between three countries are shown in Figure 2.

Figure 2. The disputed waters of the Arctic ocean between Canada, Denmark and Russia (highlighted in red at the center).
URL: http://www.dur.ac.uk/ibru/resources/arctic/
The international borders research center of Durham University (IBRU, Durham University).

In order to find a compromise, the US even offered not to include the Svalbard area in the new convention area of responsibility, but in this case only a region covered with ice falls under regulation actually. And it is not very clear now how fast the warming process will go. As scientists

[9] Lukin Iu.F. Miagkaia sila v Arktike: kontrol' rybolovstva v tsirkumpoliarnoi zone. 15.12.2013 // Arktika i Sever: Arkticheskie novosti. URL: http://narfu.ru/aan/news.php? ELEMENT_ID=98068 (Accessed: 15 October 2016).

are still arguing: some say that there is a global warming and the Arctic Ocean is gradually released from the ice, every five years the temperature increases by 1-1.5 degrees, while others believe that it is a natural cycle: now there is a warming era, but then inevitably the era of cold weather will come. Now the Central Arctic is closed with ice for any industrial activity. And even if the area of the Arctic ice continues to shrink, commercial fishing will be possible only for a few weeks per year, during the short Arctic summer. It is unclear whether the southern species which go up due to warming, will be able to gain a foothold in the region with its extreme conditions in sufficient volumes for industrial fishing. Therefore, the question of economically viable fishing in the central Arctic is a matter of time, which needs caution.

July 16, 2015 in Oslo five subarctic states (Russia, Canada, Denmark, Norway and the United States) signed the Declaration on the prevention of unregulated fishing in the central part of the Arctic Ocean. The Declaration stated that industrial fishing in the open sea area of the central part of the Arctic today and in the near future is improbable. In this regard, the need for establishing a regional fisheries management organization in the region is absent.

However, in order to deter uncontrolled fishing in the area in the future, the countries will temporarily adhere to the principle not to allow commercial fishing without informing regional or sub-regional organizations or any other arrangements. And for the period of the moratorium, it is necessary to focus on research in the enclave. Thus, during the voluntary restriction, the countries will have to form a common understanding of the ecology in the area and its resources. In addition, indigenous peoples will be able to play an active role in descision making on the use of the resource base of the Arctic, those indigenous peoples who have a wide representation in the Arctic Council[10].

December 1-3, 2015 in Washington the first round of negotiations on an agreement on the conservation of fishery resources in the high seas area of the central part of the Arctic Ocean was held. However, to be valid for all other countries outside the Arctic, for the moratorium adopted on July 16, 2015 by the "Arctic Five", at a meeting in Washington not only representatives of the Arctic countries were invited, but also those who have interests in the region: China, South Korea, Japan, Iceland and the EU.

From 19 to 21 April 2016, in Washington the second round of negitiations on the prevention of unregulated commercial fishing in the high seas area of the central part of the Arctic Ocean took place. The delegations of Canada, Norway, the USA, Russia, Denmark (Greenland), China, the

[10] Priarkticheskie gosudarstva podpisali deklaratsiiu o predotvrashchenii nereguliruemogo promysla v Arktike. URL: http://fish.gov.ru/press-tsentr/novosti/5508-priarkticheskie-gosudarstva-podpisali-deklaratsiyu-o-predot-vrashchenii-nereguliruemogo-promysla-v-arktike (Accessed: 30 January 2016).

European Union, Iceland, Japan, Republic of Korea took part in the meeting. In general, they supported the temporal measures to prevent IUU fishing in the central Arctic enclave, but differed in their views on their format. In this regard, at the meeting in Washington three areas of possible actions were considered: 1) adoption of the extended declaration, in addition to which besides five subarctic states, the other leading fishing powers will join — China, Japan, South Korea, Iceland and the EU; 2) the signing of legally binding agreement between all participants of the negotiations on ban of the commercial fishing in the Arctic enclave until obtaining sufficient information about fish stocks and determining the legal regulation in this area; 3) the possibility of creating a new regional fisheries management organization in the central part of the Arctic Ocean in the near future. Countries-participants expressed understanding that such temporal measures should include the ecosystem and precautionary approaches in combination with traditional and local knowledge[11].

Fisheries research in the Arctic

14 subordinate organizations of the Federal Agency for Fisheries conducted scientific fisheries research in 2015: FSBSI "RFRIFO", "SFC", "PRIFO Center", "Kamchatka RIFO", "Magadan RIFO", "Polar Research Institute of Marine Fisheries and Oceanography", "SakhRIFO" etc.

Fishery science in 2015 paid attention to the research of the state of aquatic bioresources, as well as clarifying the TAC for the current year and the preparation of the forecast of harvest of aquatic biological resources in 2016r.

The Pacific Research Institute of Fisheries and Oceanography, PRIFO Center, has successfully conducted complex fishery investigations of aquatic biological resources of the Arctic waters in accordance with new five-year program from 2014[12].

The first in the history of industry research, expedition of research vessel "TINRO" in the East Siberian Sea and the Laptev Sea, from 1 June to 25 October, 2015, provided unique data on their hydrology, fishery and biology. Arctic polar cod become a dominant. In the southern part of the East Siberian Sea, the scientists met with 11 species of fish with a total biomass of 695.3 tons. The most numerous was the polar cod (60.7% of considered biomass) and capelin (16%). In the Laptev Sea, the most common fish was also Polar cod (about 130 ths. tons, almost 99% of the total considered fish fauna).

In general, the species composition of fish in the Laptev Sea is rich. The total biomass of shellfish in the area of work was estimated about 216 tons. On the continental slope within the

[11] Rybolovstvo v Arktike: ot diplomatii k nauke. URL: http://www.fishnotice.com/news?idnews=362948 (Accessed: 15 October 2016).
[12] TINRO-Tsentr vpervye provel kompleksnye issledovaniia v Arktike URL: http://www.fish-expert.pro/record/statja/analitika/tinro-tcentr-vpervye-provyol-kompleksnye-issled-r10420 (Accessed: 04 February 2016).

maximum surveyed depths (400-504 m) black halibut was found, which was a mystery to scientists, it was conjectured that it penetrates into the Laptev Sea from the Atlantic[13]. PRIFO Center specialists also managed to make a large-scale bottom filming in the north-western part of the Bering Sea, which showed that stocks of cod, halibut, grenadier and flatfish remain at a good level. The biomass of cod in the area of Anadyr and Chukotka zone was estimated as 680 thousand tons. Black halibut biomass was 36.7 thousand tons, but in the course of the filming the reduction in number of individuals of younger ages was observed. According to the results of a bottom trawl survey, total wall-eyed Pollack biomass was estimated as 2.7 million tonnes. Experts estimated the biomass of herring in the West Bering Sea zone at 860 thousand tones, which corresponds to its successful fishing. Blue crab stocks increased in 3 times. The total number of fishing crab in the Bering Sea amounted to 3.8 billion exemplars with biomass of 266 thousand tons. As for shrimp met in the north-western part of the Bering Sea, there two most widespread types: humpy shrimp (37.8 thousand tons) and northern shrimp (20.3 thousand tons)[14]. In 2015, PRIFO Center continued working on monitoring the state of the habitat of aquatic biological resources of the Far Eastern seas, the expedition to the eastern sector of the Arctic (the Laptev Sea and East Siberian sea) was conducted.

Lusin Institute for Economic Studies (Kola Scientific Center of RAS) conducted research in the Western Arctic and to developed proposals promoting efficiency and competitiveness of the fishing industry in the Arctic, including the development of coastal fisheries at new industrial basis, carried out a comparative analysis of the economic efficiency of the Russian export (Murmansk region) with Norway of the main valuable commercial fish: cod, haddock and saithe[15].

In 2015 Polar Research Institute of Marine Fisheries and Oceanography made the assessment of ABR and their habitats in the Barents, White, Kara Seas to prove the Russian position in the ICES, NEAFC, NAFO, the bilateral Intergovernmental Commissions on Fisheries and other international events. According to research results in 2015, the impact of economic activities on the state of commercial bioresources and their habitats was within the natural fluctuations in the White Sea, in the south-eastern part of the Barents Sea, in the south-western part of the Kara Sea and freshwater reservoirs of their basins. In 2015, at the trout farm, placed in the Kandalaksha

[13] TINRO-Tsentr podvel itogi unikal'noi ekspeditsii. URL: http://fishnews.ru/news/27595 (Accessed: 01 February 2016).
[14] ibidem
[15] Otchet o NIR po teme «Nauchnye i prikladnye osnovy gos. politiki funktsionirovapniia resursno-syr'evoi ekonomiki na shel'fe i v pribrezhnoi zone Rosiiskoi Arktiki v usloviiakh globalizatsii. Apatity, 2015 URL: http://www.iep.kolasc.net.ru/vasnir2015.pdf (Accessed: 16 October 2016).

Bay of the White Sea, rainbow trout with an average weight of 1900-2700 g, was rased during one growing season[16].

Ministry of Natural Resources of RF at the end of 2015 approved the list of species of flora and fauna that are indicators of a steady state of marine ecosystems of the Arctic zone of the Russian Federation[17].

Indicator species include living organisms responding to environmental changes by their presence or absence, appearance, chemical composition, behavior. With the use of environmental monitoring indicator species often gives more valuable information than direct assessment with the help of special devices, since indicators react immediately to the entire impact system. In addition, having a "memory", such organisms reflect by their reactions the pollution for a long period. The list was approved by order of the Ministry of Natural Resources of the RF dated 22 October №r 25-p. It consists of 61 items. List of fish includes the Asian toothy, nine-and three-spined smelt, Arctic cod, various types of saffron cod and the northern slope. List of shellfish — crab spider and copepods. Mammals — Polar bear, walrus, ringed seal, beluga and bowhead whale. Also — brown, red, green, diatoms and dinoflagellates, sea squirts, chaetognaths, polychaete worms, echinoderms, mollusks and birds. The list is recommended for oil and gas companies that develop deposits on the Arctic continental shelf, in the internal sea waters, territorial sea and the adjacent zone of Russia. The document is proposed to use as a basis for the development of programs for the conservation of biological diversity.

In general, the Russia needs its own state program of study of aquatic bioresources in the Arctic. There is now such a comprehensive national program until now. Existing state programs related to fisheries, do not solve this problem. The Audit Chamber analyzing the performance of SP of Russia "Development of the Fisheries Industry" for 2013-2020, noted that “35 from 39 target indicators do not meet the requirement of reliability included in subprograms (89% in total)”[18].

Among the non-Arctic countries, South Korea is going to actively study the Arctic. In this country there is a network of South Korean research institutions, bringing together about 30 organizations. the Minister of Maritime Affairs and Fisheries of South Korea, Yoo Gi Jung announced the creating of scientific consortium, on September 30, 2015. A landmark in this work

[16] Itogi deiatel'nosti Federal'nogo agentstva po rybolovstvu v 2015 godu i zadachi na 2016 god, p.33, 72 URL: http: //fish.gov.ru/files/documents/ob_agentstve/kollegiya/itogi_2015_zadachi_2016.pdf (Accessed: 16.10. 2016).

[17] Rasporiazhenie Minprirody Rossii ot 22.09.2015 № 25-r «Ob utverzhdenii perechnia vidov flory i fauny, iavliaiushchikhsia indikatorami ustoichivogo sostoianiia morskikh ekosistem AZRF». URL: http://www.mnr.gov.ru/ regulatory/detail.php?ID=142243 (Accessed: 30.01.2016)

[18] Gosudarstvennaia programma Rossiiskoii Federatsii «Razvitie rybokhoziaĭstvennogo kompleksa» // Informatsiia po itogam ekspertizy gosudarstvennykh programm RF po sostoianiiu na 1 iiunia 2014 g. Schetnaia palata RF: Biulleten'. Spetsvypusk. p. 73–74

will be the creation of the Consortium of the US Arctic Research in 1988 and the Japanese consortium of the Arctic environmental research in 2011. With scientific activity, the South Korea hopes to overcome the geographical restriction, not allowing it to participate actively in the development of the Arctic, where part of the water area is the exclusive economic zones of five Arctic states.

Conclusion

Thus, the central part of the Arctic Ocean is not currently regulated by international convention on fisheries. US hasten other coastal states to accept such an agreement and jointly sign regulations, so that countries, that are not related to the Arctic enclave in the central part of the Arctic Ocean, can not arrange exploration and development of mineral resources under the guise of fishing. Today the area is still covered with ice, and the subject of regulation of the proposed agreement is in the process of creation.

Meanwhile, fears of the Arctic countries continue to grow. Exploration survey, scientific research of resources is governed by the laws of the special economic zones and a coastal country has the right to deny another country to conduct such types of work. And this happens in most cases.

The complexity of the monitoring of the Arctic region requires effective coordination of the Arctic states and third countries in conducting research programs, and filming. To assess the possible scenarios of future changes in the Arctic ecosystems and the spatial distribution of species it is necessary to develop mathematical models. In the new future, scientists will have to answer such questions as: are there fish resources in the enclave of the central part of the Arctic Ocean which are potentially suitable for industrial fishing? If such resources are available, whether they can be used consistently with respect to the target resource and the ecosystem as a whole? What are the prospects for the development of fisheries in the central part of the Arctic Ocean in the future? What changes in stocks of ABR and their dependent species, as well as supporting ecosystems in the central part of the Arctic Ocean and the surrounding areas may occur in the next 20-30 years? How the legal status of the central part of the Arctic continental shelf will be regulated, taking into account the division of the continental shelf between Denmark, Canada, Russia, in accordance with the existing UNCLOS 1982 (The United Nations Convention on the Law of the Sea)? Despite the fact that the active fishing in the high seas area of the central part of the Arctic ocean is hardly possible in the near future, climatic and environmental conditions set new realities for fishing in the economic zones of five subarctic states where commercial fishing is actively carried out and and international cooperation is developed.

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The Arctic tourism in Russia

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Abstract. In the new book "Arctic tourism in Russia" the basic concepts, resource potential, attractiveness (from Lat. Attrahere: to attract), opportunities and threats of environmental, cruise, international, and other types of tourism in the Arctic are system-based analyzed, for the first time in the literature. The sphere of tourism has becoming an integral sector of the economy, having a multiplicative effect for the development of infrastructure, social services, employment. Reference materials about the tourism products in the Russian Arctic and Far North regions are published, including the Arkhangelsk and Murmansk regions; Republic of Karelia, Komi, Sakha (Yakutia); Nenets, the Yamalo-Nenets, Khanty-Mansiysk, the Chukotka Autonomous Districts; Taimyr Dolgan-Nenets Municipal District, Turukhansk district, the city of Norilsk of the Krasnoyarsk region; Magadan region, Kamchatka region.

Keywords: *The Arctic tourism, Russia, regions, rating, pr, tourism products*

In September 2016, in the publishing house of NArFU named after Bulatov V.N., the scientific reference book "The Arctic tourism in Russia" was published [1]. This is a joint collective work of teachers, staff, undergraduates, students, experts of three largest universities in the country: Northern (Arctic) Federal University named after M.V. Lomonosov, Lomonosov Moscow State University, St. Petersburg State University, as well as the Arctic and the Antarctic Research Institute, the Russian State Hydrometeorological University, St. Petersburg State University of Economics and others. The edition includes the analytical part and a guide on the tourism products of the northern regions of the country in view of the fact that all subjects of the Russian Arctic (AZRF) are legitimate parts of the regions of the Far North of Russia.

In the first analytic part of the book, N.M. Byzova, Y.G. Gavrilov, E.I. Golubeva, L.N. Drachkova, K.S. Zaykov, L.O. Zelyutkina, A.V. Karpova, N.I. Kirasheva, E.M. Korostelev, V.S. Kuznetsov, Y.F. Lukin, E.E. Plisetsky, D.V. Sevastyanov, T.V. Sidorovskaya, N.I. Tulskaya, N.K. Harlampeva, M.V. Tsekina [1, pp. 6-117] explore basic concepts, tourist attractiveness of the Arctic islands, resource potential, prospects, opportunities and threats of the Arctic tourism, tourist rating of the Russian Arctic regions, problems of ecological tourism, training of specialists for the tourism industry. The following articles are published:

- Byzova N.M. Tourist attractiveness of the Arctic islands in the Arkhangelsk region.
- Golubeva E.I., Tulskaya N.I., Tsekina M.V., Kirasheva N.I. Problems of development of ecological tourism in protected areas of the Russian Arctic.
- Drachkova L.N. Natural recreational, historical and cultural potential of the Russian Arctic.

- Kuznetsov V.S. View of a practician on the state and prospects of development of tourism in the west sector of the Russian Arctic.
- Lukin Y.F. Tourism in the Arctic: conceptual approaches, the resources of the regions.
- Sevastyanov D.V., Korostelev E.M., Gavrilov Y.G., Zelyutkina L.O., Karpova A.V. The International tourism and rational environmental management - the modern trend of the development of the Russian Arctic.
- Sidorovskaya T.V. About the development and implementation of the master's program "Tourism in the Northern Dimension".
- Harlampeva N.K. Theoretical and methodological ground for the development of tourism in the Arctic.

The concept of the Arctic tourism has almost become a part of tourist business management at the federal and regional levels, in the activities of tourist operators and agencies. If we talk about the Arctic tourism, both as scientific and practical definitions, the grounds for its selection are, firstly, peculiarities of the tourist natural, cultural and historical potential of the circumpolar space, a wealth of cultural and natural heritage, including UNESCO objects, the presence of a significant amount of Special Protected Natural Areas (SPNA), the northern sea waters, which allows us to offer the unique tourism products only here, exclusively in the Arctic. *Secondly,* the attractiveness (from the Latin “attrahere” — to attract) of the Arctic, its traditional image as Terra Incognita (from the Latin — "unknown land".) which always attracts, fascinates some of the people, travelers, tourists. The Arctic even in the XXI century remains unexplored land, a little-known to modern people. Though here it is more accurate to speak not about the earth ("Terra") in the literal sense, not about the earthly land, but about great water-territorial circumpolar (around the North Pole) space, which is covered by ice a lot of time during the year.

Thirdly, the satisfaction of spiritual and other needs, motivation, psychology of the person, seeking drive, strong impressions, the desire to purchase a special tourism product, radically different from the usual trips to Sochi, the Crimea, or to Cyprus, Italy. The Arctic tourism, even during a sea cruise on a comfortable ship is to some extent always extreme, it mentally checks human qualities in different situations. We should not close our eyes on the fact that extreme Arctic tourism positively characterizes the identity of the tourist in the perception of family and friends, colleagues. For example, when people say: "We have been at the North Pole, in the Arctic, on the islands where white bears live, have followed the Northern sea route. "

Fourthly, appearance and active promotion of the tourist business in the marketing, as well as such a strong and attractive brand as "Arctic tourism" in public opinion, its development as a sector of the economy, bringing income, profit, affecting the social and economic development of regions, the welfare of the population.

Fifthly, the international significance of the Arctic type of tourism, requiring the cooperation of resources and partnerships for its organization, safety and coordination of efforts in the harsh, often extreme conditions of the Arctic region.

All this taken together, allows to distinguish relatively the Arctic tourism from other types of tourism, as *a unique tourist product demanded by consumers*. This demand is limited mainly by a wallet of a client, the cost of sea cruises, transport inaccessibility of artifacts and the beauties of nature in the Arctic. Using business language and official conceptual definitions, we can say that the *Arctic tourism* - it is an internal and international tourism in the Arctic, which is a promising sector of the Russian economy. The Arctic tourism is defined as domestic for citizens permanently residing in Russia; or the inbound for foreign citizen not living in our country.

The Arctic international tourism at the same time quite reasonably covers the entire Arctic region providing complex of tourist services not only in the Russian Arctic, but also abroad. It is the North Pole, Spitzbergen (Svalbard in Norwegian), Alaska (the United States), Norway, Greenland, Iceland, Canada, islands and waters of all the seas of the Arctic Ocean. This broad localization of objects of the tourist business involves the international integration. The Arctic tourism is impossible to develop alone, as the provision of safe tourist trips in the extreme conditions of the Far North (high-latitude areas of the AZRF are complete parts of it) seems capital-intensive and requires specific knowledge and expertise. There is no doubt that the effective development of the entire Arctic tourism infrastructure, in spite of today's existing risks, is a factor of international partnership and tehnological modernization of the economy of the northern territories.

The Arctic domestic tourism is related directly only to the Russian Arctic, including the land areas in the regions and municipalities, included in the AZRF, and partially the waters of the northern seas in the Arctic Ocean in the exclusive economical zones (EEZ) of Russia. Cruise and other routes to the North Pole with this approach can be defined as international Arctic tourism products, although some visas and coordinations for them may not be required.

Tourist rating of regions of the Russian Arctic, made on the basis of the first national ranking of Tourism (2015), as follows:

Place in the national rankings 2015	Subjects of the RF and municipal entities, Included in the land territories of the AZRF by presidential decree of May 2, 2014 №296	Score	Place in the Arctic rankings
30	The Murmansk region	43.0	1
38	Krasnoyarsk Territory: Norilsk, the Taimyr Dolgano-Nenets Autonomous District, Turukhan area (Igarka)	40.7	2
42	The Arkhangelsk region: Arkhangelsk, Mezen MD, Novaya Zemlya, Novodvinsk, Onega MD, Primorsky MD, Severodvinsk, islands in the Arctic ocean	39.6	3

52	Chukotka Autonomous Region	34.2	4
54	The Komi Republic: Vorkuta	33.5	5
58	The Republic of Sakha (Yakutia): Alaikhovsky settlement (district), Anabar national (Dolgano-Evenk) settlement (district)), Bulunsky settlement (district), Nizhnekolymsky district, Ust-Yansky settlement (district)	32.1	6
62	The Yamalo-Nenets Autonomous Area	30.9	7
72	The Nenets Autonomous Area	27.2	8

As N.M. Byzova notes, the islands of Frantz Josef Land Archipelago and Novaya Zemlya in the Arkhangelsk region are very attractive. Unique natural landscapes, a diversity of sea ice, ice sheets, icebergs, the arctic rivers, varying flora and fauna form a unique tourist objects that can be considered as factors that influence on the formation of the tourist potential of the Arctic territories.

Golubeva E.I., Tulskaya N.I., Tsekina M.V., Kirasheva N.I. (Moscow State University named after M.V. Lomonosov) considering the problems and prospects of development of ecological tourism in SPNA in the Russian Arctic, propose the creation of united terminology database for the concept of "ecological tourism", distinguish its promising aspects, present two maps of national parks and reserves in the RF. Considering the Arctic in terms of tourism development, the authors evaluate the specifics of eco-tourism in the region, which includes: extreme climatic conditions (seasonality of tourism products); low transport accessibility, as a consequence, the high cost of tours; poor quality of information on ecotourism in the Arctic region; visa issues for foreign tourists; lack of guaranteed tourism demand, as a consequence, low interest of travel agencies; high vulnerability of the Arctic ecosystems.

Kuznetsov V.S., one of the founders of the National Park "Russian Arctic", the author of a number of scientific and educational works on the history of the discovery and development of the Arctic Frantz Josef Land Archipelago and Novaya Zemlya, gives assessment of tourist activity in terms of the developing sector of the economy, as a result of increased interest of people to rest and travel at the present stage. He suggests the project of the Concept of tourism development in the national park "Russian Arctic" and the state reserve of federal importance "Franz Josef Land".

Sevastyanov D.V., Korostelev E.M., Gavrilov Y.G., Zelyutkina L.O., Karpova A.V. (St. Petersburg), considering the current problems of recreation and international tourism in the Arctic, analyze foreign experience of recreational management of natural resources and social and econimic role of the development of tourist and recreation areas in the polar latitudes in today's conditions of climate and landscape changes, the reasons for the lack of development of tourism

resources in the Arctic Russian sector, prospects for the development of infrastructure and transport provision of tourist access to the polar regions.

In the reference section of the book information about tourist products in the Russian Arctic is published, as well as in conjugate regions of the Far North, including the Arkhangelsk and Murmansk regions; Republic of Karelia, Komi, Sakha (Yakutia); the Nenets, the Yamalo-Nenets, Khanty-Mansi, the Chukotka Autonomous Districts; Taimyr Dolgan-Nenets Municipal District, Turukhansk district, the city of Norilsk of the Krasnoyarsk Territory; Magadan region, Kamchatka region.

The authors and compilers of the tourist guide according to the regions are the students and undergraduates: V.S. Bondina, O.A. Gildeeva, M.V. Dubrovin, R.V. Eletskaya, A.V. Elizarova, A.P. Zuevskaya, A.G. Ivanova, V.A Ivanova, D.A. Ivanovsky, A.V. Kopeeva, E.N. Kruchinina, K.M. Mamedov, M.A. Mardarovsky, I.A. Mokh, K.N. Osovskaya, T.A. Sivtsova, E.I. Sidelnikova, A.P. Terekhova, V.V. Timofeev, P.N. Cekh, S.P. Shaparenko, E.N. Shestakova. Business cards of 11 entities of the Russian Federation are published in the reference book (Murmansk and Arkhangelsk regions, the NAA, the Komi Republic, Yamalo-Nenets District, Republic of Karelia and Sakha (Yakutia), Chukotka, Khanty-Mansi District-Yugra, Magadan region, Kamchatka region) and 11 municipalities (Arkhangelsk, Severdvinsk, Novodvinsk, Novaya Zemlya, Primorsky, Mezen and Onega distrcists, Vorkuta, Taimyr Dolgan-Nenets districts, Norilsk, Turukhan district). All these Arctic territories are included in the Far North. In this section there is all available information about the tourist companies and destinations they offer in the regions, including the program by days, the total time duration of the tours, their prices. This information is constantly updated in the real life, but on the whole the reference book gives the objective view of the state of the development of the Arctic tourism.

The annex provides addresses and phone numbers of tourism management bodies [1, p. 234-235], the individual regulations on tourism development, adopted in the regions [1, p. 236-252]. The resolution of the 4th meeting of the Arctic expert club "Arctic tourism in Russia" dated February 17, 2016, prepared by K.S. Zaikov and E.E. Plisetsky, is published [1, pp. 253-256].

The published reference book is intended for teachers and researchers, university students, tourists and tourist organizations, regional authorities and management in the Arctic, in northern Russia, for all interested in the development of Arctic tourism. The electronic version of the “Arctic tourism in Russia"can be found in the Arctic electronic encyclopedia URL: http://narfu.ru/aan/Encyclopedia_Arctic/ind.php

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Summary

Авторы, аннотации, ключевые слова
Authors, abstracts, keywords

ЭКОНОМИКА, ПОЛИТИКА, СОЦИУМ И КУЛЬТУРА
ECONOMICS AND POLITICAL SCIENCE, SOCIETY AND CULTURE

Sandi Lansetti The “keep in the ground future” of Arctic fossil fuel resources
Лансетти, Санди Будущее арктических запасов ископаемого топлива — оставаться в земле

Abstract. It is extremely important to understand which role Arctic fossil fuel resources will play in the development and geopolitics of the Arctic region. The article analyses the recent trends in the world energy supply with special focus on renewable energy and future demand for fossil fuels. Focusing on the Arctic LNG projects it comes to the conclusion that there is a growing possibility that the majority of Arctic oil and natural gas will be kept in the ground. Such an outcome would strongly influence the sustainable development and geopolitics of the region.

Keywords: *Arctic fossil fuels, renewable energy, carbon budget, oil and gas demand, transport electrification, Yamal LNG, International cooperation*

Аннотация. Чрезвычайно важно понимать, какую роль арктические запасы ископаемого топлива будут играть в развитии и геополитике Арктического региона. В статье анализируются последние тенденции в мировой энергетике с особым акцентом на возобновляемые источники энергии, рассматривается спрос на ископаемые виды топлива в будущем. Особое внимание уделяется арктическим СПГ-проектам. По мнению автора, существует высокая вероятность того, что запасы большей части арктической нефти и природного газа так и останутся в недрах земли, что окажет заметное влияние на развитие и геополитику региона.

Ключевые слова: *арктическое ископаемое топливо, возобновляемая энергия, бюджет углерода, спрос на нефть и газ, электрификация транспорта, Ямал СПГ, международное сотрудничество*

Jukka Nyyssönen A cosmopolitan, Sami-friendly scholar? Väinö Tanner on the best way to treat the Sami
Нюссонен, Юкка Дружественный саамам учёный-космополит? Вяйнё Таннер о наилучшем способе обращения с саамами

Abstract. The topic of this article is Väinö Tanner’s views on Sami policies, which are examined from numerous perspectives, including his personal career and Nordic Sami policies. The discursive resources that he re-produced are also charted. Of the Sami policies in existence at that time, Tanner advocated the Swedish variant, which suited better the agenda of his scholarly production on the Skolt Sami. The origins of his choice are located in his long-term professional contact with Swedish experts on the Sami and the expert role provided by Swedish discourses on the Sami. The anti-Finnish agenda in his scholarly production, and his consequent wish to elevate the Sami in the hierarchies of that time, rendered the more aggressive Norwegian rhetoric on the Sami unusable. In addition, Tanner showed signs of a cultural sensitivity that made him suspicious of assimilative policies.

Аннотация. В данной статье рассматриваются идеи Вяйнё Таннера о политике в отношении саамов, взятые из многочисленных источников, в том числе из описания его личной карьеры и североевропейской политики касательно саамов, включая дискурсивные ресурсы, которые он создал. В существующей в то время политике в отношении саамов он выступал за шведский вариант, наиболее подходящий для круга вопросов в его работах о народности скольт-саамов. Его выбор объясняется более долгим профессиональным общением со шведскими экспертами по теме саамов и его ролью эксперта в этих дискуссиях. Антифинские вопросы в его научных работах и соответствующее желание поднять позицию саамов в иерархии превратили более агрессивную норвежскую риторику о саамах в непригодную для использования. Кроме того, он показал признаки культурной

чувствительности, которые сделали его достаточно осторожным в отношении ассимилятивной политики.

Keywords: *Väinö Tanner, Sami research, history of Sami policies, history of minority policies*

Ключевые слова: *Вяйнё Таннер, исследование народов Саами, история политики в отношении саамов, история политики малых народностей*

Астахова И.С., Жданова Л.Р. Геологическое наследие академических экспедиций на арктическом побережье Европейской части России

Irina S. Astakhova, Liliya R. Zhdanova The geological heritage of academic expeditions on the Arctic coast of European Russia

Аннотация. В работе кратко описывается история и результаты исследований геологии Арктических территорий. Отражены научные результаты, полученные сотрудниками Института геологии КНЦ УрО РАН в результате экспедиционных работ начиная с 1958 г. Приведены данные по геологическим коллекциям с арктических территорий северо-восточной части Восточно-Европейской платформы, Тиманского кряжа и северной части Уральской складчатой системы с продолжающей её островной цепью (Вайгач, Новая Земля). Геологический музей им. А.А. Чернова может являться региональным научно-образовательным ядром по сохранению историко-культурного и природного наследия Арктики.

Ключевые слова: *научные исследования, экспедиции, Арктика, геологический музей, коллекция*

Abstract. The work briefly describes the history and research results of geology of the Arctic territories. It reflects the scientific results obtained during field works of the Institute of Geology of Komi Science Centre of the UB of the RAS since 1958. The data on geological collections from the Arctic territories of the North-Eastern part of the East European platform, Timan and the Northern Ural with islands Vaigach, Novaya Zemlya is given. Geological Museum named after A.A. Chernov can be a regional research and education core for the conservation of historical, cultural and natural heritage of Arctic.

Keywords: *scientific research, expeditions, Arctic, geological museum, collection*

Бабёнышева К.С. Этнодемографические процессы среди саамов современной Норвегии

Kseniia S. Babenysheva Ethnodemographic processes among the Sami of modern Norway

Аннотация. На основе использования статистических данных и сравнительного анализа в статье выявляются этнодемографические процессы среди саамов Норвегии в 2000—2013 гг., в том числе: динамика численности, естественный прирост, факторы и причины, обусловившие их в исследуемый период. Проведён краткий анализ литературы по теме исследования. Стабильная экономическая ситуация в целом способствует улучшению положения саамов. На современном этапе созданы соответствующие условия для сохранения традиционного экономического уклада, этнической идентичности саамов, основой которого является развитие языка.

Ключевые слова: *коренные народы, Норвегия, саамы, этнодемографические процессы*

Abstract. On the basis of statistics and comparative analysis the article shows ethnodemographic processes among the Sami of Norway in 2000—2013, including the dynamic of population, natural increase, factors and reasons which caused them in this period. The short analysis of references has been made. Stable economic situation is improving the conditions of Sami. At the modern stage, special conditions for keeping the Sami's ethnic identity are arranged, the basis of which is the language development.

Keywords: *indigenous people, Norway, Sami, ethnodemographic processes*

Голомидова П.С., Сабуров А.А. Государственная политика в отношении коренных народов Аляски: исторический обзор и современные проблемы
Polina S. Golomidova, Aleksander A. Saburov State policy towards indigenous peoples of Alaska: historical review and contemporary issues

Аннотация. В статье проанализированы основные этапы развития политики в отношении коренных народов Аляски и её влияние на аборигенные культуры с начала российской колонизации в XVIII в. по настоящее время. Авторы приходят к выводу о том, что современную политику в отношении коренных народов Аляски в целом можно признать успешной и способствующей развитию традиционных культур. Среди её достижений можно выделить высокий уровень самоорганизации и самоуправления индигенного населения, законодательно закрепленные права на землю и ресурсы, успехи в сохранении культурного наследия. Вместе с тем проблемы социально-экономического характера, с которыми сталкиваются коренные жители, представляют потенциальную угрозу для политической стабильности на Аляске.

Ключевые слова: *Аляска, коренные народы, политика, аккультурация, сегрегация, ассимиляция, мультикультурализм, права*

Abstract. The article analyzes main stages of policy development towards indigenous peoples of Alaska and its influence on aboriginal cultures from the beginning of Russian colonization in the 18th century up to present time. The authors conclude that current policy towards indigenous peoples in Alaska can be generally evaluated as successful and supporting development of traditional cultures. The main achievements of this policy are: high level of self-organization and self-government of Alaska natives, legally secured rights for land and resources, progress in conservation of cultural heritage. However, social and economic challenges faced by indigenous people present a potential threat to the political stability in Alaska.

Keywords: *Alaska, indigenous peoples, policy, acculturation, segregation, assimilation, multiculturalism, rights*

Кондраль Д.П., Морозов Н.А. Изучение Арктической зоны Российской Федерации: опыт политологического анализа
Dmitry P. Kondral, Nikolai A. Morozov Studying the Russian Arctic: the experience of political analysis

Аннотация. Авторами рассмотрены основные направления политологического изучения вопросов развития северных регионов страны, теоретических и прикладных исследований в области стратегического управления процессами пространственно-территориального развития Севера и Арктики России. Систематизированы и обобщены ключевые направления политологических исследований по вопросам управления этими процессами, проанализированы основные внешне и внутриполитические вопросы развития арктических и приарктических регионов страны, связанные с качеством системы политического управления процессами их пространственного и социального развития. Исследованы механизмы учёта интересов ключевых акторов на Севере России, приведены рекомендации по совершенствованию механизмов управления процессами пространственного и социального развития северных регионов страны. Исследователи отмечают развитие новой парадигмы рассмотрения Севера и Арктики России, предполагающей признание ценности северных

Abstract. The authors discuss the main directions of the political science study of the issues of development of northern regions of the country, the theoretical and applied research in the field of strategic management processes of spatial and territorial development of the North and the Russian Arctic. Key areas of political studies on the management of these processes are systematized and summarized, the main external and internal issues of the Arctic and subarctic regions of the country are analized, connected with the quality of the political process control systems of their spatial and social development. The mechanisms of accounting of interests of key actors in the North of Russia are investigated, recommendations for improving process of control mechanisms of spatial and social development of the northern regions of the country are given. The researchers specify the development of a new paradigm of considering the North and the Russian Arctic, involving the recognition of the value of the northern territories, not only as a resource base of the country, but mostly as social formations.

территорий не только как ресурсной базы страны, а, первостепенно, как социальных образований.

Ключевые слова: *Арктическая зона, Россия, Север, политологический анализ, принятие управленческих решений, исследование процессов, стратегические проекты*

Keywords: the *Arctic zone, Russia, North, political analysis, management decisions, research processes, strategic projects*

Котлова Е.С. В поисках баланса: шведская модель этнической политики на современном этапе
Ekaterina S. Kotlova Searching for balance: Swedish ethnic policy model today

Аннотация. В настоящей статье рассматриваются модели этнической политики Швеции в отношении коренного населения, национальных меньшинств и мигрантов. Наиболее важным представляется проанализировать этнополитические модели (аккультурации, ассимиляции, сегрегации и интеграции), обстоятельства, повлекшие за собой изменения государственной политики, а также их эффективность в условиях современной кризисной ситуации.

Abstract. The article is devoted to ethnic policy models in Sweden regarding indigenous population, national minorities and migrants. It seems most important to analize the ethnic policy models (acculturation, assimilation, segregation and integration policy) and circumstances which caused changes in state policy, as well as the efficiency in conditions of the modern crisis situation.

Ключевые слова: *этнонациональная политика, коренные народы, миграция, Швеция, интеграция, национализм*

Keywords: *ethnic policy models, indigenous people, migration, Sweden, integration, nationalism*

Медведева О.Е., Вакула М.А. Методика отбора инвестиционных проектов ликвидации накопленного вреда окружающей среде в Арктической зоне России на основе анализа затрат и выгод
Olga E. Medvedeva, Marina A. Vakula Technique of the selection of investment projects for elimination of accumulated damage to the environment in the Russian Arctic based on cost-benefit analysis

Аннотация. Ущерб, причинённый природной среде Арктики в прошлые годы, достаточно велик и требует устранения. Ликвидация последствий причинённого в прошлом вреда требует значительных инвестиций. В условиях ограниченности финансовых ресурсов необходим отбор наиболее эффективных с позиций общества проектов. Инструментом такого отбора может стать оценка эколого-экономической эффективности проектов по ликвидации прошлого экологического вреда на основе анализа затраты-выгоды, заключающаяся в учёте нерыночных экологических эффектов восстановления окружающей среды Арктики. В статье приводится алгоритм такой оценки и отбора проектов и примеры его применения.

Abstract. The damage caused to the natural environment of the Arctic in recent years is too large and requires removal. The elimination of environmental damage requires large investments. In conditions of limited financial resources it is necessary to select the most efficient projects. The evaluation of environmental and economic efficiency of projects of the elimination of the last environmental damage can become the tool of such selection, based on the cost-benefit analysis, this evaluation consists of accounting of non-market environmental effects of restoring the environment of the Arctic. The article presents an algorithm of such evaluation and selection of projects and examples of its application.

Ключевые слова: *ущерб окружающей среде, прошлый экологический вред, эколого-экономическая оценка эффективности, анализ затраты-выгоды*

Keywords: *environmental damage, last environmental damage, ecological and economic evaluation, cost-benefit analysis*

Мелкая Л.А. Возможности социального проектирования в аспекте подготовки детей-северян с особыми потребностями к взрослой самостоятельной жизни
Lia A. Melkaya The possibility of social planning in the aspect of training children-northerners with special needs to independent adult life

Аннотация. Проблема неподготовленности детей-северян с особыми потребностями к взрослой жизни исследуется с использованием дефиниции самостоятельности, а возможное решение указанной проблемы заключается в реализации такой технологии социальной работы как социальное проектирование. Феномен самостоятельности анализируется как некий критерий взрослости и особенности становления данного качества у детей с особыми потребностями. Концептуально обосновываются возможности социального проектирования в рамках подготовки детей-северян с особыми потребностями к взрослой самостоятельной жизни. Эмпирическое исследование проведено в январе — мае 2016 г. методом экспертного опроса с помощью специально разработанной анкеты. В процессе реализации проекта «Школа самостоятельности для детей с инвалидностью на Севере» в Архангельске апробирована технология социального проектирования. По итогам проведённого исследования разработаны специальные рекомендации, адресованные, главным образом, некоммерческим организациям. Становление самостоятельности позволит расширить границы безопасного и комфортного осуществления жизнедеятельности северянами с ограниченными возможностями и инвалидностью в неблагоприятных природно-климатических условиях. В рамках реализации технологии социального проектирования возможно создание «Арктической школы самостоятельности для северян с особыми потребностями».

Ключевые слова: *дети с ограниченными возможностями и инвалидностью, самостоятельность, социальное проектирование, северные условия проживания*

Abstract. The problem of lack of training of northerner children with special needs to adulthood is investigated using the definition of independence, and possible solution to this problem is to implement such a technology of social work as social project planning. The phenomenon of self-sufficiency is analyzed as a criterion of maturity and features of formation of such quality for children with special needs. The possibilities of social project planning in the frame of preparation of northerner children with special needs to adult independent living are conceptually stated. Empirical research conducted in January — May 2016 by the expert survey with the help of a specially designed questionnaire. In the process of realization of the project "School of independence for children with disabilities in the North" in Arkhangelsk the technique of social project planning has been tested. According to the results of the study, the specific recommendations addressed primarily to non-profit organizations have been developed. Formation of independence will enhance the borders of safe and comfort life for northerners with special needs and disabilities in adverse climatic conditions. In the frame of implementation of the social engineering technique the creation of the "Arctic school of independence for northerners with special needs" is possible.

Keywords: *children with disabilities, independence, social engineering, northern living conditions*

Минчук О.В. Этнонациональная политика Республики Коми: нормативное и инфраструктурное обеспечение

Oleg V. Minchuk Ethnonational policy of the Komi Republic: normative and infrastructural support

Аннотация. К Арктической зоне Российской Федерации в Республике Коми относится территория муниципального образования городского округа «Воркута». Говорить о некой специфической «арктической» этнонациональной политике в этом муниципальном образовании, отличной от модели республиканского масштаба, не приходится. Поэтому исследуется этнонациональная политика в целом всей республики, а затем раскрываются её особенности в МО ГО «Воркута», входящем в АЗРФ. Анализ перечня нормативных и стратегических

Abstract. The territory of the municipality of the city district "Vorkuta" is referred to the Arctic zone of the Russian Federation in the Komi Republic. It is not necessary to talk about some specific "Arctic" ethno-national policy in that municipality, different from the model of the national scale. Therefore, ethno-national policy is analyzed in general for the whole Republic, and then its features are revealed in the municipality "Vorkuta," which is the part of the Russian Arctic. The analysis of the list of regulating and strategic documents reflecting the specifics of the matter, together with an extensive

документов, отражающих специфику данного вопроса, в совокупности с существующей разветвлённой инфраструктурой, позволяет сделать вывод о сформированности региональной модели этнополитики в Республике Коми. При этом отмечается несогласованность ряда документов друг с другом, отдельные несоответствия федеральным стандартам этнополитики. Этнополитика в МО ГО «Воркута» в целом осуществляется в рамках регионального тренда. Нормативное обеспечение включает в себя различные муниципальные программы и планы. Делается вывод о необходимости совершенствования концептуальных основ арктического вектора этнополитики.

Ключевые слова: *Республика Коми, Воркута, этнонациональная политика*

existing infrastructure, allows to conclude about the formation of a regional model of ethnic policy in the Komi Republic. In addition, the incoordination of a number of documents is noted, as well as some inconsistencies of ethno policy to federal standards. Ethno policy in municipality "Vorkuta" is generally carried out in the framework of a regional trend. Standard maintenance includes various municipal programs and plans. The conclusion about the need to improve the conceptual foundations of the Arctic vector of ethno policy has been made.

Keywords: *Komi Republic, Vorkuta, ethnonational policy*

Смирнова О.О., Липина С.А., Кудряшова Е.В., Крейденко Т. Ф., Богданова Ю.Н. Формирование опорных зон в Арктике: методология и практика

Olga O. Smirnova, Svetlana A. Lipina, Elena V. Kudryshova, Tatyana F. Krejdenko, Yulia N. Bogdanova Formation of the support zones in the Arctic: methodology and practice

Аннотация. Основой методологического подхода в формировании опорных зон является вектор развития территории как целостного проекта по принципу обеспечения взаимоувязки всех «отраслевых» мероприятий на этапах планирования, целеполагания, финансирования и реализации, что позволит сократить все виды затрат и издержек. Все проекты, входящие в эти опорные территории, должны быть нацелены на развитие арктического макрорегиона в целом, а не только на решение отдельных отраслевых задач. Формирование опорных зон направлено на достижение единой глобальной цели — повышение эффективности и диверсификации экономики Арктической зоны, ориентированное на сохранение и развитие Северного морского пути.

Ключевые слова: *Арктика, опорные зоны, стратегическое планирование, СМП, региональная экономика, пространственное развитие, национальная безопасность, государственная программа, развитие Северного морского пути*

Abstract. The article describes the basic principles and methodological bases of formation and development of the supporting areas of the Russian Arctic. The work emphasizes that the basis of the methodological approach in the formation of the supporting areas is a vector of development of the territory as an integral project on the principle of coordination of all "industrial" activities in the planning, goal-setting, financing and implementation, which will allow to reduce all kinds of costs and expenses, as well as all the projects included in the supporting areas should be aimed at the development of the macro-region as a whole, not just to solve individual tasks of the industry. The article underlines that the formation of the supporting areas is aimed at achieving a single global goal — to encourage efficiency and diversification of the economy of the Arctic zone, oriented to the preservation and development of the Northern Sea Route.

Keywords: *Arctic, supporting areas, strategic planning, the NSR, regional economics, spatial development, national security, the government program, the development of the Northern Sea Route*

Соколова Ф.Х. Миграционные процессы в Российской Арктике

Flera H. Sokolova Migration processes in the Russian Arctic

Аннотация. В статье на основе анализа и обобщения официальных статистических данных

Abstract. On the basis of analyzing and summarizing of official statistics, the article reveals

раскрывается динамика миграционных процессов в Российской Арктике в XXI в., что актуально в условиях интенсификации процессов перемещения населения в стране и мире, значимо в контексте защиты национальных интересов страны в Арктике и укрепления человеческого потенциала в регионе в целях обеспечения его устойчивого инновационного социально-экономического развития. Отмечается, что на протяжении всей истории освоения Арктики миграция являлась одним из важнейших факторов её социально-экономического и культурного развития. XX в. был ознаменован интенсивным миграционным притоком населения, что способствовало превращению малозаселенных территорий в промышленно и культурно развитый регион. Динамика миграционных процессов в начале XXI в. свидетельствует о противоположной тенденции. Миграционный отток населения, который несколько замедлился в первое десятилетие XXI в. (по сравнению с 1990-ми гг.), в последние годы вновь начал набирать темпы. В арктических субъектах стремительно сокращается численность населения, наблюдается тенденция оттока молодёжи и высококвалифицированных кадров. Имеющийся состав населения и трудовых иммигрантов не позволяет полностью удовлетворить потребность рынка труда в кадрах соответствующей квалификации. Регион испытывает острую потребность в государственной поддержке и четко продуманной политике по закреплению и привлечению населения.

Ключевые слова: *Российская Арктика, XXI век, народонаселение, миграция, миграционные процессы*

the dynamics of migration processes in the Russian Arctic in XXI century, which is important in conditions of intensification of population movements in the country and the world, and is significant in the context of defending the country's national interests in the Arctic and strengthening the human potential in the region in order to ensure its sustainable innovative economic and social development. It is noted that throughout the history of Arctic exploration, migration has been a major factor in its socio-economic and cultural development. XX century was marked by intensive migration of the population influx, which contributed to the transformation of sparsely populated areas into an industrially and culturally developed region. The dynamics of migration processes in the beginning of the XXI century shows the opposite trend. The migration outflow of the population, which has slowed down in the first decade of the XXI century (compared to the 1990s), in recent years has once again started to gain pace. The regions of the Arctic have a rapidly declining population, there is a trend of outflow of young and highly qualified personnel. The existing structure of the population and labor migrants does not fully meet the labor market demand for suitably qualified personnel. The region is experiencing an acute need for government support and well-thought-out policy to consolidate and attract population.

Keywords: *the Russian Arctic, XXI century, population, migration, migration processes*

Шишацкий Н.Г., Брюханова Е.А., Ефимов В.С., Матвеев А.М. Стратегическое позиционирование Арктического региона как объекта территориального развития (на примере Хатангско-Анабарского региона)

Nikolay G. Shishatskiy, Elena A. Bryukhanova, Valery S. Efimov, Alexander M. Matveev Strategic positioning of the Arctic region as an object of territorial development (on the example of the Khatanga-Anabarsky region)

Аннотация. Анализируются современное состояние и проблемы социально-экономического развития региона, расположенного в арктической зоне Восточной Сибири на территории двух субъектов Российской Федерации (Красноярского края и Республики Саха (Якутия)), в бассейнах рек Хатанга и Анабар, впадающих в море Лаптевых Северного Ледовитого океана. Рассмотрены

Abstract. The paper analyzes the current state and problems of social and economic development of the region located in the Arctic zone of Eastern Siberia at the territory of two entities of the Russian Federation (Krasnoyarsk region and Republic of Sakha (Yakutia), in the catchment of rivers Khatanga and Anabar, running into Laptev Sea of the Arctic Ocean. The possibilities, restrictions and prospects of implementation of priority investment projects of

возможности, ограничения и перспективы реализации приоритетных инвестиционных проектов освоения минерально-сырьевых ресурсов региона. Показана целесообразность формирования акватерриториально-производственного комплекса (АТПК), основанного на использовании интегрированной транспортной логистики Северного морского пути и рациональных схем энергоснабжения в регионе. Рассмотрены научно-методические и организационно-экономические задачи по разработке стратегии формирования Хатангско-Анабарского АТПК.

Ключевые слова: *стратегическое позиционирование, стратегический потенциал развития региона, приоритетные инвестиционные проекты, транспортно-энергетическая инфраструктура, Северный морской путь, акватерриториально-производственный комплекс (АТПК), стратегия формирования АТПК*

development of mineral raw material resources of the region are considered. Feasibility of forming of the aqua-territorial industrial complex (ATIC) based on the use of the integrated transport logistics of the Northern Sea Route and rational schemes of power supply in the region is shown. Scientific, methodical, organizational, economic tasks on development of strategy of forming of Khatanga-Anabar ATIC are considered.

Keywords: *strategic positioning, strategic potential of development of the region, priority investment projects, transport and energy infrastructure, the Northern Sea Route, aqua-territorial industrial complex (ATIC), strategy of forming of ATIC*

ОБЗОРЫ. REVIEWS

Горнова А.М. О состоянии рыболовства в арктических акваториях
Anna M. Gornova Review of fishing in Arctic waters

Аннотация. В данный момент времени анклав центральной части Северного Ледовитого океана закрыт льдами для любой промышленной деятельности. Однако в случае продолжения процесса потепления у стран есть реальная перспектива для развития в данном регионе масштабной хозяйственной деятельности, в том числе и промышленного рыболовства. В материале дан срез основных мероприятий за 2015 г., направленных на создание международной многосторонней конвенции по управлению рыбными запасами, а также научных рыбохозяйственных исследований в арктическом регионе. Рассмотрено сотрудничество стран Арктического Совета в сфере рыбного промысла в рамках действующих международных соглашений, а также показан видовой состав рыб арктических морей.

Ключевые слова: *Арктика, Северный Ледовитый океан, анклав центральной части, рыбный потенциал, рыболовство*

Abstract. Today the enclave of the central part of the Arctic Ocean is closed by ice for any industrial activity. However, if the process of warming goes on, countries will have a real prospect for development of large-scale economic activities in the area, including commercial fishing. The article offers cross-section of the major activities in 2015 aimed at the establishment of an international multilateral convention on fishery management and scientific fishery research in the Arctic region. The cooperation of the Arctic Council countries in the field of fisheries in the framework of international agreements is considered, as well as the species composition of fish of the Arctic seas is given.

Keywords: *the Arctic, the Arctic Ocean, enclave of the central part, fishing potential, fishery*

Лукин Ю.Ф. Арктический туризм в России
Yury F. Lukin Arctic tourism in Russia

Аннотация. В новой книге «Арктический туризм в России» впервые в литературе системно анализируются основные концепты, ресурсный потенциал, аттрактивность (от лат. attrahere «привлекать»), возможности и угрозы развития экологического, круизного, международного и других видов туризма в Арктике. Сфера туризма становится неотъемлемым сектором экономики, имеет мультипликативный эффект для развития инфраструктуры, социальной сферы, занятости населения. Публикуются справочные материалы о туристских продуктах в Российской Арктике и в сопряжённых регионах Крайнего Севера, включая Архангельскую и Мурманскую области; Республики Карелия, Коми, Саха (Якутия); Ненецкий, Ямало-Ненецкий, Ханты-Мансийский, Чукотский автономные округа; Таймырский Долгано-Ненецкий муниципальный район, Туруханский район, город Норильск Красноярского края; Магаданскую область, Камчатский край.

Ключевые слова: *арктический туризм, Россия, регионы, рейтинг, перспективы, туристские продукты*

Abstract. In the new book "Arctic tourism in Russia" the basic concepts, resource potential, attractiveness (from Lat. “attrahere”: to attract), opportunities and threats of environmental, cruise, international, and other types of tourism in the Arctic are system-based analyzed, for the first time in the literature. The sphere of tourism has becoming an integral sector of the economy, having a multiplicative effect for the development of infrastructure, social services, employment. Reference materials about the tourism products in the Russian Arctic and Far North regions are published, including the Arkhangelsk and Murmansk regions; Republic of Karelia, Komi, Sakha (Yakutia); Nenets, the Yamalo-Nenets, Khanty-Mansiysk, the Chukotka Autonomous Districts; Taimyr Dolgan-Nenets Municipal District, Turukhansk district, the city of Norilsk of the Krasnoyarsk region; Magadan region, Kamchatka region.

Keywords: *the Arctic tourism, Russia, regions, rating, prospects, tourism products*

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