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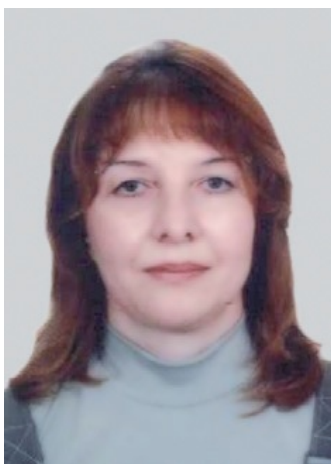
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ГОРНОРУДНАЯ ПРОМЫШЛЕННОСТЬ РЕСПУБЛИКИ КОМИ: СОЦИАЛЬНО-ЭКОНОМИЧЕСКИЕ АСПЕКТЫ РАЗВИТИЯ¹

MINING INDUSTRY IN THE KOMI REPUBLIC: SOCIAL AND ECONOMIC ASPECTS OF DEVELOPMENT



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Аннотация. Показано современное состояние горной промышленности Республики Коми, выделены основные социально-экономические проблемы. Рассмотрены экономические аспекты ведения горного бизнеса в регионе, потребности будущих горно-рудных предприятий в трудовых ресурсах и возможные социальные риски

Ключевые слова: горнорудная промышленность, минерально-сырьевой потенциал,

Abstract. It is shown the modern situation in the mining industry of the Komi Republic, and it is defined the main socio-economic problems. Economical aspects of the mining business in the region are considered. The needs of future mining companies in labor resources and possible social risks are shown

Keywords: mining industry, mineral resource potential, socio-economic problems, marketing

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социально-экономические проблемы, маркетинг минерального сырья of minerals

Introduction

The basis of the forming mining complex in the Komi Republic in Timano-Northern Ural region includes numerous fields of metallic and non-metallic minerals: fields and occurrences of ferrous ores (manganese, chromium, titanium ore), non-ferrous mettals (bauxites, copper, pollymetallic ores), rare (tungsten, molybdenum, bismuth, niobium, tantalum , rare soils), precious metals (gold, silver), quartz, diamonds, mining and chemical (barytes, salts, natural sulfur and ash), agro-mineral (phosphates, zeolites) and varied mineral-building materials.

Mining industry of the Republic Komi is still in its infancy, so today we can only talk about the possible social, economic problems and the environmental effects of the projected mining and processing industries and their prevention [1, 2002].

Currently the mining industry of the Republic of Komi is presented only by bauxite and non-metallic building materials (building stone, gravel, sand). Current volumes of ore mining and non-metallic minerals insignificant. The share of mining industries in total value of the industrial products shipped to the customers account for 0.5-1% in the structure of employment - less than 3% in the structure of assets - 0.3%. Present situation of the mining sector defines the minor capital of the investments (less than 0.1 % of the total regional capital) and geological surveys.

However, the republic has a significant resource potential for the formation of the modern powerful mining complex. The control of mining industry of Komi Republic to January 1, 2013 issued 8 licenses of solid minerals (titanium, vein quartz, silica sand, limestone for cement raw material, manganese, bauxite, gold), 4 licenses for exploration and production (gold, titanium) and 9 prospecting licenses (gold, quartzite for the glass industry, vein quartz, copper). The List of attractive investment objects involves creating mining-chemical complexes based on the deposits of titanium, bauxite, oil shale, quartz deposits development, building materials and other areas [2].

Characteristics of the main mining objects

Bauxites. Bauxite mining on Vezhayu-Vorykvinskoy field was started in 1998. From Chigna-Vorik Station to the field was built a railway station - 158 km. On the first stage of project materials was bauxite mine development aims to achieve production volumes of 2.0-2.5 million tonnes of bauxite per year. Currently these figures actually achieved. Hydrochemical bauxites grade bauxite appeared for processing to alumina in Ural and Theological smelters in Sverdlovsk region, spektakelnye bauxite – was for Boxitogorsk Alumina Refinery, abrasive grade bauxite used at the Chelyabinsk abrasive plant. In the field has also started mining of poor-iron (white) bauxites

in the amount of about 100 thousand tons per year. After the construction of the roasting plant calcined bauxite will be sent to factories for the production of refractories. Mine development strategy is focused on the growing demand of Timan bauxites. With the commissioning of the alumina plant (industrial site in the village Kerky, Sosnogorsky district) extraction of bauxite ore is expected to reach to 6.0-6.5 million tons per year. At this level of production mine existing stocks is 35-40 years. As the part of an alumina plant is projected creation of the first production - 700 thousand tons, and the second stage - 1400 tonnes of alumina per year.

Quartz. Extraction of quartz from various fields of Subpolar Ural quartz-vozhilno- crystal province is conducted from the 1930s. Up to the 1980s., mainly produces piezo-optic quartz and rock crystal. With the development of the domestic industry of crystal growth technology of piezoquartz, later the production was re-focused mainly on transparent vein quartz used as Shih quartz, which was used for the synthesis of mono crystals. In the republic is developed the field "Jelannoe" – is the largest in Russia in terms of the resources of the clear vein quartz and rock crystals, suitable for fusion of quartz glass, the synthetic of mono quartz and the production of polycrystalline silicon. Since 1996, the development of the central part of the field of "Jelannoe" was made by CJSC "Kozhinskoe RDP". Modern capacity is about 4-5 tons per year and in the coming years, they will be brought up to 10 thousand tons per year. Industrial reserves allow repeatedly to increase production of quartz. Key consumers of vein quartz concentrates – are the "Plant of Crystals" (Uzhnouralsk), VNIISIMS (Alexandrov) and other plants. Today their actual consumption does not exceed of 1-1.5 tons per year. Polar Urals LLC "Yelets RDP" conducts the exploration and appraisal work on high-purity quartz on Lek-Eletsky field of Manitanyrdskogo quartz node.

Manganese. The need of metallurgy and other industries in the manganese ores and its concentrates are rather high and It is about 1.5 million tonnes per year in terms of commodity ore with a manganese content of 48-50%. In the republic is identified and prepared for the development of Parnokskoe iron-manganese field. Its development started in 1992, today it is suspended. Basically was mined the extraction of oxidized manganese ores, within the site Magnetic-1. Since 2003, the subsoil user in the field is JSC "Chelyabinsk Electric-metallurgic Factory," in which the production plans – is the out of mine at the production level of 80 thousand tons of ore per year and the gradual commissioning sites Magnetic-2, Ust-Pachvozhsy.

Titan. Yaregskoye oil-titan field is unique and the largest of the reserves of titanium ore in Russia. The preparations for the industrial development of titanium deposits on the field are two of the subsoil user - OOO "LUKOIL - Komi" (produces oil) and JSC "Jarega Ore". In addition, it was allocated land for the refinement of titanium ores in order to obtain from them titanium coagulants

(JSC "SITTEK"). JSC "Jarega Ore" plans to build Yaregskiy mining and chemical complex with a capacity of mining and processing of oil-titan ore-650 thousand tons per year with the possibility of increasing technical performance twice. Mining and Chemical Complex combines objects, which are providing mining and processing of titanium ore to titanium dioxide, titanium nanodioksid, aerosil and other high valuable products. Previously proposed project of "Yaregskiy oil-titanium company" (became part of "LUKOIL-Komi") based on Yaregskiy field was planned for a major chemical and metallurgical complex, where was accented pyrometallurgical division, which was associated with obtaining titanium slag and titanium-silicon ligatures. The project envisaged a phased increase in the production capacity of the complex - first titanium ore mining business on the basis of the existing underground workings (up to 60 tons per year), then - ore production capacity to 250-300 and 600 thousand tons per year (the first stage) and output to power 1.2 million tonnes per year (second stage). Along with the development of the first stage of a mine site planned the construction of mining and chemical plant production capacity of leucoxene concentrate (containing TiO_2 50-65%) of 220 thousand tons per year, with the concurrent production of oil in the amount of 70 thousand tons per year. Today, in varying degrees and worked other ways to develop the titanium deposits of Yaregskoye field. Expansion of the mineral resource base of titanium ores mainly associated with Additional exploration of Pizhemskiy titanium deposit. Since 2007, the geological research to assess the facilities and prepare them for the production at the site of Pizhemskiy LLC "Geo tehno servise", and from 2011 at Verhnepizhemskiy site - JSC "Rustitan."

Barite. Khoilinskiy field is situated in unallocated subsoil fund, but, as before, remains the only one on the North of Russia prepared for the industrial exploitation of promising source of high-quality barytes. From 1997 to 2009- the development of the field was led by JSC " Khoilinsky mine". The development project for the testing of three quarries envisaged capacity of 120 tons of ore per year. In the field were made opened works at the quarry primarily and in Vorkuta was commissioned a production line for the production of micronized barite.

Chromites. Within Khoilinsky-Lagortinskiy ore unit highlighted the promising Khoilinsky, Kechpelskiy and Harotskit ore fields with the significant resources of high chromium ores. One of the major manifestations- is Yunyaginskoe, of resource potential (28 million tonnes of ore with content Cr_2O_3 15-20%) corresponds to the average field. Khoilinskiy manifestation is characterized by fewer resources and higher quality ores - Cr_2O_3 content is 25-29%. Geographical and economic conditions of the development of the favorable manifestations.

Copper ore. Favorable market conditions determines the need to resume the additional exploration known on the western slope of the Subpolar and Polar Urals manifestations of copper sandstones, and in particular Sauripeyskiy field and Molyudvozhskiy field. The copper content of the ore is 0.5-1.5%, silver - 20-70 g/m Technological research and technological-economic assessment show the effectiveness of the geo-technical methods (land leaching, heap leaching) mining and hydrometallurgical processings of copper ores.

Gold. Different organizations in the republic mined placer gold from 1980 to 2000. Mineral-source base of Kozhimskiy ore-placer area is substantial and allows cost-effectively develop reserves. However, due to the fact that all the reserves of placer gold were within the boundaries of the national park "Yugyd Va" placer gold mining was stopped. To arrange gold mining is preparing now for the commercial development of primary deposits. On the base of the field Chudnoe and adjacent areas may promising functioning mine and its productivity up to 3 tons of gold annually. Development of the field was made by CJSC "Gold Minerals". Deposits and occurrences of placer and vein gold were found in the Polar Urals. Middle Timan evaluated small paleo placer Ichetu with gold, diamonds and rare metals. OOO "Uhtageoservis" conducts exploration and appraisal work and plans to produce placer gold on Kyvvozh Dimtemelskoy - square (Vymsky ridge, Middle Timan).

Glass sands. In the central regions of the republic (Uhtinskiy, Sosnogorsky-industrial center, Ust-Vymskiy, Udorsky areas) are revealed the significant resources of glass sand. On their basis, is possible the creation of large enterprises of the production of window, bottle glass, foam glass, producing high quality quartz concentrates for the production of automotive glass and glassware responsible.

Building materials. Construction Industry of the Republic presented by the extraction of building sand, sand and gravel mixture, brick clays, limestone and dolomite, cement production, construction lime, brick, wall panels, macadam. Since the beginning of the 1990s, the production of all kinds of building materials sharply decreased their product range. The share of the construction industry in the 1970s - early 1990s, in the structure of industrial production was comparable to that of wood, gas and petrochemical industry. Due to a general decline of the industrial production, reductions in housing and industrial construction since the 1990s was more significant in comparison with other sectors and more rapid reduction in the production of building materials. So, if the industry as a whole the rate of decline of production averaged from 2 to 8 % per year, for the building materials industry - from 10 to 25% annually. As a result, for example, in 2004 the volume of industrial production in the whole country was 71 % of the 1990 level, and building ma-

terials - only 18 %, which was one of the lowest among all industries. Another telling moment is that if all other industries in recent years have been positive developments in the direction of increasing production, the increase in the production of building materials is observed only after 2010. Nevertheless, the construction industry of the republic have every opportunity to develop and expand due to the extensive mineral base, implementation of transport and industrial projects, recovery of the housing market. The programs of the development of the fields of mineral building materials were made, providing production of cement raw materials (Belgopskiy field), stones (field Vapol, Est-to, Syvyu, lands- Ropchinsky, Vorykvinsky, Bobrovaya, etc.), building stone (Kozhimskoe-1, land Kosyusky, Anyugsky Golez and others), gypsum (Vezhavozhskoe, Funny Kut, etc.).

Social and Economical problems of the mining production

A brief overview of the most perspective mining projects convincingly demonstrates the high commercial value of raw potential of the republic. However, investors don't hurry up to invest in the mining business. Problems of the region are mining base as an objective character, which is common to the global mining industry, and the specific features associated with the subsoil of the domestic politics and regional conditions. Partially their characteristics and possible solutions to global and regional levels are given in the several papers [1, 2-6].

Social aspects

Corporate social responsibility. Mining companies are now operating in the conditions of the high social and ecological responsibility. Such liability is not limited to the commitments made in obtaining a license for subsoil use. Social interests of the mining companies are not limited in the creation of physical (transport, power grid, pipelines, etc.) infrastructure in the field area. Companies must be prepared and must lay in their investment programs additional funds to perform queries arising of the local communities to ensure their socio-economic needs and operational solutions to possible environmental problems [3, 2012 , 4 , 2002].

The challenge is in the practical application and the wide dissemination of these standards - from the big mining companies to the smallest businesses.

With the development of mineral deposits, local administration and population, on the one hand, the possibility of solving the associated fiscal, infrastructure issues, employment, on the other - just expressed concerns because of the high environmental and social risks. Lack of concerted action, understanding the concerns and views of local people, indigenous people and local governments can cause serious problems with the organization and conduct of exploration and mining operations. Therefore, the formation of "positive" public image of the company, to raise

awareness of the interests and needs of the local population is one of the key tasks of management in the mining business. Common practice in our country is to sign special agreements with regional administrations - Social Partnership Agreement, which defines the specific form of the company's participation in the socio-economic development of the region. Such agreements are an integral part of the license agreements. Such agreements can be described as "social licenses". They are also widely distributed and are of great importance and in foreign countries - the weight of the parameter in the ranking of the investment climate for the implementation of mining projects is 5-15 % (in exceptional cases 30% or higher), and very often does not yield such an important parameter as "infrastructure" [5, 2012]. But it is important to note that such agreements can be valid only when they are the result of extensive consultation and dialogue on all issues with the public and local authorities, and not the result of the exclusionary transaction.

Today, mining industry is one of the most highly organized, high-tech sectors of the industrial production. Normally working in remote, economically undeveloped areas where there are no other alternatives to the economic development, mining companies are stimulus economic recovery site. At all stages of the life cycle of the field, beginning with its intelligence, industrial development and completing reclamation of disturbed lands and even restoration of landscapes, using environmentally responsible methods of subsoil. Proper planning and ecological management today allow to significantly reduce the impact on the environment and help preserve or restore biodiversity. In the modern mining projects at all stages of the work program implemented "zero waste". However, in a low awareness conditions of the public "bad" ecological image of the mining companies continues to persist. Therefore, mining companies should be as open to dialogue with the local population.

Social aspects of the mining activities have negative shades. This dominance in the labor market or the appearance labour surplus population as a result of stagnation, reduce development and production, and similar factors. To increase the accountability of enterprises can prevent the introduction of tools to assess the social impact of mining projects on a par with the assessment of the environmental impact at the design stage. On the other hand, the social burden on enterprises has its limits and economic coercive measures with the necessary legislative arrangements for the promotion of socially responsible companies.

The problem of staffing. Lack of skilled personnel (mostly skilled workers and technical staff) is in fact a global industry problem. Naive to believe that in the country and in the world there are areas with the perspectives in the development mining industry, where, there isn't such problem. The gist is to predict the occurrence of staffing needs and be prepared, having economi-

cally unoccupied qualified staff in the modern conditions is almost impossible. According to a statement mining projects [2], the overall need for labor emerging mining complex on the period to 2020 will be not less than 10 thousand people (See table).

Table 1

The estimated number employees at the projected mining enterprises

Mining projects	The region of production	The number of the staff, people.
Construction of bauxite and alumina complex	Sosnogorskiy	1859
Yaregskiy Mining and Chemical Complex (capacity of 650 thousand tons per year)	Uhtinskiy	2500
Organization on the basement of Yaregskiy field and the production of titanium coagulant	Uhtinskiy	320
The development of Pizhemskiy field of titanium and the creation on its basis of chemical and metallurgical complex	Ust-Zilemskiy, Uhtinskiy	2331
Reconstruction of mine for the testing of the central part of the field of "Jelannoe"	Intinskiy	50
Production of crushed stone on the Tablikayuskiy field of the building stone	Usinskiy	30
Exploration of Chim-Loptugskogo fields of shales	Udorskiy	1004
Extraction of gold on Chudniy field	Intinskiy	500

Given the specificity of labor in mining and processing industries, and increased demands on the skills of workers posed mining enterprises face serious personnel problem. Professional markets are among the most sensitive of labor markets. Today, even in the development of quarries sand, building stone shortage of surveyors, mining engineers, and skilled excavator. Solving the problem is seen in the exact distribution and management of the various streams of the experts - senior managers, workers and specialists working in shifts, staff of the local residents who have undergone special training accelerated. Other party staffing issue is implicit and explicit opposition of the local population influx of foreign labor. Employment growth and an influx of personnel involved will entail the burden on local infrastructure, services, change their traditional way of life. This imposes additional obligations on mining companies, as these issues need to be addressed and controlled by them.

The distribution of incomes. Equitable distribution of income, emerging from the activities of mining companies, is also one of the key social problems. An important factor in this issue is the distribution of taxes and fees paid by mining companies, in favor of the territories in which they operate. Centralization of tax revenues at the federal and regional level has led to an increase in the imbalance of municipal budgets and reduce the incentives for the development of their revenue base. Local budgets comes only a land tax and a tax on personal income in the amount of 10%. Sources of budget revenues of cities and regions excluded even tax on extraction of common minerals. Budget Code allowed the redistribution of regional taxes in favor of the municipalities, but

against the backdrop of rising costs and additional financial obligations region prefers to leave most of the tax revenues in the state budget. In this situation, local authorities, as representatives of the interests of local residents, formally may not be interested in promoting mining projects in the development of mineral resources of their territories, to create conditions for attracting investment.

Economical aspects

Economical effect of the production. Mining business is characterized by high capital intensity, long payback periods, specific and limited markets for certain products. Using complex mining equipment and improved manufacturability, generally explains the necessity of attracting highly skilled workforce and the constant growth of unit costs associated with salaries, material costs and depreciation of equipment. A significant portion of spending is different taxes and payments to the budgets of different levels. According to our estimates. the total amount of the gross proceeds of the mining enterprise average at least 40% "take" taxes and other payments . With taxes and seized a significant portion of company profits. For a variety of costs associated with the organization and execution of various permits (translation, design lands, ecological works, archaeological studies, etc.), to give precise estimates are not possible, because of their highly variable nature and contractual prices services involved organizations. This leads to an underestimation of the total cost of production organization that small companies may simply be unaffordable .

The use of new technologies. Expansion of the mineral resource base of mining production in the Republic of Komi is largely dependent on the development and implementation of new technologies to efficiently absorb deposits and hard objects with refractory, "spirited" ores. Currently not implemented on an industrial scale in the region, many perspective Geo technologies - underground hydraulic mining, underground and heap leaching methods bio technological processing of mineral raw materials, many modern methods of ore preparation, pre-concentration ores, concentration and separation of minerals. Although the experience of geo-technical methods of developing fields in the republic gained enough - more than one hundred years underground dissolution was used for the extraction of salt on Seregovskiy field for several decades of thermo mine was mastered in Yaregskiy field, deposit methods of hydraulic borehole and underground leaching tested for gold deposits of manganese. With new technological solutions related prospects of development of titanium (leucoxene, ilmenite, leucoxene) ores, high silikons and phosphate - silica bauxite, copper ore, oil shale, carbonate and silicate manganese ores and other minerals in the region.

The Marketing of mineral source. The structure of the mineral-resource base and the direction of its use require constant monitoring, audit or analysis based on market conditions, new technological demands, economic conditions of farming. One of the main factors, influencing the global demand for mineral resources in the long run, technological change is related to the scientific and technical progress. In many cases, as they can cause a sharp increase in the consumption of many metals, non-metallic minerals, as well as a significant reduction in their use. Give just one example. Today it is necessary to identify potential niche markets and barite concentrates. Obviously, due to the increasing use of saline solutions, water and acid-soluble and microdispersed iron and manganese weighting agents (without barytes in its composition) in oil and gas mainly focus on "drilling" use of barite products is not justified. At the same time to engage in other market niches, characterized by a variety of target use, but small enough levels of consumption in their sectors (a few tens of thousands of tons), carry out additional marketing and technological research. Assessment subject areas, characterized by the highest levels of consumption of not drilling barite - nuclear power, metallurgy, production of special cements, various fillers for paper, paints, plastics. Enterprise development strategy, develop Khoilinsky barite deposits may be aimed at finding or main, strategic raw material barite user or several users in different areas.

To determine the potential of consumption of barite in the oil and gas complex enough to know the volume of oil and gas exploration drilling and average unit costs of barite. Necessary to classify perspective sites and structures of the Timan-Pechora province by type collectors, the conditions of use of barite weighting. Obviously, in the current annual consumption of barite drilling in this area can only be assessed in the first tens of thousands of tons. To justify deliveries abroad or for the international projects requires certification of raw materials according to API and other indicators.

The second major area of consumption is the paint industry, which uses high-quality natural, but most synthetic barite. Barite concentrates class "A", used as a filler and for the production of barium salts, produces Salairskii mine (Kemerovo region). Almost all the produced concentrate is to PJSC "Salair Chemical plant" in relatively small quantities - other consumers. Obviously, in the Komi Republic and the North-West of Russia has the potential use of barite raw materials for the chemical and paint industries. But for its production in the world are most commonly used concentrates of barite vein, better compared to the stratiform barite. Barite deposits Khoilinsky enough quality, but requires a special enrichment for chemically pure concentrates.

To promote products at the most crucial scope requires detailed work on certification of raw materials. For example, one of the largest producers of the synthetic barite - company

Sachtleben (Germany) certified its products not only by a number of the international standards, but also as "Halyalnaya" and "Koshernaya " products. To compete with the manufacturer is necessary to create a special chemical production based on Khoilinsky deposit and technological tests of use in this area is best spent on one of the foreign companies. Barite is used in the production of the special cements, resistant to aggressive environments, "heavy" concretes, which are used in the foundations of heavy structures for laying pipelines in the marshy ground and under water. It is applied to obtain a strong and flexible layer topcoats in road construction. This market is very comprehensive and flexible enough. Certain technological research in this direction for Khoilinsky barytes are held, but obviously not enough. There are no data about the former enterprise-subsoil user (JSC "Khoilinsky GOK") about the harmonization of deliveries to major cement plants not. There are no regulations, standards and specifications for the device pavements using in Khoilinsky barite field.

The Market of the nuclear power is enough capacious, but there is no data on the potential use and the consumption potential Khoilinsky barite in the projects for the construction of new and reconstruction of the existing nuclear power plants included in the appropriate program. Civil protection of X-ray market is quite narrow, this area can only be regarded as the same direction and requires an aggressive marketing policy.

Another example. Despite the presence of the impressive resources and reserves chemically pure limestones and functioning in the region's largest pulp and paper mill, consuming significant amounts of calcium carbonate, the raw material for its production are still imported from other regions.

On the territory of Komi Republic revealed its own deposits or potential sources of the strategic raw materials. Today it is necessary to revise the resource materials for the special steels and alloys, fiber optics, photovoltaic current catalysts, fabrication of fuel cells and hybrid power plants.

Investments into the new projects. There are no funds for the exploration in order to develop the mineral resource base of its own money under the existing of the tax profits from mining companies actually at an average rate. Therefore, such work is carried out in a vertically-integrated companies at the expense of the parent company and borrowed sources. To stimulate the geological exploration on the new areas (up to operational exploration stages), it is advisable to cancel the collection of value added tax, to exclude from taxation of the profits reinvested in exploration, create a system of the reduction factors to the existing tax rates and payments for the financing the early stages of the work (search and evaluation) enterprises from their own funds.

The conduction of the small and medium mining business. The development of small and medium-sized mineral fields that form the basis of the mineral resource base is practically inaccessible to the masses of the country's potential investors. The outlays of funds for the access to the mineral resources, exploration, permits significantly is higher than in other countries. The are not enough Own funds to conduct the exploration of the investors and to attract bank loans is limited by the necessity of deposit and lending rates are extremely high, and the venture capital sector in the securities market in our country has not yet formed. Not yet created a framework for the possible cooperation in the mining enterprises, industrial clusters to allocate costs to the development of the transport, social, engineering and network infrastructure solutions staffing problems.

Conclusion

Mining complex is formed only in the region and has the potential to become an engine of the economic development of the Republic of Komi in general and its territories in particular. In favor of it and rich raw material base and available scientific and production potential, the interest of power structures in creation mining industry. However, the lack of the geological and technological research of the mineral resources, the lowest preparedness projects for thte investment and for the introduction of the modern technological solutions prevent getting a significant economic effect on the development of the mineral potential of the country.

Therefore, one of the major problems is the implementation of the special geo-technical policy, as the part of the scientific, technical and technological policy, interconnected with the strategy of the socio-economic development of the region. Availability of the necessary raw materials, laboratory facilities for the advanced experimental research professionals of the highest caliber and a number of other factors makes promising winning creation in the country a number of new high-tech industries.

Due to the growing environmental constraints and social inequality, increasingly important for the access to the mineral resources acquired approval procedures with local authorities and the public. Mining companies is not enough to declare their intent to establish a new production facility requires careful preparatory work to present all the positive aspects of the development of the raw potential of the area and assessing social and environmental impacts.

To promote the interest of the local population and regional authorities in the implementation of mining projects, the establishment of the partnerships between the participants and stakeholders need to decentralize natural resource management through the transfer of complex control functions from the central government to the regions and a more equitable distribution of

payments for subsoil use. In management decisions of the natural resources should take account of the existing socio-economic tensions and experience to develop the northern territories.

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РЕЛИГИЯ И ВЛАСТЬ В ЯКУТИИ: ИЗ ИСТОРИИ ВЗАИМООТНОШЕНИЙ¹**RELIGION AND POWER: THE HISTORY OF THE RELATIONSHIP**

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Аннотация. Анализируется политика советской власти в отношении религии и ее служителей в 1920–1930-х гг. на материалах Якутии

Ключевые слова: религия, священнослужители, политика, повседневность, антирелигиозная пропаганда

Abstract. The article contains analysis of the Soviet regime policy in its attitude to religion during first years of the Soviet modernization

Keywords: religion, priests, policy, every day, anti-religious propaganda

In Yakutia, at the time of the establishment of the Soviet power, there were religious denominations of different faiths, traditional for the whole empire. Majority of the population of the indigenous people of the region and of Slavic origin were Orthodox. According to the most researchers, despite the fact that 99 % of indigenous people were considered orthodox, they were characterized by religious syncretism. In everyday life, they respect traditional rites and customs are closely associated with paganism, and Orthodox. Christian moral and ethical standards, ritual, religious holidays and symbols have become part of everyday life and culture of the indigenous people of the region [1, p. 291]. This is due to the fact that in the process of Christianization in Yakutia, there was no opposition to the traditional beliefs orthodoxy. The clergy had no special persecution of shamans - ministers pagan cult, which also did not resist baptism and continued their shamanistic practices. According to A. P. Nikolaev, "in the later stages of missionary work (late XIX - early. Twentieth century). Views on shamanism among the clergy became an increasingly important role to play natural science goals, traceable in A. Argentov research, Benjamin I. and other prominent educators in the northeastern Russia, the Far East and Russian America, watched on

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shamans more in terms of the ethnographers "[2]. Invaluable contribution made by the missionaries of Russian Orthodox Church in the development of writing, education and other spheres of life of indigenous people. They were among the first researchers of language, material and spiritual culture. Thus contributed to familiarizing Aboriginal values and achievements of Russian and through it to European culture [3, p. 5].

Furthermore, since the seventeenth century, in Yakutia appeared the representatives of other faiths, many of which were deported by the tzars government for their religious beliefs, administrative and political reasons (Old Believers, Molokans, Hlisti, Skopzi). In the late nineteenth century. lived here for 3512 and 1476 Bashkirs Tatars, who were Muslims. As political exiles are known to have been sent to Catholics (mostly Poles) and Judaism (Jews). But representatives of these faiths were few and could not have a significant impact on the prevailing ethnoconfessional space and the preservation of national identity of indigenous people [4].

Analysis of the records and other sources, reflecting the policy of the Soviet government in relation to the religion and its acolytes, shows that in Yakutia, as well as across the country, during the research period, the work was carried out in two main directions. First, to eliminate religious organizations as a social institution was imposed steps of the administrative and judicial character - depriving ministers of the religious electoral their rights, to ensure their administrative justice, as well as repressive measures, until the shooting. Second, the special attention was given to the ideological and political education of the population in order to ensure the monopoly position of the Marxist-Leninist ideology, including the materialist worldview, and thus, repression of religious beliefs. The Bolsheviks were well aware that a major obstacle to the introduction of mass consciousness created by them "quasi-communist" is a religion, and a religious ritual.

During these years, the most effective weapon in the struggle against religion and its acolytes had taken administrative measures. As is known, according to the ideology of the proletarian state, ministers of worship were considered "alien class elements" and "exploiters". Therefore, they, along with other categories of individuals, based on Art. 65 of the Constitution of the RSFSR in 1918 and the Regulations of the elections to the Soviets YASSR (1921, 1923. And subsequent) disfranchise². This provision has been legislated in the first YASSR Constitution, adopted on 2 session Yatsik IV convocation in September 1926 Under the Constitution, the electoral rights of all persons deprived of resorting to wage labor, private traders, employees and agents of the former police, the mentally ill, prisoners, "shamans and spiritual ministers of worship of all faiths "[5, p. 112-137].

² Национальный архив Республики Саха(Якутия) (НА РС(Я), ф.715, оп.4, д.319, л. 1,8

Based on this, on the ground during the period of the preparatory reelection campaigns in the village councils or district authorized instructors compiled a list of the residents of the nasleg, having voting rights, and the list of persons deprived of them. These lists were approved by naslezhnii election commissions and were announced at naslezhnyh meetings. Thus, in the reelection in 1926 were in three districts (Yakutskii, Vilyuiskiy, Olekminskiy) all were disenfranchised 3495 people, including members of religious cults 485. In 1928, the increase in the total number of disenfranchised until 6546, members of religious 582 people³. And already in 1934 in Yakutia, including the northern areas, significantly reduced the total number of disenfranchised people to 1760, and members of religious cults, which amounted to only 130 people. Such a significant reduction in the number of ministers of religion can be explained by the fact that they "voluntarily" abandon their practices, since, according to the constitution, the Soviet authorities allowed restoration of "civil rights and related benefits" in the case of voluntary renunciation of his rank.

Analysis of available data shows that in Yakutia in droves to abandon religious activity began in the late 1920s -early 1930s. This was due primarily to land reform in 1929 and further collectivization. Pursuant to Art. 17 18 Instructions on indigenous land distribution in villages YASSR naslega and approved by the Presidium Yatsik in March 1929, the ministers of worship have the right to obtain a plot of land only with the permission of the district executive committees and higher authorities. During the land reform in many places, including family members, who lost their land holdings. During these years against members of religious cults and persons deprived of their voting rights and other applied infringement of civil rights, which, in general, do not provide the Soviet legislation. Such as eviction from naslega with confiscation of property, deprivation intake books, medical and legal assistance, human development, the imposition of taxes on an individual basis, the exclusion of children from schools and further education law, dismissal⁴.

As it is known, the main supplier of information and performer punitive measures against the so-called "internal class enemies" was the NKVD. This, of course, concerned and members of religious cults. Unfortunately, we did not have the opportunity to work in the archives of the MGB of Sakha (Yakutia). However, a definite opinion about it can make a world based on the identified materials in the National Archives Branch of Sakha (Yakutia). For example, in December 1926, at the specific request of agitation and propaganda department of the Yakut Regional Committee of the CPSU (b) Chief of backroom YAOOOGPU Barkov (initials are not specified. - NV) was compiled report on the status and activities of the clergy and faithful in the country. In this his report given

³ Филиал Национального архива РС(Я), д.917; д.718, л.66

⁴ НА РС(Я), оп.1, д.42-50, л.28-30

thorough characterization of the existing religious movements and activities of the ministers of various cults. According to the report which the republic in 1926 functioned three religious organizations - Orthodox, Jewish and Muslim. The "orthodox union is the most powerful and, importantly, in the Diocese of Yakutsk missing church schism" (meaning renovation movement. - NV), "Yakut archbishop ideological trend -" Old Church "(Tikhonov) ..." ⁵.

As for the Muslim clergy and organizations of Muslims, so these have been recorded. In Yakutia, the location of Muslims is the most compact and representatives of the Tatar people were only in Yakutsk (up to 500 people) and Olekminsk (up to 450). Therefore, Muslim believers, further reported Barkov, gathered in prayer for "the house of prayer and uncertain in this case they have a Tartar, who knows how to read excerpts from the Koran wanted" ⁶.

The Jewish community is registered as the "collective of believers" existed in Yakutsk. The Jewish community was led by elected Rabbi A. Strahd. In a report in 1926 stated that the younger Jewish population noticeably goes in a another direction, away from the goals and objectives of a given group of the religious Jews. This reflects the real situation of the time (the Union of Militant Atheists in 1930 led by the son of Rabbi M. Strahd). In addition, at the territory of Yakutia were registered other religious groups, such as "skopcheskaya" and Doukhobors, but there was no essential information about their activities in the NKVD.

The most complete information was collected about the activities of shamans. In particular, it was said that they still enjoy a strong enough reputation and is widely practiced. An interesting fact is that by the NKVD was noted that "ulus population not less than in oyyuna believes in the God, servants of the orthodox religion" ⁷.

As the archival materials show, the information department of the NKVD monthly or quarterly on the basis of information gathered from the entire republic and it was the so-called "political state YASSR reviews". These reviews also provide detailed information reflecting the negative attitude of the workers, rural residents, and other sections of the population about the activities carried out by Soviet power - collective farm construction, grain procurement campaign, levy, etc. These reports focused on the GPU moods ministers of worship and their relation to ongoing activities ⁸.

⁵ ФНА РС(Я), д.917; д.718, л.64-6

⁶ Там же.

⁷ ФНА РС(Я), д.917; д.718, л. 35, 65-67

⁸ ФНА РС(Я), д.256, л. 55, 58; 15, л. 20-23; 16, л. 23

As noted above, particularly vicious persecution of the religious cults saviours were subjected to the late 1920s - early 1930s. during the land reform and collectivization. In the whole country intensified the movement of militant atheists, who took the character of "anti-religious extremism." During these years, there were the mass closing of churches and destruction of religious buildings. The so-called unfolded. "Antibell campaign", seized bells and chimes denied. The seminaries, monasteries were closed. Virtually ceased output periodic religious publications, repressions began against the ministers of worship. Massive closings of Orthodox churches were made in Yakutia. The last Nicholas church was closed in 1939 in Yakutsk. During the war it was reopened. ROC priests were arrested. The last Yakut Rabbi A. Strahd publicly renounced the dignity in 1930. According to incomplete statistics I. Yurganov bulk priests were arrested during this period, some of which were shot [6, p. 101-103].

Antireligious propaganda was an integral part of the ideological activities of the ruling party and was carried out under the direct supervision of the agitation and propaganda department (POA) Yakut Regional Committee of the RCP (b). Party organizations and agencies conducted it, but also state agencies and departments, public organizations. Yakut regional committee unfolded antireligious propaganda, based on the guidance of party congresses in the field of religion, resolutions of the Central Committee of the RCP (b). The main forms of anti-religious propaganda were: first, printed and oral agitation, which should have been pursued through the newspaper "Kyym" and "Autonomous Yakutia", wall newspapers, special posters, etc., and secondly, in clubs, schools put dramatizations revealing "stupefaction of the masses" ministers of religion, and thirdly, to organize politsudy over them, and fourthly, to conduct talks and lectures on natural science topics⁹. Widely spread the reading of the lectures, presentations, rallies, parties to the anti-religious themes, organization polit courts against the priests and shamans, performances propaganda teams. Especially religious propaganda intensified during the onset of the orthodox religious holidays - Christmas and Easter. At this time, almost all over the country were carried out (usually within a week or a month) anti Christmas, Easter campaign, then received the name of "Komsomol Christmas", "Komsomol Easter." In the organization and implementation of these campaigns involved APO Yakut regional committee of the RCP (b) and OK Komsomol, kultotdel YAOSPS, Regional Bureau of the Young Pioneers, NKPZ political education. Special commissions, which are engaged in preparatory work schedule were as guidelines for grassroots party and Kom-

⁹ Филиал Национального архива РС(Я), ф.3, оп.3, д.383, л.5.

somol organizations campaigning for the organization of visual anti-religious propaganda and agitation, picking up the theme of the lectures, etc.

In the formulation of anti-religious propaganda focused on criticism of religious beliefs and promoting of scientific knowledge. As for the substantive level oral and printed propaganda critique of religion, in general, constructed on the basis of the scientific research at the time, they gave quite objective information about the origin of religion. However, the forms and methods of dealing with the cult wore deliberately rude, insulting, degrading feelings and dignity not only clergymen, but virtually the entire population of the believer, for which it was not just "opium and harmful relic of the past, the manifestation of darkness and ignorance", and was organic part of the spiritual culture.

The most preferred form of anti-religion was to organize various Trials. They were conducted either in the form of the theatrical performance with the participation of amateur artists, or with the help of existing religions or ministers have abandoned their activities. Here is one of many examples, in May 1924 in Yakutsk, as reported in the newspaper "Autonomous Yakutia", in the House of the Soviets with the participation of the Komsomol Yakut intellectuals were delivered pageant polit court over priest and shaman. The hall was crowded with spectators. "Accused", made up as a shaman and a priest, led under escort. Shaman was accused of "contact work with the priest ", fleecing the poor by all sorts of intimidation, a common sexually transmitted diseases. There were "witnesses" who testified that reveal "acts and bullying people", the priest and shaman. With accusatory speech "prosecutor", stating that "the ancient shamans are parasites of the Yakut people, exploiters and dangerous" to others. "Prosecutor" imprisoned proposed punishment -execution. In this room applauded, expressing complete agreement with the proposed penalty. The court, considering the "frank" recognition shaman gave him a sentence: "10 years of strict isolation," the priest - "shot" ¹⁰.

In the late 1920s - early 1930s, the forms and methods of anti-religious propaganda remained unchanged, but they took the offensive and militant character. In the activities of the party, Komsomol and social organizations began to dominate brute Administration of the Civil War: the destruction of religious objects, manifestations of vandalism, public humiliation of religious rites, forcible eviction of naslega etc. During such anti-religious campaigns in some places, as noted in the report of political department NKPZ in 1927, "there were more masquerades" worn obscene and immoral and, in general, recognized "adverse events", which many executives offered

¹⁰ Автономная Якутия (АЯ). 1924. 20 мая

"wage a brutal struggle" ¹¹. Nevertheless, in 1929 in Yakutsk, for example, was held carnival procession during Easter. Plan for "Carnival" was developed the Commission of antireligious campaign. Was attended by about 2,000 people - schoolchildren on the stage II, secondary schools, the Soviet party schools... This is how the event is described in the paper "Autonomous Yakutia": "On the night of 4 to 5 May at half past ten city revived. All columns joined on October street, singing revolutionary songs, the band played from domzaka in the hands of the participants carried banners and torches, among them immediately went convoy of tractors, and were made up as a shaman and several related - Shennikov" artists. Column passed all existing churches in the city, which at that time held public worship and in every church attended by approximately " 50 people." Stopping at churches, carnival participants sang revolutionary songs and others, shouting slogans like "Down with the priests, shamans, rabbis," "Down with the icon", "There is no God", "Down with religion - long live science" staged "to the sounds of massive dance lezginka". At midnight, the building has a column Yatsik where a rally was held, which was opened by Chairman of the City Council of the Union Comrade atheists Zenin. At 2h 30 min. held the second rally in front of the regional committee of the CPSU (b). After which the participants went home " ¹².

During these years, anti-religious propaganda in Yakutia was closely associated with the activities of the Yakut regional Union of Militant Atheists (the ISF), established in 1928. Actually, he was specially created, according to the head of the Central Committee of the ISF, "chief infidel" countries Em. Yaroslavsky, as an "instrument for the practical struggle against religion." SRB, like all mass association of those years, was not generated by the popular initiative, and was created by a special decision and SRB activity conducted under the direct supervision and constant control of the Communist Party. During the short period of the cell SRB were created almost in Yakutia and in 1930 their number has reached about 10,000 people. They were created by ulus, in schools, educational institutions, enterprises and institutions.

I will not dwell on the activities of SRB, will only mention, as in many activities during the period of activity in the party, Komsomol and other public organizations, as well as the ISF had a number of well-known drawbacks: first, superficial, kampaneysky nature of the work, in conjunction with another religious holidays (Christmas, Easter). Secondly, for objective reasons, to anti-religious propaganda involved enough competent lecturers. Naturally dominated the political and class orientation of the anti-religious campaigns in damage scientifically sound, painstaking advo-

¹¹ ФНА РС(Я), ф.6, оп.2, л.577

¹² Автономная Якутия. 1929. 6, 8 мая.

cacy. This caused and undemocratic methods of dealing with religion, inhumane methods - public councils, frequent violations of the ethical standards in the conduct of anti-religious activities. Especially socio-negative point in the process of eradicating religion is to contrast the younger generation older, engaging in massive anti-religious speeches youth and adolescents. This, undoubtedly played a negative role in the decay of a holistic spiritual and cultural experience.

We identified the archival documents, that show how difficult and slowly squeezed out of everyday life traditional religious world view. Physical destruction of the clergy, religious buildings withdrawal does not eliminate the need of people in religious belief. According to V. P. Zisser, conducted the research in the Upper Kolyma ulus in 1932, the indigenous population "repeatedly at the meetings we were asked questions such as: why have long ceased to supply them with icons and crosses? Or why the priest a long time did not come to baptize children, to marry the couple and read the burial of the dead? Towards us across Tunguses traveling to Nogaeva for "priest" who have learned that there is arrested priests and asked them to "give them the priest," promising to take care of him, not to run away. "According to other testimony in 1940, in the Mountain ulus in 1-Soviet Ataman naslega 50 farms in each house had 5-6 icons, even the deputy naslezhnogo Council Comrade. Danielskogo - 17 icons. A Reshetnikov Stepan from Ust-Aldan ulus generally built in his yard chapel and holds worship. Noted that the population regularly celebrates religious holidays (St. Nicholas Day, Christmas, Easter), in the construction of facilities for cattle necessarily performed traditional ceremonies. Similar reports to the Regional Party Committee were also reported Nyurbinsky, Vilyui, Ordzhonikidzevskogo, Ust-Aldan, and other Kobjajsky uluses¹³.

Thus, in spite of a deliberate policy of the Soviet government in relation to religion and its ministers, the majority in essence remained faithful. Of course, two decades of hard struggle grew violent young generation, who are trained and brought up on the basis of science and technology, in the spirit of uncompromising attitude to religion and to all kinds of prejudices and superstitions. And if they do not become militant atheists in any case they think indifferent about religion. Traditional religious world view at the external perception of the Soviet ideology, atheism remained conservative. At the level of everyday life continued to dominate, albeit in modified form, the traditional value system and related religious rites and customs.

¹³ ФНА РС(Я), ф.6, оп.2, л.60-61

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РАЗВИТИЕ МОРСКОГО КРУИЗНОГО ТУРИЗМА В ПОРТАХ ЗАПАДНОЙ АРКТИКИ

DEVELOPMENT OF CRUISE TOURISM IN THE PORTS OF THE WESTERN ARCTIC



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Аннотация. Анализируется текущее состояние и перспективы морского круизного туризма в российских портах Западной Арктики – Мурманске и Архангельске

Ключевые слова: Арктика, морской туризм, круизные суда, Мурманск, Архангельск, атомный ледокол

Abstract. Analysis the current state and prospects of marine cruise tourism in the Russian ports of the Western Arctic – Murmansk and Arkhangelsk

Keywords: Arctic, marine tourism, cruise ships, Murmansk, Arkhangelsk, nuclear icebreaker

For most Russians, the Arctic remains obscure and unattractive for tourism region. The main conditions for tourism development on the Arctic Ocean – is the creation of a special cruise fleet and coastal tourism infrastructure. Currently, Russian tour operators are poorly represented in the segment of the expedition cruises to the Arctic. Financial strength and experience of the foreign expeditionary cruise companies virtually eliminate the possibility for Russian companies to organize themselves and to sell on the world market in the Russian Arctic cruises. On average, the Russian Arctic and the North Pole is visited by the foreign tourists in 1000 [1, 2011] .

Russian first Arctic expedition cruises organizer becomes the Moscow company "Travel Club" Special", which organizes up to 10 % of all cruises to the Arctic. Company since 2010, has organized their own cruises to the Russian Arctic on a chartered Russian courts, including the Franz Josef Land (FJL) diesel icebreaker Murmansk branch "Rosmorport" "Captain Dranitsin." The company plans to organize the Arctic cruises from Murmansk to Vaygach Island and New Earth , along the Murmansk - Svalbard - Victoria Island - PFI - Svalbard - Murmansk [2, 2012]. In the summer of 2011 "Special" organized new tourist flight to the ship "Akademik Shokalsky" from Murmansk to Arkhangelsk on the White and Barents Seas visiting Solovki . Along the coast of the Kola Peninsula operates only maritime passenger route Murmansk - Chavanga on which runs the ship "Claudia Elanskaya " before flying to Arkhangelsk .

FSUE "Rosatomflot" for several years has been organizing cruises to the North Pole. Cruises on the icebreakers - the inclusive ex-tourism product of Russia, as it offers the only Russian company Poseidon Expedition, a member of the association of operators of the Arctic expedition cruises. Russia - is the only country in the world that brings tourists by sea to the top of the planet. Unlike traditional, expedition cruises are not entertaining, and informative. Cruise ships are so busy that from October to May, and in the summer their load is low. This allows "Rosatomflot" to allocate ships for cruises and receive additional funds for their maintenance. Summer cruise season is short - only 50 days. If in the early 90s. icebreakers to the North Pole was transported no more than 60-70 people per season, in 2011 the number of the tourists reached 530 people., 58 of them Russians. The number of Russian tourists compared to 2009 increased by 6.5 times. Note that prior to 2009 there was virtually no Russians in the Arctic cruises. Beginning in 2010, cruises to the top of the world carries the youngest and most powerful icebreaker in the world - "50 Years of Victory", capable of accommodating up to 130 people. The cost of a two week cruise is from 16 to 25 thousand euros. Flights to North Pole from Murmansk run through Spitsbergen or through Franz Josef Land into the New Earth. During the 2010-2011. icebreaker "50 Years of Victory" completed 3 cruises per season. In 2012 it was planned to make 4 icebreaker cruise to the North Pole¹.

Murmansk in 1990, developed as a center of the international maritime tourism, the starting point of the cruises to the northern seas. Cruise ship in Murmansk for the past 13 years organized Murmansk tour operator company "Nordmorservis travel", accepting and serving in the commercial and fishing port for one summer season average of 3 to 6 cruise ships with many foreign tourists on board from 160 to 1000. In summer 2011 Murmansk visited 11 different ships with tourists, just making 13 calls in Murmansk fishing port. On board in Murmansk arrived about five thousand cruise tourists, including many guests from Germany. In 2012 expected 15 ship calls². Currently only 1% of the total number of tourists traveling on cruise ships, are citizens of Russia [3, 2012].

Murmansk is included in the routes of the ocean liners "Ocean Princess", "Albatross", "Le Diamant", "Kristina Regina." Potentially in the foreseeable future Murmansk could take up to 50,000 cruise tourists per year [4, 2012]. This requires a radical reconstruction of berth passenger terminal in Murmansk seaport: dredging and shore protection works, the elongation of the main pier, creating a border checkpoint, reconstruction and expansion of the marine station.

¹ Информация предоставлена ФГУП «Росатомфлот» (Мурманск)

² Информация предоставлена пресс-службой Мурманского рыбного порта.

On the 100th anniversary of Murmansk (2016), since 2012, carried out a project to create a federal investment sea front "Arctic harbor" worth 20 million dollars, which involves the organization of the recreational, tourism, culture zone in the marine station. Implement the project in collaboration with the Government of the Moscow area will be an investment company "Olympic City". Marine Facade "Arctic Harbor" – is a complex that will include a berth for cruise liners, the promenade, parking space for floating museums - atomic icebreaker "Lenin" and the submarine "K- 3 " [4, 2012]. Murmansk to convert into an attractive tourist cruise center of the international level also need to pass a law approving the right to visa-free reception of foreign tourists from cruise ships for the period to 72 hours. It will boost the tourism sector of the economy, will contribute to the creation of the modern urban infrastructure and expansion of the labor market.

At present, the question of the restoration of marine passenger service between Murmansk and Kirkenes, which operated in the 90s. Also, back in 2010 were conducted international negotiations with representatives of the largest Norwegian cruise tour operator - the company "Hurtigruten" to extend the popular cruise route Bergen - Nordkapp - Kirkenes to Murmansk port and in what follows, in the Arkhangelsk region with a visit to Arkhangelsk and Solovki. On average for the season about 110 cruise ships visit the North Cape. This creates a good potential to attract those vessels to Murmansk and Arkhangelsk. In Karelia, a draft circular water route for cruise ships on the St. Petersburg - Baltic - Nordkapp - Murmansk - Solovki - Karelia - St. Petersburg. Implementation of these projects will allow for the anniversary of Murmansk take up to 50 tourist boats per year [4, 2012].

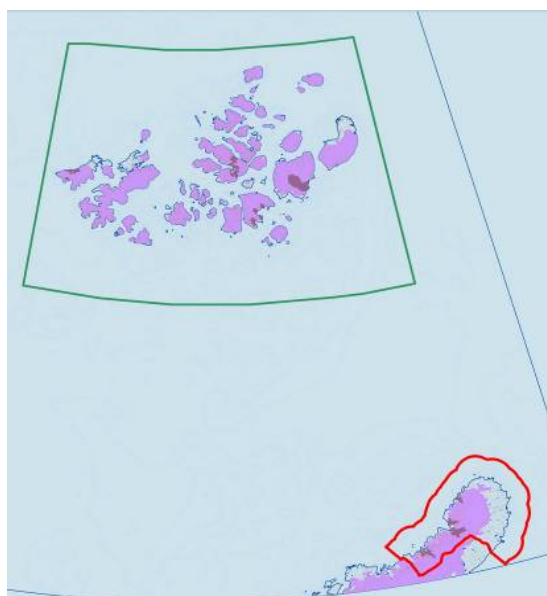
The Greatest tourist potential in the Western Arctic has Primorsky district of Arkhangelsk region, which stretches along the coast of the White Sea and comprising: Small Karelians, Solovki archipelago of Franz Josef Land and Victoria Island. The fifth year of a National Park "Russian Arctic", established in 2009.

In 2010, the park "Russian Arctic" visited no more than 500 tourists (4 cruise liner), in 2011 the archipelago increased flow of the visitors to 865 people., In 2012 - 1024, in 2013 decreased to 707 people [5, 2013]. Existing problems associated with the development of the park infrastructure, environmental responsibility, work checkpoint, obtaining permits and other causes. Appearance in the high northern latitudes of the National Park "Russian Arctic" allows users to secure Russia's presence in the Arctic region.

Arkhangelsk – is the first port in Russia, "the gateway to the Arctic", is not only a center of the scientific exploration of the Arctic territory, but also the center of attraction of the attractive tourist activity along the northern routes. There are unique monuments of wooden and stone ar-

chitecture. The chief ornament of the city is the five-kilometer embankment of the Northern Dvina and a protected pedestrian street Chumbarova - Luchinskogo - Archangel Arbat. Among the factors hampering the development of inbound tourism, it can be noted deficit class cruise ships and luxury vehicles to the transport tourists.

СОСТАВ И ГРАНИЦЫ ООПТ



**Национальный парк
«Русская Арктика»**

1426 тыс. га.— общая площадь

632,1 тыс. га. — суша

793,9 тыс. га. — море



**Федеральный заказник
«Земля Франца-Иосифа»**

4200 тыс. га. — общая площадь



РУССКАЯ АРКТИКА
национальный парк



Major tour operator in the reception of the foreign cruise ships and excursion service on the beach in Arkhangelsk is a tour company "Intourist - Arkhangelsk". The company actively working in this direction since 2004 an important role in the direction of the cruise company also plays "Belomortrans", which does the work of the marine agent. During 2004-2009, Arkhangelsk and Solovki was taken on average one or two cruise ship season. In 2010, neither the Solovetsky Islands, nor Arkhangelsk has not visited any foreign cruise liner due to purely economic reasons, namely because of the high port charges, which affected the decision shipowners of their entry into the White Sea [3, 2012]. For example, for the ship "Discovery", capable of accommodating 750 passengers, they amounted to 75 thousand dollars for a 10-hour port call [6, 2012]. For comparison, in the Murmansk port charges 2 times less, even below them in St. Petersburg. In some countries, interested in increasing the tourist flow, port fees for cruise liners and all canceled. Eve-

rywhere favorable reception tourist boats are the result of meaningful and purposeful policy of the regional and municipal authorities. In 2011 an agreement was reached to provide 50% discounts on some fees for cruise liners, resulting in Arkhangelsk and Solovki visited five tourist boats. According to the experts, if you create normal conditions for the receiving airliners number of ship calls during the summer navigation in Arkhangelsk and Solovki can reach hundreds, but it is not less than 30 thousand foreign guests [6, 2012]. Increase in the number of the cruise ships and their passengers in the future should not affect the increase of revenues to the city budget. However, there is yet unresolved technical problems with the reception of cruise ships on the sea-river station Arkhangelsk. There can only approach the small vessels with a draft of less than 7.5 m. Large ocean liners because of the limited berthing areas and narrow sizes Dvina sleeves have moored in the cargo commercial seaport on the northern outskirts Save Arkhangelsk.

There is a proposal for redeveloping one of the piers of the Red marina in central Arkhangelsk under berth cruise liners that the most positive impact on the organization would welcome tourists by sea and river. Developed the project "White Sea cruise" envisaging the development of the cruise line along the coast of the White Sea, calling at Solovki [3, 2012]. However, reconstruction of berth complexes Red marina and sea-river station requires significant investment, a huge amount of the investment funds, which are unavailable in "Rosmorport" responsible departments for improvement berths. Virtually ceased cruises from Arkhangelsk. To the Solovki occasionally goes cargo ship "White Sea" (in the way of three days), which can carry only 10 passengers. In the future, may increase the flow of the foreign tourists to Solovki, if restore sea cruise from the port of Kandalaksha, acting in Soviet times. In Kandalaksha tourists will arrive by bus from the Finnish-Russian border crossing Salla. In addition, the perspectives are opened with the successful implementation of programs developed by the Government of the Arkhangelsk region in 2013 and supported by the President of Russia and the Russian Federation.

Government of Arkhangelsk Region in July 16, 2013 approved the development strategy the archipelago as a unique object of spiritual, historical, cultural and natural heritage, and in October 11, 2013 approved the State program of the Arkhangelsk region "Infrastructure Development of the archipelago (2014-2019)" [7]. Upon approval in the Russian Federation is Pravitelstve FTP project "Conservation and restoration of the complex spiritual, cultural and natural heritage and the development of infrastructure on the archipelago 2014-2019 years." Implementation of a complex system of measures will not only virtually re-create the entire infrastructure in Solovki, but also to establish a modern federal tourism center of world level. Planned restoration cruise

flights from Arkhangelsk, reconstruction and construction of berths in Solovki, the acquisition of two hovercraft and other effective measures for the development of marine tourism.

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ГЕОЛОГИЧЕСКОЕ И МИНЕРАЛОГИЧЕСКОЕ НАСЛЕДИЕ КОМИ КРАЯ КАК ПОТЕНЦИАЛ ДЛЯ РАЗВИТИЯ СЕВЕРНОГО ТУРИЗМА

GEOLOGICAL AND MINERALOGICAL HERITAGE OF KOMI REGION AS A POTENTIAL FOR THE NORTH TOURISM DEVELOPMENT



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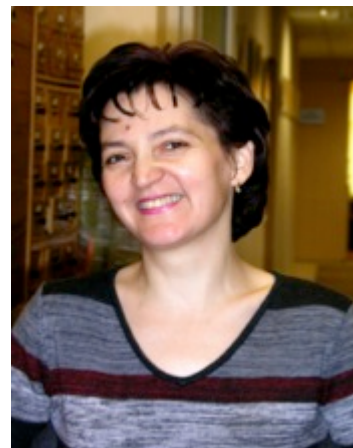
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Аннотация. Анализируется сложившаяся в настоящее время в Республике Коми система сохранения геологического и минерального разнообразия в рамках особо охраняемых природных территорий (памятников природы) и музеев геологического и естественно-исторического профилей. Геологическое наследие является потенциалом для развития туризма в северных регионах

Ключевые слова: геологическое разнообразие, минеральное разнообразие, геологическое наследие, Республика Коми, туризм

Abstract. Analyzed the currently prevailing in the Republic of Komi saving system geological and mineral diversity in the framework of the specially protected natural areas (nature monuments) and museums of the geological and natural profiles. Geological heritage is a potential for the development of tourism in North regions

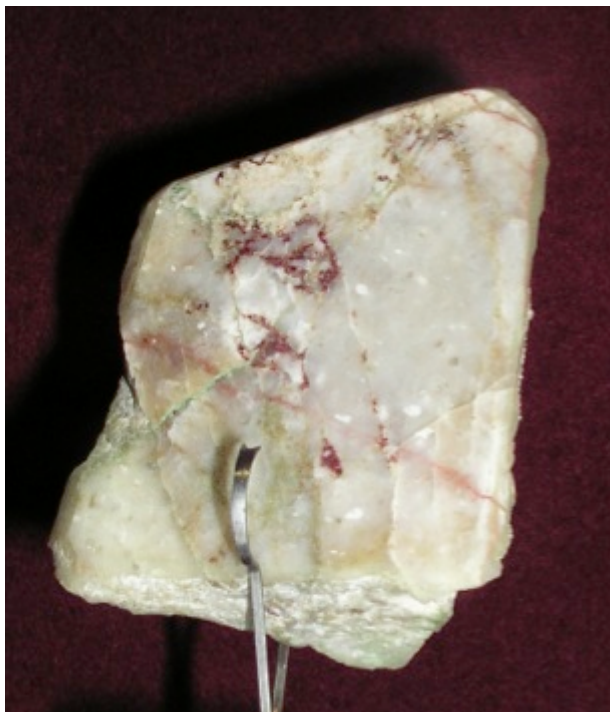
Keywords: geological diversity, mineral diversity, geological heritage, the Komi Republic, tourism

Geo diversity— is the part of the worlds heritage

The geological diversity (geo raznoobrazie) of any object (field, a particular region of the country, the Earth as a whole) means the totality of all of its existing forms of minerals described on several levels: individuals and mineral aggregates, mineral species, mineral associations, mineral body and some geological features. Geo diversity destroyed as a result of natural processes, and as a result of large-scale mining, engineering and agricultural activities of human civilization. Significant part of the geo diversity destroyed as a result of mining activities, sometimes without even being noticed, identified and adequately studied.

Geo diversity has the crucial understanding for the sustainable development of the biosphere as a medium of the existence of the various forms of life. On the other hand, minerals, ores and rocks - the foundation of our technological civilization. However, unlike the living matter, ores and minerals can not be played, and their destruction (use) is irrevocable. Very few natural processes helps to create and even multiply mineral diversity (eg, weathering of rocks).

Saving geological diversity – is as the fundamental problem facing of human civilization, as well as the preservation of the biological diversity. Geological diversity is currently regarded by many experts as an organic part of the world human heritage in need of the special protection and conservation.



Pic. 1. Rhyolitic quartz porphyry with pemontitom and chernovitom
(from the collection of the Geological Museum named after A. A. Chernov)

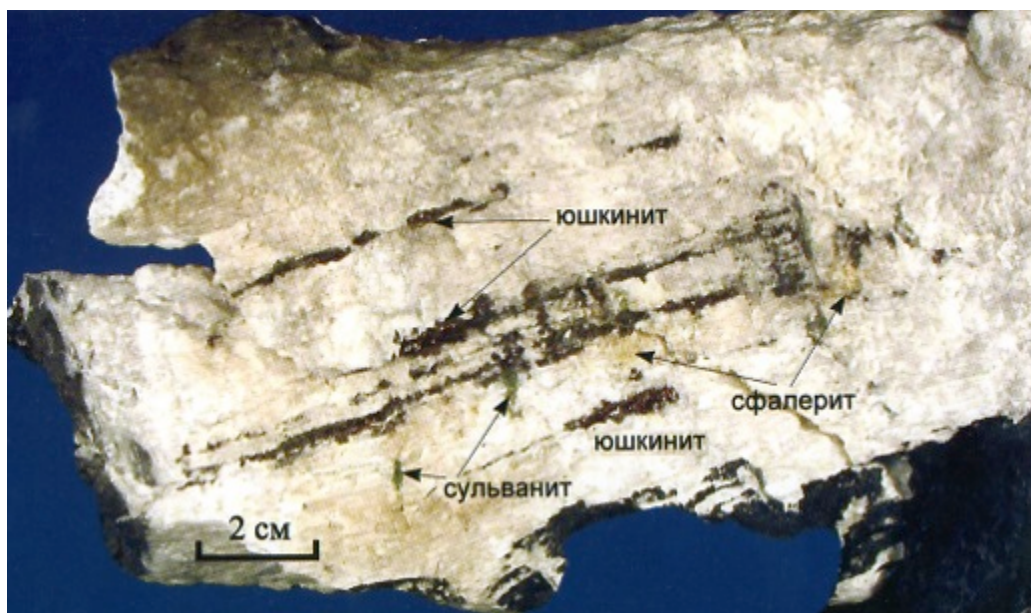
Saving of geo diversity is a kind of "compensation" from the destructive nature (human community, the subsoil user, builder, etc.), which is aimed at meeting the needs and requirements

(cultural, scientific, historical, educational, aesthetic, etc.) today and future generations. This compensation is a special way of the continued life of that nature, which will be destroyed forever.

Geological and mineral diversity of Timano- North Ural region

Timan-Northern Region is defined as a vast territory covering the Republic of Komi, Nenets Autonomous District and bordering areas with them. Geologically, this region is represented: the northern part of the Ural fold system and the Ural foredeep, Pechora basin, and the Timan ridge, Mezenskaya syncline and the north-western part of the Volga-Ural anticline. Such a wide variety of the geological formations in the region predetermined its geological and mineral diversity.

The list of minerals Timan-Northern Region currently includes 619 mineral species and 129 varieties. The region was the world's first unique minerals found Chernoff YAsO₄ (named in honor of an outstanding researcher bowels of the European North of Russia Professor A. A. Chernov) [3] (Fig. 1), Yushkina V1-xS · n [(Mg, Al) (OH) 2] (named after academician N. P. Yushkina) [4] (Fig. 2), Tsaregorodtseva N (CH₃)₄ [Si₂ (Si_{0.5}Al_{0.5}) O₆]₂ (named after the Ural mineralogist C. V. Tsaregorodtseva) (Fig. 3). Most recently, the region's mineral inventory was replenished rare mineral emiliitom Cu_{2.12}Pb_{1.97}Bi_{3.88}S_{10.35} [1] .



Pic. 2. Quartz-calcite vein with yushkinit, sphalerite and sulvanitom [4]

The system of the protected natural areas of the Republic Komi

In the Komi Republic, a network of protected areas (PAs), which includes about 250 objects. Two of them - the Pechora-Ilych Nature Reserve and National Park "Yugyd va" are included in UNESCO World Heritage List. The list of protected areas of significant scientific and educational interest represent different geological features associated with the ancient history of the Earth or human activities on the development of mineral resources in the region.



Pic. 3. Tsaregorodtsevit (from the collection of the Geological Museum named after A.A. Chernov)

Starting work on the identification of targeted natural geological attractions in the Komi Republic was initiated in the late 1930s. V.A. Varsanofev (Fig. 4). It was she, who first pointed to the need to preserve many unique objects of global importance, including stone "boobs" on Man-Pupuner plateau.



Pic. 4. Vera Aleksandrovna Varsanofieva, 1914. (photo from archive of geological museum named after A.A. Chernov)

The status of the "state nature monument" in the Komi Republic appeared in 1964, but until then unique geological features only recorded in the Komi Branch of the USSR Academy of Sciences and the Council of the Komi-Union Society for Nature Conservation [2].

The first government document formalized the status of protected areas for the geological objects near the Komi Republic, became the Council of Ministers of the Komi ASSR March 5, 1973 № 91 "On declaring the monuments of nature unique natural formations in the Komi Republic. It was formed 20 geological monuments in Northern and Polar Urals, the list includes karst formations and caves (Log Jordan, Uninskya, Kanin, Bear, tuffs and Ice Caves), outliers or "doodles" on the hillside Man-Pupuner (Fig. 5), as well as exposure-stratotypes, reference sections and the location of various paleontological fossils.



Pic. 5. Stone "doodles" on the plateau Man-Pupuner (Northern Urals). Photo V.V. Udoratina, 2012

In March 1984 was formed 21 additional natural monument geological profile, in September 1989 - 12 more such sites and one geological reserve. Thus, by the early 1990s, 54 objects received state protection status.

However, in 2002-2004, in the inventory of the protected areas were abolished as independent 30 geological monument located in the protected areas of the National Park "Yugyd va" and Pechora-Ilych Reserve, ie the number of legally registered geo monuments reduced to 24. Correct legally move led to the fact that there were difficulties with the control of the state of the monuments from professionals and was a kind of "dissolution" of the unique geological formations with the disappearance of information about them in the official environmental documents [2].



Pic 6. Geological reserve "Rocks of Kamenki", r. Ydzhid-Kamenka (basin. Pechora) [2]

Currently, the list of the geological monuments of the Komi Republic, compiled by the scientists and experts, includes about 140 miraculous and man-made objects. Among them - the caves, scenic landforms (Fig. 6), points the fossil organisms, historic sites of ancient mountain crafts(Fig.7), a natural reference geological sections and much more. However, many objects undoubtedly interesting scientific, historical, cultural, moral and aesthetic aspect, do not yet have an official status of a protected geological monumen.

Geological and natural historical museums of the Republic Komi

Geo diversity (or rather, part of it) can save qualified in the specialized museums, stores, private collections. Need to develop standards for the implementation of the registration, preservation and study of the geological and mineral diversity. Museums preserving geo diversity of the Earth must become "a stone library" of primary sources of information for the purpose of the reproduction of the scientific knowledge and of the cultural awareness of the general public.



Pic. 7. Ruins of Kazhinskoye ironworks - monument of ancient mining.
Koigorodsky district of the Komi Republic. Photo A.A. Ievleva, 2012

The main document for information stored in the museums of geo diversity must be catalog (inventory) of the samples available database on the extent of knowledge of each sample, its geological position, origin, conservation and handling conditions (research, reference, etc.). Work Conservation geo diversity requires training in the conservation mineralogy who study and document the minerals for the identification and qualification of the conservation for future generations.

One of the first cultural and educational institutions in the Komi region became the National Museum of the Republic of Komi (Fig. 8), which opened in 1911. It is based on ethnographic and paleontological specimens collected by enthusiasts exploring our region. Today mainly fund of the museum, there are over 50 thousand items, including geological collections geologists Academician A. Betekhtin, Professor A.A. Chernov, discoverer Vorkuta coal deposit G.A. Chernov, etc.



Pic. 8. The main building of the National Museum of the Republic of Komi in Syktyvkar

The first geological Museum of the Republic was established on the basis of the OGPU Ukhta expedition in 1930. Founders of the museum were geologists N.T. Tihonovich, B.R. Kompanets, P.I. Antonov, N.M. Ledkov, K.G. Voynovskiy-Krieger, I.I. Ginzburg, G.A. Kubasov, G.A. Rashkuev, G.I. Borovko. Their collections of rocks, ores and minerals collected in the field routes, became the basis of the museum, which had an industrial character associated with prospecting for oil. The museum ceased to exist in 1936 [5].

In 1931 appeared in Vorkuta Geological Survey, the founder of which was K. G. Voynovskiy-Krieger. Under his leadership in 1945 was opened Geological Museum, which in 2000 was given the name of the scientist (Fig. 9). The main fund establishment contains over 12 thousand samples.

In 1941-1946 years, Geological Museum worked at the Central Research Laboratory in Ukhta. It was stored for more than 5 thousand exhibits, the exhibition were presented asphaltites Izhemskiy district, gypsum and oil Wow, rhinestone Urals, Vorkuta coal, grindstones Pechora, Northern Timan agates, etc. However, in the postwar period, all the exhibits and museum catalogs were lost. In 1953 he was re-established. In 1969 the museum was transferred Ukhtinskoe Territorial Geological Administration, opening of the museum took place in 1971 Since 2004, the museum has become a of Ukhtinski History Museum.



Pic. 9. Geological Museum of C.G. Vojnovsky-Krieger in Vorkuta

In 1959, the Geological Museum was established in Ukhta geological expedition (UGRE) (Fig. 10), worn industrial character. In 1970, the museum has been allocated space in the newly constructed building UGRE. Head of the museum became NI Matyuhin. Catalogs of the collections were opened, the walls appeared at the geological map of the Middle and Southern Timan, photographs of natural outcrops. Museum exhibits are located in the glass cases.

In 1967-1968,. began to create educational Geological Museum at Ukhta Industrial Institute (now Ukhta State Technical University) (Fig.11). In 1993, the museum was named A.J. Krems.

Large contribution to its development have O.S. Kochetkov, A.M. Plyakin, M.I. Fomin, A.N. Borodin, B.A. Malkov.



Pic. 10. Geological museum of UGRE

In 1971, when the company "Uhta oil gas geology" was opened the museum "Geological collection". Initiator of its creation was the chief geologist B.J. Wasserman. The museum has more than 6100 items, including 1841 - it mineralogical samples. Most of the mineralogical fund collected in the Komi Republic, but there are samples of minerals deposits of the Southern Urals, Transbaikalia, Kola Peninsula, Mongolia, Ukraine, Hungary, etc.

Since 1973 operates the historical museum named after A.N. Popov in the Pechora-Ilych Nature Reserve, which contains documents and materials of nature and ethnography of the area. In the museum there are two divisions: the nature reserve and local history. A collection of rocks and minerals.

In 1980, mining and oil Ukhtinsky college museum was created with the geological history of the college department.

Museum of the History of Education of the Komi region has emerged as the Museum of History of Syktyvkar State University in 1982 The main objective of the museum is to highlight the development of science, culture and education in the Komi region of Komi create Zyryan written

before the foundation of the university. One room is devoted to the museum's halls Minerals western slope of the Urals.



Pic. 11. Geological Museum of Ukhta State Technical University

In 1985, the Institute of Language, Literature and History, Komi Science Centre was opened Museum of Archaeology and Ethnography, whose activities are connected with the study of the archaeological sites and conducting ethnographic research in the Republic of Komi. Including reflects the history of the development of stone and metal ores for everyday life.

Geological Museum named after Professor Alexander Chernov was established as a scientific structural unit of the Institute of Geology of Komi Science Center, located in Syktyvkar. The official date of the organization of the museum is May 21, 1968, when a decree was published Bureau of the Department of Earth Sciences of the USSR № 9 "On the organization since 1968 Geological Museum of the Institute of Geology of Komi Branch of the USSR."

The first ten years the museum has existed as a scientific repository stone material collected Institute staff in field expeditions in the Urals, Pai-Khoi, Novaya Zemlya and Timan. The opportunity to work with him got institute scientists and specialists of other organizations. During these

years, the museum staff to various Republican geological conferences, meetings and other urban activities organized temporary exhibitions and displays. The first permanent exhibition of the museum was opened in May 1978 (Fig. 12).



Pic. 12. N.P. Jushkin leads a tour in the first exposition hall of the museum

The museum has 591 workers and 155 monographic collections totaling 165 thousand units. There are numerous exchange fund of the geological samples. Part of the museum exposition area is 350 square meters. The main objectives of the museum are reflected in the museum exhibitions and collections of the stories exploration and the development of the natural resources of the Timan-Northern region, as well as education and information activities to promote the pioneering achievements of Russian geologists working in the area. These problems are solved through the exhibition and storage in the museum collections and collections of rock samples, ores, minerals and paleontological objects and some other materials reflecting geo diversity of Timan-Northern region.

The exhibition material is placed in 8 halls of the museum: mineral resources, minerals and gems, and the evolution of life on Earth, lithology, petrology, history of geological research in the region, their hall of stone figurines "Noah's Ark" (Fig. 13). In recent years the museum annually about 250 trips, and the total number of the visitors reaches three thousand people of different ages, professions and social groups (Fig. 14).



Pic. 13. Hall "Noah's Ark" of the Geological Museum named after A.A. Chernov



Pic. 14. S.I. Ploskova introduces the students of Syktyvkar with the bone remains of mammoths

Serve as the basis for a large public outreach activities, the museum is also a scientific base for a variety of the research work carried out by the scientists of the Institute in the cooperation with colleagues from Russia and foreign countries. In addition, they allow argued, in an attractive and visually illustrative form, conduct propaganda scientific and local knowledge in the various media of the Komi Republic and Russia. On the basis of the museum held a lecture to students of Syktyvkar State University, Komi Pedagogical Institute, Syktyvkar Forest Institute. In the halls of the Geological Museum of the AA Chernov shooting a television various Russian and foreign TV companies.

Conclusion

Geological heritage sites are an excellent basis for the scientific, cultural and aesthetic education of the general population, the development of tourism, as well as the creation of a number of the business sectors related to the development of the service for travelers. In many countries around the interesting geological objects arise Geoparks where up to date information is organized and service users. However, the development of these areas of activity need accessible and fascinating information about the objects of the geological heritage, initiative and interest of the local authorities, business and the desire to invest in the development of tourism and related services.

Unfortunately, now the objects of the geological and mineralogical heritage of the Komi Republic can only be regarded as an undoubted potential for the northern tourism.

Nevertheless, even in the absence of the tourism development programs in the northern Russia for the professionals working in the field of the study and preservation of the geo diversity, there is a wide field for work. Implementation of the basic forms of joint activities for the conservation of geo diversity can be:

- exchange of the experts to become familiar with specific aspects of the conservation of the geological diversity;
- exchange of geological, palaeontological and mineralogical information and samples;
- joint field research, training seminars, visiting conferences and round tables;
- cooperation of the mineralogical, geological and natural history museums in order to review and transfer of good and successful experiences of exposure, information and cultural and educational activities;
- cooperation of mineralogical, geological and natural history museums in order to review and transfer of good and successful experiences of exposure, information and cultural and educational activities;

- preparation for printing and publication of scientific works, development of recommendations for the conservation of geological diversity as methods geoconservation and museum facilities.

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ТРУДОВОЙ ПОТЕНЦИАЛ РОССИЙСКОГО СЕВЕРА¹**EMPLOYMENT POTENTIAL OF THE RUSSIAN NORTH**

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Аннотация. В статье предложен методический подход к количественно-качественной оценке трудового потенциала региона. Произведен сравнительный анализ динамики трудового потенциала северных регионов России за 2002-2010 гг. Выявлено, какие компоненты трудового потенциала играют наибольшую роль для уровня и динамики интегрального индекса развития трудового потенциала северных территорий.

Ключевые слова: трудовой потенциал, индекс развития трудового потенциала, частные индексы, северные регионы.

Abstract. This paper proposes a methodological approach to the quantitative and qualitative assessment of the employment potential of the region. A comparative analysis of the dynamics of the labor potential of the northern regions of Russia for 2002-2010 years. Identified which components of the labor potential play the most important role for the level and dynamics of the integral index of development of labor potential of the northern territories.

Keywords: labor potential, development index of labor potential, partial indices, the northern regions.

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Introduction

The main factor in any production – is population. Successful modernization of the country's economy is largely determined by quantitative and qualitative characteristics of human resources for labor. Quantitative characteristics of the labor force in Russia is one of the best in the world and the country's history. According to the 2010 Census, 61.6% of the population belongs to the working age population [1], is the basis of the economically active population. However, the country has already approached the point where the quantitative parameters of labor resources will steadily deteriorate. If during the intercensal period 1989-2002, the proportion of working-age population increased from 57.0 in Russia to 61.3 % [2, 2004] , in 2002-2010, despite the ongoing influx of the migrants working population from the neighboring countries, it has remained virtually unchanged: 61.3% and 61.6%, respectively [1]. Against the background of increasing reduction of the total population of working age population during this period decreased from 89.0 million to 88.1 million.

Russian northern regions over the past two-plus decades of experience massive out-migration, leading to a significant decrease of the total population as well as able-bodied troops. In the context of increased birth rates and increasing life expectancy, characteristic of the 2000s, the last intercensal period in these regions (except Yakutia and Nenets Autonomous District) was marked by a decrease in not only the absolute numbers, but also the proportion of people of working age. Thus, the problem of qualitative characteristics of the labor force in the North all sharp exit on the agenda. This article will be made quantitative and qualitative comparative assessment of the labor potential of the northern regions of Russia and its dynamics in 2002-2010,. More detail will be the dynamics of the employment potential of the Republic of Komi republic and place it on the level of the development of the northern territories.

Methodology for assessing the employment potential

In general terms, the employment potential - is the total public capacity to work, ie potential labor capacity of the society and its labor resources. Employment potential of the country and its regions - is an appropriate human resources, viewed in terms of the unity of their qualitative and quantitative sides. We can say that this labor in qualitative terms [3, 1996, p. 40-41]. Quantitative characteristics of the resources for labor may be estimated on the basis of census data, the current demographic statistics and sample surveys on employment, regularly held in the country since 1992 Qualitative characteristics of the labor potential has no single synthetic expression. Despite numerous studies, a common methodology for assessing the quantitative and qualitative characteristics of the labor potential yet.

Thus, in the 1980s, the scientists of the St. Petersburg school of sociology worked out the concept of three-tier structure of the labor potential, including psychophysiological, production and qualification and personal potential [4, 1985]. A similar technique, considering psychophysical, social, educational and intellectual components of the labor potential offered in the Ivanovo State University [5, 2006]. On the concept of quality characteristics of population based methods, Institute for Socio-Economic Studies of Population [6, 2001, 7, 1993, 8, 2012] and Vologda Institute of Socio-economic development of the Russian Academy of Sciences [9, 2004, 10, 1998]. In Samara State Academy of Economics provides a methodology based on the use of expert estimates the potential employment of the population in different age groups (separately by gender), taking into account their size and activity rates [11, 2001].

In our opinion, the interregional comparisons of labor potential is the most convenient at the Bashkir State University developed a technique of system analysis and structure of labor potential, based on the index method [12, 2007, 13, 2001]. As a basic indicators of the development of the labor potential in this method are considered: 1) the proportion of the working age population in the total population, and 2) the level of education, training and retraining, skills and experience that enhance employee capacity, and 3) the level of wages, and 4) armament of the employee with the necessary means and instruments of labor 5) level employment, labor activity. For all five basic indicators for a single formula calculated partial indices: $I_n = (K_{\text{fakt.}}(n) - K_{\text{min}}(n)) / (K_{\text{max}}(n) - K_{\text{min}}(n))$, where $K_{\text{fakt.}}(n)$, $K_{\text{min}}(n)$, $K_{\text{max}}(n)$ - , respectively, the actual minimum and the maximum value of the component n the labor potential.

Integral index of the development of labor potential is a synthesis of the partial indices. It is calculated as the arithmetic mean of them. The values of all components of the index development of labor potential, as well as the integral index, vary from "0" to "1". This range allows us to estimate the path traversed by the region towards achieving the highest possible level of the index under consideration.

This approach seems most correct because the index method allows us to reduce the different characteristics of the labor potential in a comparable form. We used the basic principles of this technique for the assessment of the labor potential of the northern regions of Russia in the 2000s, with some changes in the composition of its benchmarks, which were calculated partial indices, as well as a slightly modified principle of choice in the index of maximum and minimum bases of comparison. As a baseline development of labor potential we have taken the length of working life in the region, the level of employment, the level of the professional education of the

employed population, the capital-labor and gross regional product per capita. For these parameters using the above formula were calculated partial indices.

1. Expectancy index of working life

The calculation of this index is based on the index of life expectancy. According to ILO methodology adopted in the Russian sample surveys on employment, age limits economic activity of the population is 15-72 years. Accordingly, the minimum value of the length of the working life of 10 years: 25 years minimum life expectancy used in calculating the index of life expectancy, less 15 years to the bottom of the economic activity. It is the period of time during which work can a person living under the regime of mortality corresponding to the minimum life expectancy. The maximum value of the length of working life - 57 years (72 years minus 15 years before economic activity). Actual value when the life expectancy in the region is less than 72 years would be equal to the actual life expectancy of the region minus 15 years. If life expectancy exceeds 72 years in the region, the actual value of an extended working life will be equal to its maximum value of 57 years - in this case the value of the index reaches unity.

When calculating other indices as the maximum acceptable level indicator exceeding the absolute maximum corresponding figure for all regions of the country, observed in 1990-2000's, as a minimum - a level below the worst figure by region.

2. Index of employment

The employment rate (the proportion of employees in the population aged 15-72 years) - is the most important measure of the conditions and the level of the development of labor potential. As the maximum possible employment to take those measures that have persisted in the most developed regions of the country in almost crisis-free development, when unemployment does not go beyond natural levels (4-5% of the economically active population). On the basis of the best employment levels recorded in 2010 in St. Petersburg (71.6% of the population aged 15-72 years) and in 2012 in Moscow (72.2%), in which the general unemployment levels were respectively, 2.6% and 1.4% of the economically active population in the region, it would be logical for the maximum level of employment to take value not exceeding 80%. However, the absolute maximum level of employment, noted in 2006 in Chukotka (79.9% of the county's population aged 15-72 were employed in the economy with an overall unemployment rate of 3.7% of the economically active population), almost reaches this value. A similar pattern can occur in the future and in other northern regions of the country, which would limit the possibility of extending the time series index. Therefore, for a maximum level of employment, we took 85%. For a minimum - a level below the worst employment rate observed in the 2000s, which was recorded in the Republic of

Ingushetia in 2006 (only 16.8% of the population aged 15-72 were employed in the economy). In our calculations, at least 15% of employment.

3. Index level of vocational education of employed population

In calculating this index as the basis adopted quantitative data on the proportion of the employed population with higher, incomplete higher and secondary vocational education in the working population, derived from Census 2002 and 2010 and sample surveys on employment. According to the 2002 census, the maximum proportion of the employed population with a high level of the professional education was in Moscow (60.3 %), the lowest - in the Chechen Republic (21.7%). According to sample surveys of employment, to a maximum percentage of the intercensal period was also evaluated Moscow (79.1% in 2008), minimum - Ust- Orda Buryat Autonomous Region (29.2% in 2003). Census in 2010 the largest share of the employed population with higher, incomplete higher and secondary vocational education was recorded in St. Petersburg (85.7%), the lowest - in the Chechen Republic (56.5%). From these figures, for the maximum value of the index, we took 90%, with the minimum - 20%.

4. Index intensity of labour

In statistics, the capital-labor ratio is determined by the cost of operating funds to the working population. Copyright adopted by us as a basis for the methodology G.V. Yakshibaeva [12, 2007, 13, 2001] as the maximum and minimum values of the cross-country use of capital-indicators. Maximum – is the figure most industrialized countries, at least - the zero level corresponding to the conditions of manual labor. For the minimum value, we also take the zero level. And as the maximum, as we face the challenge of inter-regional comparisons of the labor potential of Russian regions, we take a value higher than the best in the Russian regions outside the capital-recorded in the 2000s. In general, over the entire period considered leading place in the capital-preserved in the Yamal-Nenets Autonomous District. The maximum value was observed here in 2010-15350.0 mln./ Thousand. Therefore, for the maximum intensity of labor, we took 20,000 mln./Thousand.

5. Index of gross regional product (GRP) per capita

This index characterizes the conditions and standards of living, the material basis of the reproduction of the labor force, total employment potential of the region. Copyright applied our technique offers as the maximum and minimum values of GDP per capita to take used in calculating the human development index fixed maximum value of gross domestic product, equal to \$ 40,000 (purchasing power parity), and a minimum of 100 dollars [12, 2007, 13, 2001]. As we took the maximum score value higher than the highest value to the regions GDP per capita recorded in

the 2000s. As a minimum - an amount less than the worst value of GDP per capita for 1990-2000-ies. The highest value of this index was in 2010 in the Nenets Autonomous District (3,461,997.6 rubles.), The lowest - in 1998 in the Republic of Ingushetia (3428.9 rubles.). Accordingly, in our calculations for the maximum GDP per capita we take 3500000 rubles., For a minimum - 3000 rubles.

The proposed method of calculating the index of the development of labor potential is universal. It can be used to analyze the dynamics of the labor potential of the regions, a comparative analysis of the labor potential between the federation, between urban and rural areas. However, widespread use is limited by its lack of adequate information. Specific information difficult to calculate and use this indicator are available at the grassroots administrative level: the inter-territorial comparisons within regions of the country.

Table. 1 shows the dynamics of the integral index of the development of labor potential (IRTP) of the Russian Federation and its northern regions (subjects of the federation, the territory of which relate entirely to the Far North and similar areas) during the intercensal period 2002-2010. Census population – is one of the most important sources of information about the population. It only provides the maximum reliability of the information about the population and, in particular, the most accurate method to assess the level of employment and vocational training of the employed population. Therefore, the calculation of the corresponding partial indices IRTP work carried out censuses of 2002 and 2010. At the same time due to the long duration of the intercensal period included an interim analysis in 2006, which calculate these indices based on the results of sample surveys on employment.

Table 1

Dynamics of the integral index of the development of labour potential in the northern regions of Russia in 2002-2010 гг.²

Regions	The index value			Groth rates, %	
	2002 г.	2006 г.	2010 г.	2002-2006	2002-2010
Russian Federation	0,423	0,419	0,501	-0,9	18,4
Nenetskiy AO	0,444	0,490	0,757	10,4	70,5
Yamalo-Nenetskiy AO	0,567	0,588	0,723	3,7	27,5
Xanti-Mansiyskiy AO	0,499	0,539	0,648	8,0	29,9
Sahalinskiy Region	0,410	0,418	0,543	2,0	32,4
Murmansk region	0,436	0,427	0,520	-2,1	19,3
Chukotskiy AO	0,432	0,438	0,517	1,4	19,7
Magadan region	0,433	0,467	0,515	7,9	18,9
Komi Republic	0,419	0,410	0,510	-2,1	21,7

² Здесь и далее в таблицах регионы ранжированы по убыванию величины ИРТП в 2010 г. Рассчитано на основе данных Росстата: 14, 15, 16, 17

Kamchatskiy region	0,443	0,431	0,508	-2,7	14,7
Sakha Republic (Yakutia)	0,442	0,407	0,495	-7,9	12,0
Arkhangelsk region	0,414	0,396	0,490	-4,3	18,4
Karelia Republic	0,408	0,421	0,476	3,2	16,7
Tiva Republic	0,354	0,304	0,387	-14,1	9,3

In general, for years 2002-2010, integral index of the development of labor potential in Russia increased by 18.4 % (from 0,423 to 0,501). In the first decade of the XXI century, in terms of economic growth, the employment potential of the country is characterized by a positive trend. However, it should be noted that in the first half of the period under dynamic IRTP was a slight disadvantage. At the same time reducing its value in 2002-2006 was quite small, only based on the reduction of the index of the vocational education of the employed population, and the subsequent growth - much more substantial.

For everyone without exception northern territories of Russia during 2002-2010 years also characterized by an increase of the integral index of the development of labor potential. Thus in most of these areas (except the Republic of Komi, Sakha and Tuva, Arkhangelsk and Murmansk regions of Kamchatka) the rise of the IRTP started in 2002-2006.

The most significant development of the integral index of labor potential increased during 2002-2010 years in the Nenets Autonomous District (70.5%). As a result, Nenets Autonomous District in the Northern regions of the ordered series largest IRTP moved from the third position to the first, surpassing the 2nd and 3rd place of the Yamal-Nenets and Khanty-Mansi Autonomous Okrug, which are also characterized by relatively high growth rates IRTP 2002 - 2010. (respectively 27.5 and 29.9%). From the 11th to the 4th moved Sakhalin region in which the value of the integral index increased by almost a third (32.4%), mainly in the second half of the intercensal period. Higher than in Russia as a whole, the growth rate also IRTP in the Komi Republic (21.7%) , Chukotka Autonomous District (19.7%), Murmansk (19.3%) and Magadan (18.9%) regions. As a result of the Murmansk region in the northern regions of the ordered series in 2010 took 5th place, having moved from the 6th position, Chukotka Autonomous up from 8th place to 6th, Magadan region has kept the 7th position, Komi Republic - climbed from 9th place on the 8th.

In the Arkhangelsk region IRTP increase for 2002-2010 years corresponds to average level. In the northern territories of the ordered series area is a bit passed the position: dropped from 10th to 11th place. Karelia, Kamchatka Region, the Republic of Sakha and Tuva characterized by a growth rate of the integral index of the development of labor potential below the national average(respectively, 16.7 %, 14.7 , 12.0% and 9.3%), which contribute to or significant deterioration in the last intercensal period, their place among the northern regions, or conservation positions

outsiders. Kamchatka Oblast and the Republic of Sakha (Yakutia) fell in 2002-2010, 3-4th to the 9-10th. Karelia and Tuva retained the last of the northern regions of space.

Thus, in the most northern areas of Russia the growth rate of the integral index of the development of labor potential in 2002-2010, higher than in the whole country. While in 2002 and 2006, IRTP value was above the national average in eight northern regions of 13, in 2010 - in nine. In the group of the regions with high value IRTP except Yamal-Nenets, Khanty-Mansi, Nenets and Chukotka Autonomous Okrug, Kamchatka, Magadan and Murmansk regions, which in 2002 exceeded IRTP the Russian average, during the last intercensal period included Sakhalin region and the Komi Republic. At the same time, the Republic of Sakha (Yakutia) has data from 2006 fell into the group of areas with the level of the development of labor potential below the national average, which of the northern regions are traditionally Arkhangelsk region, Karelia and Tuva.

Komi Republic, part of the period 2002-2010 in the top five of the northern territories by growth rates of the integral index of the development of labor potential, as already noted, several improved its position in the ordered series of the northern regions. She moved from 9th place on the 8th, surpassing the Kamchatka region and the Republic of Sakha (Yakutia), but skipping ahead of the Sakhalin region, which is characterized by the second after the Nenets Autonomous growth rate IRTP. In 2002 and 2006, Komi characterized IRTP magnitude lower than in the general population, according to the 2010 level of the development of labor potential in the country exceeds the national average.

Consider the extent to which this or that particular index and provides a level of the positive dynamics of the integral index of the development of labor potential.

The largest contribution to the overall level of the index makes IRTP *trudvoy* duration of life, the value of which in Russia in general is close to unity, and in some regions (Moscow, St. Petersburg, most regions of the North Caucasus Federal District) has reached unity. Over the years 2002-2010, this index increased from 0.847 to 0.944 (11.5%) (Table 2), which is logical in the context of increased life expectancy, which is observed consistently in the country since 2004, the period from 2002 to 2010 Russian life expectancy has increased from 64.95 to 68.94 years [17].

In most of the northern regions, life expectancy of the population are traditionally lower than the national average. Accordingly, below them and nationwide index value of longer working lives. The only exceptions are the Khanty-Mansi and Yamal-Nenets Autonomous District, increased life expectancy which are largely due to the low mortality among men of working age from endogenous causes due to their significant contribution to the rotation and low mortality rates of older citizens, that is, essentially, "export of death" in the southern regions.

Table 2

Dynamics of working life expectancy of the index population in the Northern region of Russia in 2002-2010.

Regions	Index			Groth rates, %	
	2002	2006	2010	2002-2006	2002-2010
Russian Federation	0,847	0,885	0,944	4,5	11,5
Nenetskiy AO	0,940	0,933	0,970	-0,7	3,2
Yamalo-Nenetskiy AO	0,964	0,933	0,960	-3,2	-0,4
Xanti-Mansiyskiy AO	0,863	0,855	0,929	-0,9	7,6
Sahalinskiy Region	0,814	0,847	0,922	4,1	13,3
Murmansk region	0,817	0,834	0,902	2,1	10,4
Chukotskiy AO	0,847	0,863	0,898	1,9	6,0
Magadan region	0,791	0,826	0,897	4,4	13,4
Komi Republic	0,843	0,855	0,877	1,4	4,0
Kamchatskiy region	0,838	0,791	0,869	-5,6	3,7
Sakha Republic (Yakutia)	0,791	0,817	0,862	3,3	9,0
Arkhangelsk region	0,805	0,804	0,857	-0,1	6,5
Karelia Republic	0,639	0,711	0,764	11,3	19,6
Tiva Republic	0,702	0,722	0,735	2,8	4,7

However, in the period 2002-2010, Khanty-Mansi Autonomous District was slight increase in the index of longer working lives of the population, and in the Yamal-Nenets Autonomous even decline despite the fact that reserves of its growth in these regions still exist. Most significantly, this index rose in the Republic of Tyva (19.6%), the Republic of Karelia (13.4%) and the Arkhangelsk region (13.3%), which contributed to some improvement in rank positions of these regions largest index of longer working lives. Tuva left the last place, "losing" his Chukotka, Karelia has risen from 10-11th places on the 7th, the Arkhangelsk region - from the 8th to 4th. In the rest of the northern regions of the growth rate of the index below the national average. Including in the Komi Republic, which, however, also the rank somewhat improved its position by moving in 2002-2010, 7th to 5th.

Average for all northern territories index value of longer working lives of 0,880. As in the whole country, in the northern regions of this index makes the greatest contribution to the overall level of IRTP. However, its growth reserves in the North remain high, particularly in the Republic of Tuva and Chukotka region, life expectancy of the population which is still very far even from the upper boundary of the economic activity.

Employment index increased in Russia in 2002-2010 years, by 6.4 %, from 0.640 to 0.681 (Table 3). This is a consequence of the continued growth of the employment rate, which for the 2002-2010 years, grew up in the country with 59.8% of the total employed population aged 15-72 years [13] to 62.7% [15]. Regions with a young age structure of the population is usually characterized by a high percentage of employees in the population 15-72 years. Accordingly, in most north-

ern areas of employment index is above average in Russia. Traditionally only exception is the Republic of Tuva, for the younger age structure of the population which is characterized by a low proportion of people of working age : below the national average.[1]

The most significant increase in the Employment Cost Index for the period 2002-2010, characteristic of the Sakhalin region, and only through the first half of the period under review. As a result, the area was among the regions with an index of employment above the national average, four points improving its position among the rank of the northern regions. Climbed two positions Kamchatka and Murmansk Oblast and the Komi Republic, one - Magadan region and Khanty-Mansiysk.

Table3

Dynamics of employment index of the population in the Northern region in 2002-2010

Regions	Index			Groth rates, %	
	2002	2006	2010	2002-2006	2002-2010
Russian Federation	0,640	0,663	0,681	3,6	6,4
Nenetskiy AO	0,874	0,927	0,877	6,1	0,3
Yamalo-Nenetskiy AO	0,753	0,746	0,824	-0,9	9,4
Xanti-Mansiyskiy AO	0,856	0,807	0,806	-5,7	-5,8
Sahalinskiy Region	0,723	0,751	0,777	3,9	7,5
Murmansk region	0,709	0,747	0,761	5,4	7,3
Chukotskiy AO	0,684	0,707	0,747	3,4	9,2
Magadan region	0,710	0,794	0,739	11,8	4,1
Komi Republic	0,637	0,753	0,704	18,2	10,5
Kamchatskiy region	0,647	0,650	0,700	0,5	8,2
Sakha Republic (Yakutia)	0,681	0,709	0,680	4,1	-0,1
Arkhangelsk region	0,726	0,683	0,673	-5,9	-7,3
Karelia Republic	0,670	0,730	0,670	9,0	0,0
Tiva Republic	0,487	0,451	0,427	-7,4	-12,3

At the same time in a number of the northern regions in the 2002-2010 years, decreased employment index. In the Republic of Tyva, and so have the lowest level of the northern territories of the Employment Cost Index, it fell by another 12.3%. At 7.3%, the index decreased in Yakutia, 5.8% in the Yamal-Nenets Autonomous District. In the Arkhangelsk region, Karelia and the Chukotka Autonomous employment index in the last intercensal period remained virtually unchanged. In the Nenets Autonomous growth rate of the index is also below the national average. However, it should be noted that in 2002-2006, these four regions, as well as the Sakhalin region, characterized by a very marked increase in the Employment Cost Index. But after reaching a maximum in 2006 the level of employment in all of them it was a decrease [16]. In general, the Russian 2000s are characterized by fairly stable positive dynamics of employment: a marked reduction in its level

occurred only in 2009, after the unfolding global financial crisis. As a result, the number of the northern territories, characterized by employment index below the national average for 2002-2010 years increased from two (Tuva and the Sakhalin region) to four (Tuva and Sakha Karelia and Arkhangelsk Oblast).

However, the average for all northern regions of the employment index in 2010 (0,722) is still higher than in Russia as a whole (0,681). Russian level above the index of employment and in the Komi Republic (0,700), where for 2002-2010. it increased by 8.2%. This, as already noted, has allowed the country to rise from 11th rank among the northern regions position on this index on the 9th.

In 2002, the index of employment in Russia was the second largest contribution to the overall index level of the development of labor potential. However, five of our special indexes IRTP employment index is characterized in the 2000s, the lowest growth rate: for 2002-2010. it increased by only 6.4%. As a result, by 2010 the level of contribution to the integral index, moved to the third position, behind second index level vocational education of the employed population, who in 2002-2010. Russia increased by 24.3 %, from 0.593 to 0.737 (Table 4). Note first that the dynamics of this index for 2002-2006 will not be considered. From Table 4, it is obvious that data on the level of education of the employed population, obtained from different sources of information were not comparable: sample surveys on employment greatly underestimated the level of the professional education of employees.

Table 4

Dynamics of the index level of the vocational education of the employed people in the northern regions of Russia in 2002-2010

Regions	Index			Groth rates, %	
	2002	2006	2010	2002-2006	2002-2010
Russian Federation	0,593	0,467	0,737	-21,2	24,3
Nenetskiy AO	0,650	0,551	0,791	-15,2	21,7
Yamalo-Nenetskiy AO	0,656	0,513	0,776	-21,8	18,3
Xanti-Mansiyskiy AO	0,629	0,510	0,769	-18,9	22,3
Sahalinskiy Region	0,563	0,431	0,736	-23,4	30,7
Murmansk region	0,580	0,376	0,711	-35,2	22,6
Chukotskiy AO	0,570	0,423	0,703	-25,8	23,3
Magadan region	0,554	0,664	0,702	19,9	26,7
Komi Republic	0,541	0,479	0,700	-11,5	29,4
Kamchatskiy region	0,631	0,336	0,697	-46,8	10,5
Sakha Republic (Yakutia)	0,560	0,391	0,681	-30,2	21,6
Arkhangelsk region	0,511	0,276	0,681	-46,0	33,3
Karelia Republic	0,531	0,334	0,679	-37,1	27,9
Tiva Republic	0,507	0,420	0,630	-17,2	24,3

On average in the northern regions of the index level of the professional education of the employed population in 2010 was 0,712. In her role in the overall level IRTP in the North it is still in third place after the indices of longer working lives (average 0.880) and employment (0,720). And it is still lower than the national average (0,737).

Only for the Yamal-Nenets and Khanty-Mansi Autonomous Okrug and Kamchatka region is characterized by stable employment levels higher vocational education nationwide and, accordingly, increased values of education index, 2002 census a high level of professional education of the employed population was also noted in Tuva: 64.2% of employees had higher, incomplete higher or specialized secondary education. But in 2002-2010, here had the lowest among the northern areas the growth rate of the index of education, resulting in significantly worsened their republic the rank position, dropping the third place on the 9th .

In most of the northern regions below the national average, not only the level of the index of the vocational education of the employed population, but growth rates over 2002-2010. Only in the Nenets Autonomous District, Murmansk, Arkhangelsk and Magadan regions and Karelia increase in the index of education during the period were significantly nationwide level and in Chukotka - on average. Nevertheless, Chukchi and Nenets Autonomous District, the Arkhangelsk region is still short list of the northern territories of the largest index. At the same time on the Murmansk region improved its three positions in the ordered series of the northern territories, rising for the 2002-2010 years. from 7th to 4th place. Magadan Oblast and Karelia climbed two positions: the 9th and 10th places on the 7th and 8th.

Despite the growth rate of the index of the vocational training of employed population below the national average, the Komi Republic in its level maintained its 6th place in the North. It should be noted that among the regions of the North -West Federal District, which includes the Republic for 2002-2010 years, deteriorated rank position Komi largest index. She dropped from 4th place in 2002 at the 5 -6- 7th place in 2010 Obviously , maintaining the position of the republic in a number of northern regions due to the fact that most of them are experiencing similar problems with Komi reproduction professionally trained personnel.

Contribution of the other two private indices: the capital-labor index and GDP per capita - in the level of the integral index of development of labor potential of the Russian Federation as a whole and in most regions of the country is extremely insignificant, since these indices have been used very high maximum values of the benchmarks actually observed in Yamal-Nenets and Nenets Autonomous District. At the same time, the values of these indices, reflecting the economic growth of the 2000s, in all regions increased significantly.

Index increased intensity of labor in Russia in 2002-2010 years almost 3.5 times (Table 5). In the Nenets Autonomous occurred more than a tenfold increase in this index in the Sakhalin area index increased by more than 8 times. This significant increase is due to an increase in investment in fixed assets of the basic industries in these regions with the beginning of active development in these regions of new hydrocarbon deposits. As a result, Nenets Autonomous moved from the third position of the Northern Territories largest index of intensity of labor in the second, surpassing the Khanty-Mansi Autonomous Area and Sakhalin region climbed from 9th place to 4th, surpassing among other northern regions and the Republic of Komi, which for years 2002-2010, dropped from 4th to 5th place. Significantly improved its position in the ordered series of the northern regions also Chukotka AO, with an almost fivefold increase in the capital- index rising for years 2002-2010, from 10th to 6th place - mainly in the second half of the period under review .

In the first place on the index capital-labor (as among the northern regions and the country as a whole) is consistently the Yamal-Nenets autonomous region with the value of the index is almost 10 times higher than the Russian average level. Traditional outsider dery of the northern territories - Karelia, Kamchatka region and Tuva. These regions in the period 2002-2010,. characterized by the growth rate of the capital-index below the national average. Noticeably lost their positions during this time as Yakutia and Magadan region, which fell to 5 -6th places among northern regions on 9-10th places.

Table 5

***The dynamics of the capital-labor index in the northern region of Russia in
8 2002-2010 22.***

Regions	Indexes			Groth rates, %	
	2002	2006	2010	2002-2006	2002-2010
Russian Federation	0,020	0,035	0,069	75,0	245,0
Nenetskiy AO	0,217	0,350	0,639	61,3	194,5
Yamalo-Nenetskiy AO	0,049	0,130	0,507	165,3	934,7
Xanti-Mansiyskiy AO	0,091	0,190	0,356	108,8	291,2
Sahalinskiy Region	0,023	0,050	0,189	117,4	721,7
Murmansk region	0,038	0,077	0,133	102,6	250,0
Chukotskiy AO	0,022	0,036	0,106	63,6	381,8
Magadan region	0,025	0,046	0,092	84,0	268,0
Komi Republic	0,026	0,044	0,088	69,2	238,5
Kamchatskiy region	0,031	0,053	0,081	71,0	161,3
Sakha Republic (Yakutia)	0,031	0,053	0,081	71,0	161,3
Arkhangelsk region	0,020	0,035	0,058	75,0	190,0
Karelia Republic	0,019	0,031	0,051	63,2	168,4
Tiva Republic	0,008	0,011	0,018	37,5	125,0

More significantly: 4.6 times - increased in Russia during the last intercensal period, the index of GRP (GDP) per capita (Table 6), which characterizes the material basis for the reproduction of labor resources. Its magnitude in the whole country with the very high comparison base maximum (3.5 million rubles. Per person, based on actual recorded in 2010 in the Nenets Autonomous GRP per capita 3,461,997.6 rubles). Still very small: 0,074. But if in 2002 the partial indices of IRTP index GRP (GDP) per capita was in last place in the role in the overall level of the integral index, in 2006 and 2010. its contribution to the index exceeded the intensity of labor contribution.

In Sakhalin Oblast index GDP per capita increased over the years 2002-2010 . almost 12 times in the Nenets Autonomous District - 9 times that , as already mentioned, due to the fact that these regions have started to give economic benefits previously explored , but first canned hydro-carbon deposits . As a result of the Sakhalin region in the northern regions of the ordered series the value of this index has risen from 7th place on the 4th and Nenets Autonomous pressed Yamal-Nenets autonomous from the first place . Almost all regions of the North index value of GRP per capita than the national average level. The only exception is the Republic of Karelia and Tuva.

Table 6

***Index of dynamics VRP (VVP) per capita of the population
In the northern regions of Russia in 2002-2010.***

Regions	Index			groth rates, %	
	2002	2006	2010	2002-2006	2002-2010
Russian Federation	0,016	0,044	0,074	175,0	362,5
Nenetskiy AO	0,113	0,458	0,989	305,3	775,2
Yamalo-Nenetskiy AO	0,147	0,300	0,420	104,1	185,7
Xanti-Mansiyskiy AO	0,110	0,309	0,369	180,9	235,5
Sahalinskiy Region	0,024	0,091	0,282	279,2	1075,0
Murmansk region	0,053	0,084	0,236	58,5	345,3
Chukotskiy AO	0,034	0,061	0,114	79,4	235,3
Magadan region	0,023	0,065	0,110	182,6	378,3
Komi Republic	0,034	0,052	0,105	52,9	208,8
Kamchatskiy region	0,020	0,047	0,089	135,0	345,0
Sakha Republic (Yakutia)	0,021	0,054	0,083	157,1	295,2
Arkhangelsk region	0,017	0,048	0,082	182,4	382,4
Karelia Republic	0,016	0,035	0,056	118,8	250,0
Tiva Republic	0,006	0,013	0,028	116,7	366,7

In the three northern regions leading resource traditionally includes Nenets, Yamal-Nenets and Khanty-Mansi Autonomous District, the three regions of outsiders - Arkhangelsk Oblast, Karelia and Tuva. Therefore encouraging to note that in the Arkhangelsk region and the Republic of Tuva in 2002-2010, growth rate of the index of GRP per capita is higher than in the whole country. In the Komi Republic of the index growth rate also exceeds the national average. On the back-

ground of low growth rates in the most of the northern territories Komi several improved its position the rank, up from 8th to 7th place.

Conclusion

Thus, the positive dynamics of the integral index of the development of labor potential of the northern regions of Russia in the period 2002-2010, As in the whole country, the speaker provides virtually all five partial indices. An exception is the decrease in the index of employment in Tuva, Yakutia and the Yamal-Nenets Autonomous District and zero dynamics of this index in the Arkhangelsk region, Karelia and Chukotka region.

The most important role in the overall level IRTP as in Russia as a whole and in its northern territories, play close to the maximum index of longer working lives in the whole country in 2010, it is 0,944), the index of the level of professional education of employees (0,737) and the index of employment (0,681). However, the most significant contribution to the positive dynamics IRTP of the economic growth 2002-2010 make indexes GRP per capita and intensity of labor has increased over the intercensal period at times (in the whole of Russia, respectively, 4.6 and 3.5 times).

Indexes of longer working lives and the level of the professional education of the employed population in the average for all northern regions (respectively, 0.880 and 0.712) lower than in the Russian Federation. Indexes of employment, GDP per capita and the capital-labor (respectively, 0.722, 0.228 and 0.185) - the North higher on average. At the same time, the index of employment in 2002-2010, is characterized. the lowest growth rate. At the same time in a number of the northern regions was recorded negative or zero dynamics of this index. This is largely due to the global financial crisis, when many companies were forced to conduct a policy of downsizing due to the difficult economic situation. Index of GDP per capita on average in the North increased by 4.8 times, the index of capital-labor - 3 times. Especially significant increase of these indices occurred in regions that are the 2000s were characterized by high investment activity in connection with the growth of investment demand in the oil and gas industry (especially in the Sakhalin Region and Nenets Autonomous District). In 2010, the index of GDP per capita in the Nenets Autonomous 13.4 times higher than the national average . Index intensity of labor in the Yamal-Nenets Autonomous Area - 9.3 times. In 2002, eight of the thirteen regions of the North had the integral index of development of labor potential above the level of the national average. In 2010 their number increased to 9.

Komi Republic for 2002-2010 years, somewhat improved its position in a ranking - Wann series northern regions largest IRTP, up from 9th position in the 8th and hitting one of the regions with the value IRTP above the national average. This was primarily due to the growth index of GRP

per capita, which increased to 4.8 times the Komi. In the northern regions of the ordered series on this index Republic rose from 9th to 8th position. Greater than in the whole country, in the Komi increased employment index - the northern regions of the Republic has risen from 11th to 9th place. Index intensity of labor also increased sharply than in Russia as a whole, but the rank position of the northern regions of the republic on the index somewhat deteriorated - due to a significant leap forward Sakhalin Oblast. According to the index of longer working lives has improved the position of the Republic of Komi (transition from 7th to 5th place). However, based on this, above all, are the lowest growth rate of the index in the Nenets Autonomous District, Kamchatka Oblast and the Republic of Sakha (Yakutia), due to lack of increase in the 2000s, life expectancy regions characterized by significant levels of mortality from external causes. Growth rate of the index of longer working lives, as well as an index level of the professional education of the employed population, in 2002-2010, Komi Republic is lower than in Russia as a whole.

In 2010, the index of employment, GDP per capita and intensity of labor in the Komi Republic is higher than in Russia as a whole, but lower than the average in the North. Index of longer working lives of the population - above average in the northern regions, but lower than in the country. At the same time, the index level of the professional education of the employed population in the Komi as below average and the average for the northern territories. This is mainly due to the transition of the Republic back in the 1990s to "self-qualified personnel," the aging of the previously prepared in metropolitan universities of professional staff, they reach retirement age and the phasing out of work, and with considerable scale out-migration of young people, was educated in the country, in St. Petersburg and Moscow. Thus, the potential for further growth of the labor potential of the Komi Republic is largely determined by the modernization of the vocational education system, bringing the structure of training in line with the needs of the regional economy, improving the system of training, retraining and advanced training, the validation of qualified personnel in the region, which is based on availability enough jobs with attractive working conditions and decent wages.

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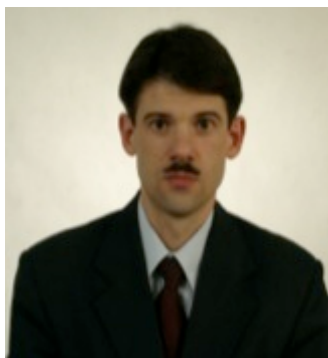
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АНАЛИЗ УРОВНЯ РАЗВИТИЯ РОССИЙСКИХ РЕГИОНОВ НА ОСНОВЕ «ИНДЕКСА РАЗВИТИЯ ЧЕЛОВЕЧЕСКОГО ПОТЕНЦИАЛА»

ANALYSIS OF RUSSIAN REGIONS ON THE BASE OF HUMAN DEVELOPMENT INDEX



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Аннотация. Дается описание индекса развития человеческого потенциала (ИРЧП) применительно к Российской Арктике. Проводится сравнение региональных ИРЧП с помощью методов интеллектуального анализа данных

Ключевые слова: индекс развития человеческого потенциала, индекс образования, индекс долголетия, индекс дохода, сравнительный анализ российских регионов, методы интеллектуального анализа данных

Abstract. A description of the human development index (HDI) in relation to the Russian Arctic. A comparison of regional HDI using data mining techniques

Keywords: human development index, index of education, index of longevity, index of gross national product, comparison of Russian regions, methods of Data Mining and Knowledge Discovery

Introduction

In the last decade for the comparative analysis of innovation, socio-economic, scientific and technological development of different countries widespread specialized ratings, which are calculated on the basis of available statistical information and expertise. These ratings were ranked states on such indicators as innovation economy, investment attractiveness, availability of highly qualified personnel, the efficiency of the system of vocational training. Many of the most comprehensive ratings are based on the simultaneous assessment of the socio-economic and scientific-technical aspects as well as the development of human capital and raising the welfare of citizens.

Analytical work on the comparison of the level of the development of different countries, identify trends, "best practices" (benchmarking) is an important activity of leading international organizations, forming the "agenda" of economic, innovation, scientific and technological development of the world community. These include the United Nations, the World Bank, the Organization for Economic Cooperation and Development, the World Economic Forum, etc. The credibility

of rating depends on the image of the organization, which developed it, and methodology. It is a problem of quality of the rating, in particular, ways to harmonize processing and expert opinions, choosing the right weights and benchmarks (criteria), obtaining comparable statistical information is in the center of ongoing discussions among experts and often subjected to fair criticism. Unfortunately, neformalization of techniques used in some cases leads to obtaining biased results that can be used in the interests of various groups of influence. Some ratings of the data support the decision making process are transformed into an instrument of the political pressure and the formation of the society a certain point of view. Using rankings in lobbying to seriously undermines the credibility of the obtained estimates and recommendations.

Specialized methods of data mining (IBP, Data and Text Mining) can effectively detect and visualize latent unobservable patterns from large amounts of heterogeneous information.

Human development index

This article examines one of the most widely known ratings - the human development index (ИРЧП,³) which is used to compare the level of "creative environment and favorable conditions for life" in different countries (or regions) to identify significant between socio-economic differences. [1] HDI is based on the achieved performance in education (literacy rate and the proportion of students aged 7 to 24 years), health (life expectancy at birth), the economy (gross national income per capita in U.S. dollars at purchasing power parity). In this article, these figures will also be called the index of education, longevity index and the index of income. Developers HDI following explanation for the choice of these characteristics: "Human development is a process of expanding the range of choices. The most important elements of choice - to live a long and healthy life, get an education and have a decent standard of living. Additional selections include political freedom, guaranteed human rights and self-respect" [1].

In calculating the index is mainly used statistical information that allows us to consider it sufficiently objective and verifiable. However, the collection of baseline data, a number of challenges: the difficulty of obtaining comparable statistics for all countries and deliberate misrepresentation provided statistics (eg, bias). HDI calculation is performed as follows: for each of the indexes set minimum and maximum calculated values : life expectancy at birth of 25 and 85 years, the adult literacy rate: 0-100 % total enrollment among children and youth 0-100% real gross na-

³ В докладе о человеческом развитии в Российской Федерации - 2013 «Устойчивое развитие: вызовы РИО» используются уточненные формулировки ряда ключевых терминов по сравнению с изданиями предыдущих лет: «человеческое развитие» вместо «развития человеческого потенциала», ИЧР вместо ИРЧП. URL: <http://www.undp.ru/documents/NHDR-2013.pdf> (дата обращения: 19.01.2014). - Примечание редакции журнала.

tional income (GNI) per capita: 100 and \$ 40,000. On the basis of the limit values and actual performance recalculation of data so that the HDI ranges from 0 to 1 (formulas and methods of calculating the composite index are given in) [2, p. 144].

Depending on the value of the HDI countries are grouped into four groups: those with a very high value of the HDI (0.8-1), a high value of (this group includes the Russian Federation with the index equal to 0.788, 55 out of 187 countries, the index of 2013) medium and low HDI value. For Russia, characterized by a significant imbalance between the two variables being analyzed - at sufficiently high values of the index of education there is a very low value of the index of longevity. Over the previous decade, most of which in the Russian Federation celebrated economic growth, human development index in the country has grown significantly, but the above imbalance remained virtually unchanged [1, 2]. Another negative feature of the Russian HDI is a strong dependence on the factor of inequality. Thus, the HDI adjusted for inequality, for Russia a few points below the previously specified (0,788) and is equal to 0.689 [1, 2].

Presented rating very versatile, but it gives a "smoothed" value actually measuring the "average temperature in the hospital". In this regard, the recent attention of the specialists switched to a more narrowly focused and specialized modification of the original rating, allowing detail to evaluate the processes occurring in the regions (or social groups), to take into account their specificity, to analyze the differences. Most often, the loss of the universality and diversity rating is accompanied by increase its accuracy, reliability and usefulness .

Assessment of the uneven development of the regions within a country, the identification of the socio-economic stratification and unequal conditions for the human development is important information for decision-makers. These estimates are needed to stimulate competition between regions for investment and human capital, identifying leaders and learn best practices, leveling the socio-economic development, poverty alleviation, improving demographics, analysis of migration flows.

Application of data mining techniques of the Integrated Assessment HDI Russian Regions

In the context of Article important are two questions: Is it possible to obtain new information (interconnection, interdependence, patterns) on the level of the development of Russian regions, using data mining techniques (IBP, Data and Text Mining), and whether you want to use these methods? The answer to the second question is obvious enough - if 80 observations, each of which contains three features, it is difficult to conduct an expert assessment because of the limitations of human capabilities for processing large numbers of multi-dimensional data. In this situa-

tion means IBP able to act as "intelligent" assistant and researcher amplifier capabilities, greatly simplifying the analysis process.

The answer to the first question is more complicated and requires a study of the available sample, consisting of regional index values using methods IBP and the following tasks: 1) identify the relationships among the variables being analyzed (the problem of correlation analysis), 2) determine the degree of homogeneity of the Russian regions analyzed indicators (problem of cluster analysis and data visualization), and 3) analysis of the situations that occur with equal HDI regions that in particular, the study of the issue: whether to close values of HDI identity indices of income, longevity and education (the problem of cluster analysis); 4) the interpretation of the partitions into groups (clusters) in terms of the available expert information (if the results do not contradict common sense and logic).

The paper used for IBP program «STATISTICA» (developer of the American company StatSoft). Baseline data are shown in Table 1 (only a fragment of the overall table containing the index values for the 80 subjects of the Russian Federation, for more details see [2, p. 142-143] Further, we analyze the HDI for 2009).

Table 1

<i>Subject of Federation</i>	<i>Income Index</i>	<i>Index Longevity</i>	<i>Index of Education</i>	<i>HDI</i>
.....
6. Belgorod region	0,881	0,768	0,909	0,852
7. Tomskaya region	0,876	0,718	0,955	0,85
8. Republic Sakha (Yakutia)	0,894	0,691	0,922	0,836
9. Krasnoyarsk region	0,891	0,711	0,9	0,834
10. Omskaya region	0,849	0,729	0,923	0,834
11. Republic Komi	0,903	0,692	0,9	0,832
12. Orenbursk region	0,88	0,714	0,9	0,831
13. Lipetzkiy region	0,866	0,724	0,898	0,829
14. Arkhanhelsk region	0,878	0,71	0,896	0,828
15. Sverdlovskiy region	0,845	0,723	0,916	0,828
16. Krasnodarskiy region	0,824	0,761	0,9	0,828
17. Novosibirsk region	0,817	0,732	0,935	0,828
18. Bashkortan Republic	0,845	0,734	0,902	0,827
19. Chelyabinsk region	0,837	0,721	0,92	0,826
20. Samara region	0,831	0,72	0,925	0,825

Carry out the research of the source data using the «STATISTICA».

Analysis of the relationship and interaction between characters(indices)

To identify the forces linear relationship between the three investigated indices construct the correlation matrix (see Table 2).

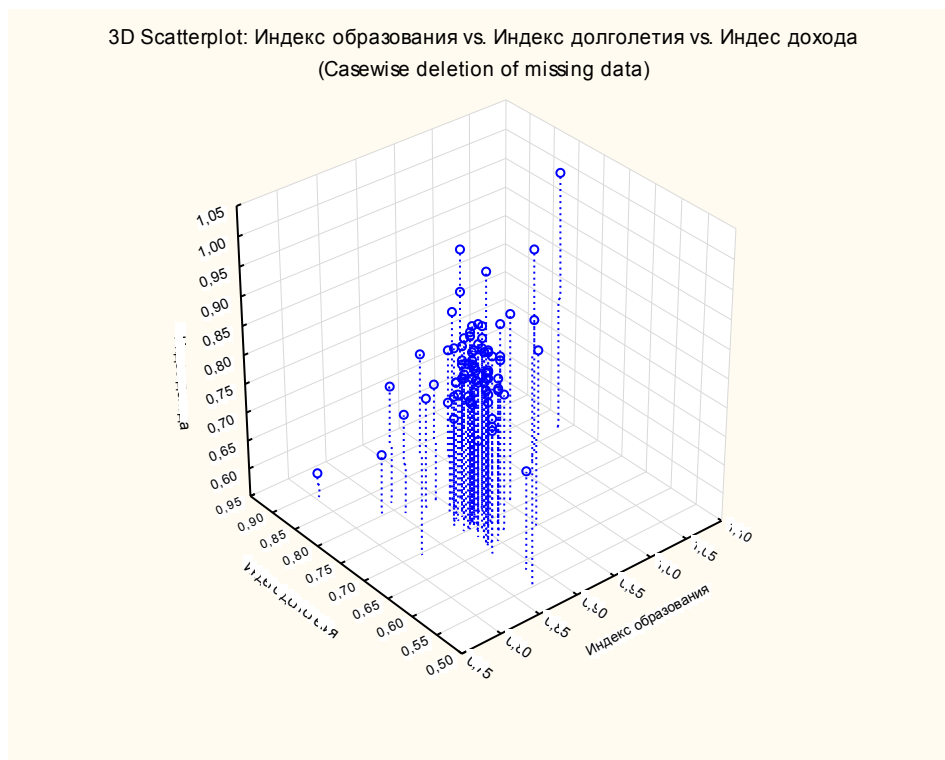
Table 2

Name of the Index	Income Index	Index Longevity	Index of Education
Income Index	1,000000	-0,264693	0,456741
Index longevity	-0,264693	1,000000	0,032954
Index of Education	0,456741	0,032954	1,000000

Calculations show that 1) a moderate correlation between the index and the index of income formation, and 2) the almost complete lack of communication between the index and the index of longevity education, and 3) a weak negative correlation between the index of income and longevity index (negative correlation means that there is a linear negative relationship, ie . increase in the value of the first variable in most cases corresponds to a decrease in the value of the second variable). If the first finding is consistent with logic and preliminary expectations, the other two results do not correspond to what is observed in the analysis, for example, regions within the European industrialized countries. It has been established that a high level of education has a positive effect on life expectancy. People who have received a good education, much more concerned about their health and try to lead a healthy lifestyle, limiting the consumption of alcohol, tobacco, paying extra attention to your diet and physical activity. Of particular concern is the presence of a (weak) negative correlation between the index and the index of income longevity. This means that the growth of per capita GNI is not converted properly in providing quality health care, environmental protection and the promotion of healthy lifestyles. Indirectly, this indicates a significant stratification of society in which there are like two parallel worlds "rich", provided with special elite medical care, and "poor " health and life expectancy is on the background of some improvement in financial and economic conditions in the region decreases (due to the closure of health facilities in rural areas, the lack of qualified specialists in the field of health, unemployment, housing problems , high mortality as a consequence of alcoholism and hereditary diseases).

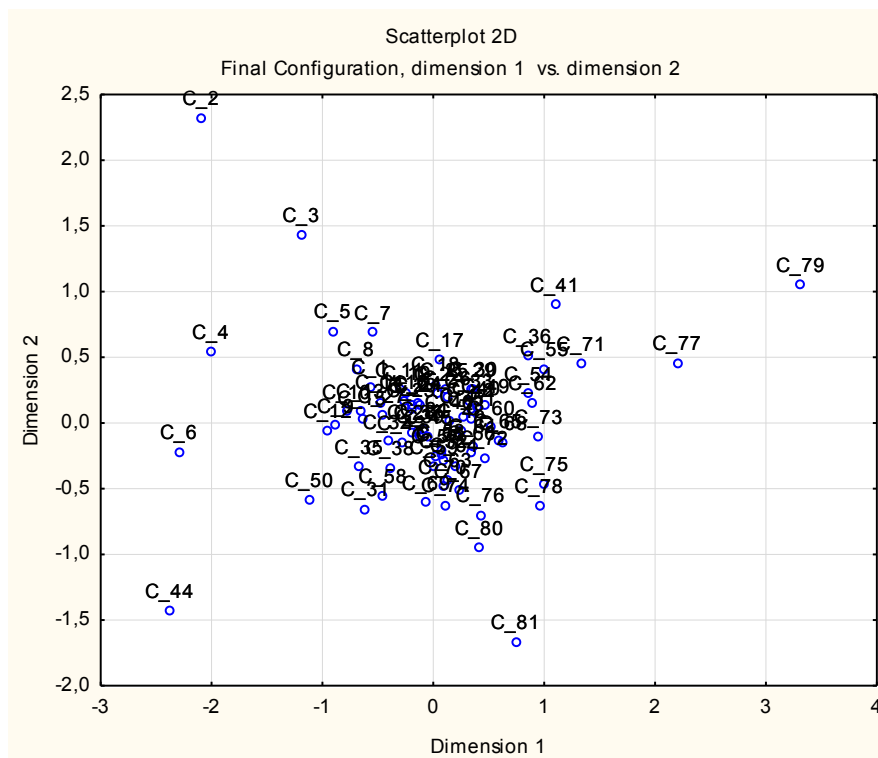
Evaluation of Homogeneity of the Russian regions

Test the hypothesis, the assumption that among Russian regions there are significant differences in the three analyzed parameters (there are irregularities). Alternative hypothesis - all regions are homogeneous, the differences between them are insignificant . Using visualization tools (to build a three-dimensional scatterplot (Fig. 1) and conduct multidimensional scaling (Fig. 2)) leads to the conclusion of a group of strongly differing regions (some of these regions among the leaders, and the other part - to outsiders).



Pic. 1. Three dimensional Scatterplot

To determine the position of subjects of the Russian Arctic greatest interest is the analysis of the "typical" regions, which is located in Fig. 1 and 2 in the cluster a large number of points.

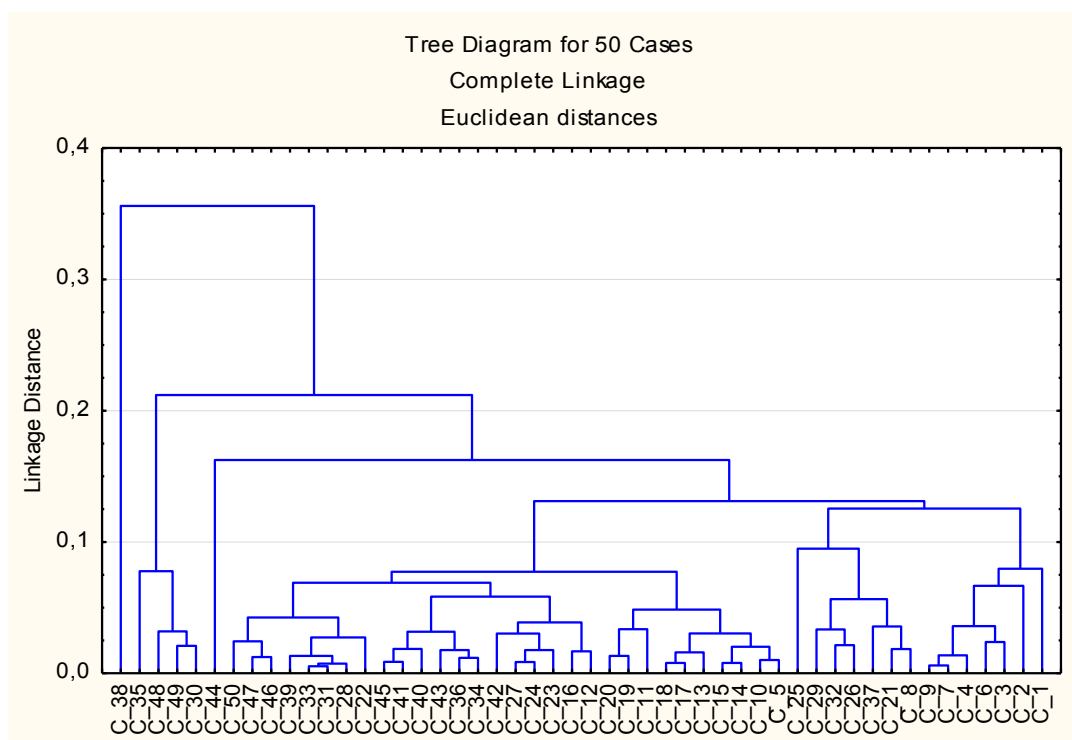


Pic. 2. Location of regions in the plane, obtained by the method of multidimensional scaling (metric - the Euclidean distance)

For more detailed analysis excluded from consideration "highly evolved" HDI regions with more than 0.85 (these five regions) and less than 0.8 (25 regions). Further, the analysis involved 50 regions with medium-high values of the HDI. Held their visualization and clustering using hierar-

chical cluster analysis (metric - the Euclidean distance method for combining clusters - usually farthest neighbor).

On the resulting dendrogram Arkhangelsk region (in the analyzed file has the number 9 and Figure 3 is referred to as S_9) enters the far-right group (cluster) in ktoroysoderzhitsya also 6 more regions (S_1 - Belgorod region, C_2 - Tomsk region, S_3 - Republic of Sakha (Yakutia), S_4 - Krasnoyarsk Territory, S_6 - Komi Republic S_7 - Orenburg region). The highest affinity is observed between the Arkhangelsk region and Orenburg region. This is due to the proximity of the values of most of the indices. Another nearest neighbor rated - Lipetsk region is absent in the cluster (as well as the Omsk region, which in Table 1 on the HDI value is close to the Arkhangelsk region). This is due to low compared with the mean value in the group index income.

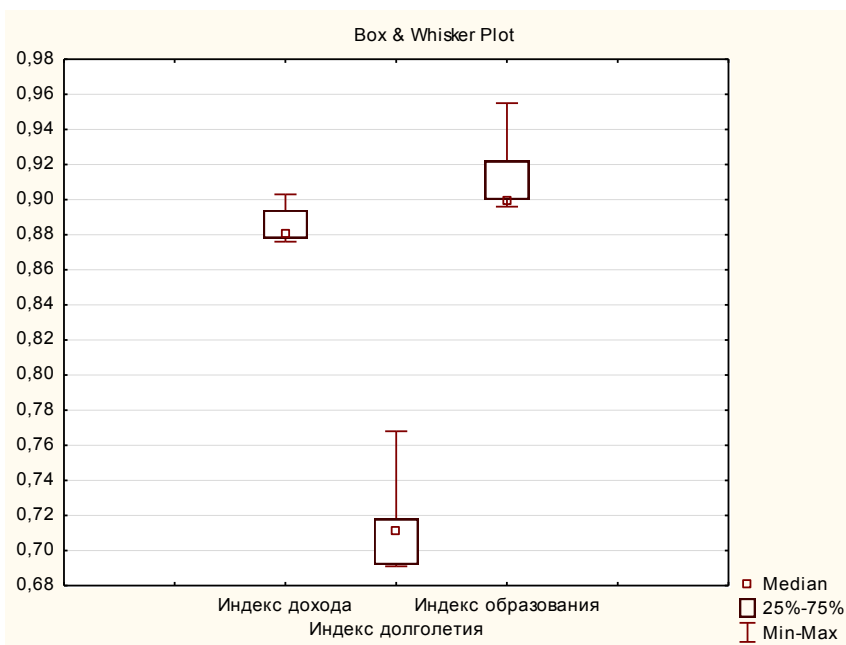


Pic. 3. Hierarchical cluster analysis results obtained for 50 of the most "typical" regions

Such a situation is typical for multidimensional document processing tasks - there are several observations from almost the same value of the target (in this case HDI), but a more detailed study of the means IBP reveals the existence of sufficiently strong heterogeneity between observations on individual factors analyzed and assign them to different groups. Thus, the application of IBP clarifies composite index, "highlights" non-obvious at first glance, the differences.

Figure 4 (Tukey diagram) shows the median value, the minimum and maximum values of the indices for the regions included in the total with Arkhangelsk cluster shows signs of variability. In this cluster leader in the income index is the Komi Republic (0.903) and on this indicator is observed highest affinity between regions. In cluster formed horrible three regions included in the

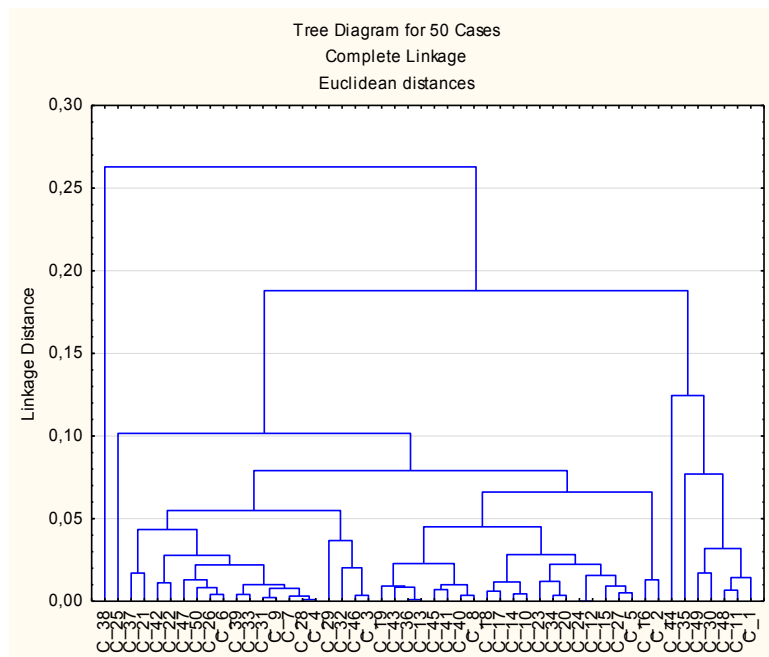
Arctic zone of the Russian Federation: C_3 - Republic of Sakha (Yakutia), C_4 - Krasnoyarsk Territory and C_9 - Arkhangelsk region. Table 1 shows the general indexes calculated for the Arkhangelsk Region and Nenets Autonomous District. [2] Another two Arctic Murmansk region and Chukotka Autonomous Okrug in Figure 3 are labeled accordingly C_37 and C_38. In this part of the Murmansk region adjacent cluster regions with sufficiently close values of the analyzed parameters (compared to a cluster, including the Arkhangelsk region). Chukotka Autonomous Okrug occupies an isolated position in Figure 3 and is not included in any group (of the considered subjects of the Russian Federation there are no regions with similar characteristics). This explains the "peak" value of the income index (0.997, the second value after Moscow), the lowest value of the index of longevity (0.554) and low value of education index (0.877).



Pic. 4. Diagram Tukey analyzed indices in the cluster

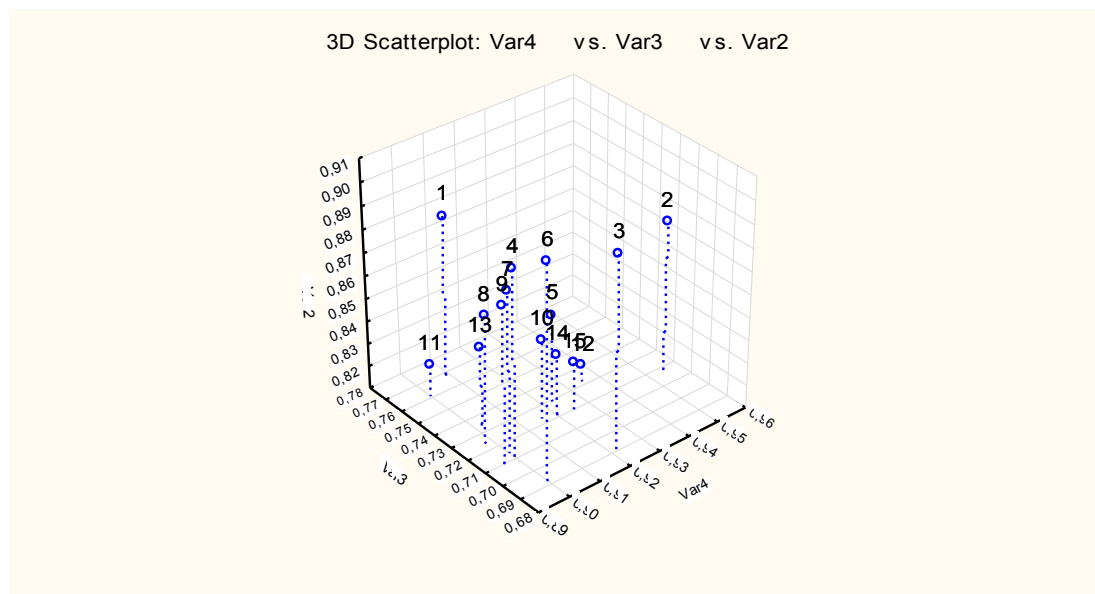
Significant is the question: how does the income index for the division of regions into clusters. Figure 5 shows a dendrogram constructed only by the values of the index of longevity and education index.

Obviously, the resultant decomposition varies considerably. Virtually all of the clusters formed anew. Of the regions that are included in a single cluster with the Arkhangelsk region (C_9) in the previous stage of the research, only two remain unchanged: the Orenburg region (C_7) and Krasnoyarsk Krai (C_4). This indicates a significant impact on the resulting income index HDI and distribution groups. The newly obtained partition allows you to get clusters of regions with similar index values of longevity and education.



Pic. 5. The results of hierarchical cluster analysis obtained by using only two indices - the index of longevity and education index

Further elaboration of the research results carried out for the first 15 regions (out of 50 previously selected) having not less than the HDI of 0.825. Figure 6 shows a three-dimensional graph showing the distribution in space of the analyzed areas. In the diagram stands steady group of three regions: Arkhangelsk Region (C_9), Orenburg region (C_7) and Krasnoyarsk Krai (C_4), which thanks to the proximity parameters analyzed using various imaging methods and clustering to form a "core" group.



Pic. 6. Three dimensional diagramme, which was constructs for 15 regions

Interpretation of the results

The above analysis is of value only if its findings can be interpreted and logically explained. Do "disturbing moments" in the results? Probably, yes. Indeed, in most publications that address

the socio-economic, scientific-technical and educational level of the Arkhangelsk region, there is a huge number of serious problems [3, p. 141-142, 145, 197, 199, 248; 4]: annual decline in population due to mortality and outflow of the most active citizens (and, as a consequence, the lack of skilled manpower for the shipbuilding, engineering and other industries); queues in kindergartens, the presence of a large percentage of old and dilapidated housing; uneven development within the region; low fertility, poor health care, low life expectancy, inadequate transport infrastructure, etc.

However, the above described rating confidently puts the Arkhangelsk region in 15th place (out of 80). Moreover, since 2005 the region has risen from 35 seats to as many as 20 positions. There is a dilemma: either the situation in the Arkhangelsk region, including the NAO, compared to what happens in other regions, relatively good or very insensitive rating and not Merit.

The benefit of the first statement can cause the following arguments::

- 1) With the start of oil and gas production in the Nenets Autonomous District, the Arkhangelsk region actually joins an elite group of Russian regions with resource extraction industry and metallurgical industry. This explains the increase in the income index from 0.7 in 2005 to 0,879 in 2009.
- 2) A number of the industrial regions with uncompetitive manufacturing industry because of the crisis in 2008 "kickbacks" from the top of the rankings, having failed to secure the index values at the level of the resource areas.
- 3) In the last decade in the Arkhangelsk region not conducted a large-scale modernization of the industry, the reform of education and health. However, such a situation is typical for almost all other regions, with the possible exception of the leaders (Moscow and St. Petersburg) and partly the Republic of Tatarstan, Tomsk Oblast, Krasnodar Krai.
- 4) Noted a general increase in the HDI for all Russian regions. So, in 2005, in regions with high HDI (more than 0,800) lived 17% of the population, in 2009 already 85%. Currently, Russia is left regions with low HDI (less than 0.700), although in 2005 they lived 19% of the population.

Thus, the high place of the Arkhangelsk region, including the NAO, the rating can be attributed to the result of two main factors: the extraction of resources and the lack of the regional competitors, actively developing at the expense of industrial upgrading, development and innovation.

We now consider the second part of the dilemma (whether Merit Rating?). As the study shows other sources of information and expert opinions, it is possible that the results obtained by analyzing the HDI does not fully reflect the real socio-economic situation in the region and give

some "offset" ratings. It should be noted that any rating somehow distorts the holistic picture, showing only some fragments. The researcher's task is to analyze not only what rating shows, but also to try to explain that it does not show or shows is not entirely correct in view of the restriction.

Consider the main reasons for the possible distortion of the results of the HDI

First, the index is based on the regional average. It allows you to hide the asymmetry distribution estimated characteristics (for example, in the Arkhangelsk Region and Nenets Autonomous District) and smooths the differences. In particular, we can assume that if the Arkhangelsk Region and Nenets Autonomous considered separately, the results may significantly transformed. Arkhangelsk region is likely to move to another group of regions with lower rates (primarily an index value of income) and the Nenets Autonomous District is likely to come in the group of territories that have previously been classified as Chukotka Autonomous Okrug .

Secondly, the index operates very generalized aggregated indicators which does not detail by taking into account the additional features that can more accurately assess the situation in the region (for example, unemployment rates, average wages, power mobility, state crime).

Third, the HDI is calculated and published with a considerable delay (about 2 years), explains the process of collecting and analyzing statistical information. This situation is typical for the majority of ratings, based on statistical data. However, the index is certainly not characterize the situation that has developed in the region, and one that was some time ago. The accuracy of these rankings is sharply reduced in the event of the political and socio-economic tensions and turbulence. Also, due to some changes in the methodology for calculating the 2011 HDI inability to properly retrospective comparison of index values obtained in the regions in different years.

Conclusion

In general, the use of the methods IBP applied to the analysis of Russian regions based on the HDI values allows for more informative information about regional differences and analyze in more detail the problems.

Unfortunately, the index does not capture many important trends, giving estimates in a "blind" without "sighted" and in-depth analysis of positive-negative changes. Using the statistical data provided by the regional authorities, who are often interested in inflating the figures require additional verification. In foreign countries to check ratings, assessing their accuracy and reliability of specialized population surveys are conducted. In particular, we study how the region exhibited in assessment, such as for the quality of education or health care (10-point scale) corresponds to the value calculated indices. The reasons overstatement (understatement) analyzed characteris-

tics [2]. In Russia, this practice is virtually absent and the survey results are predictable in advance. Unconfirmed results ranking our own feelings is one of the main reasons for the skeptical attitude of Russians to such rankings.

Based on the analysis, we can conclude that, unfortunately, there is no simple and unambiguous connection between the situation in the field of education, health and the economy. As well as have a strong influence of high rates of economic growth on human development. However, we can not agree with the conclusions of the report's authors [2], claiming that "the greater the degree of security of human potential, the greater the ability of the national (and regional) economy to growth," the greater the hope that the revenue generated will be sent to his immediate purpose and closes logical circle: human potential provides state income and state develops and enhances human potential.

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SOCIAL SCIENCES

UDK 316.3/4

ПОВСЕДНЕВНАЯ ЖИЗНЬ НАЦИОНАЛЬНЫХ ПОСЕЛЕНИЙ ЯКУТИИ В КОНТЕКСТЕ СОЦИОЛОГИЧЕСКИХ ИССЛЕДОВАНИЙ¹

NATIONAL DAILY LIFE SETTLEMENTS YAKUTII IN THE CONTEXT OF SOCIOLOGICAL RESEARCH



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Аннотация. Анализируются данные социологического исследования в национальных поселениях, которые подтверждают гипотезу адаптированности эвенкийского социума к новым вызовам внешней среды, благодаря их личностно-деловым качествам, способности к выживанию, желанию развиваться в динамически меняющемся мире

Ключевые слова: Южная Якутия, промышленное освоение, коренные малочисленные народы Севера, традиционные отрасли Севера, этносоциальная адаптация, трансформация общества

Abstract. The data of sociological research in national settlements that support the hypothesis of adaptation of the Evenki society to the new challenges of the environment, due to their personal-professional qualities, ability to survive, develop desire and dynamically changing world

Keywords: South Yakutia, industrial development, indigenous peoples of the North, the traditional industries of the North, ethnosocial adaptation, transformation of society

Introduction

Indigenous Minorities in the Southern Yakutia are on the verge of the global transformation in relation to the priority areas of the economic development and the implementation of the mega-projects on the territory of their homelands. The focus of this paper on the analysis of data sets from the tribal community located on the ancestral lands of the traditional residence and economic activities of the Evenki, an example of the largest Bellet'skogo Evenk National naslega Aldan region of Sakha (Yakutia). Aggressive intrusion of the industrial civilization is primarily affected the ethnic life uniquely influenced the formation of the social environment of the existence

¹ В рамках проекта по Программе фундаментальных исследований Президиума РАН «Этносоциальное развитие коренных малочисленных народов и модернизация традиционных отраслей Севера в условиях нового промышленного освоения» (руководитель – С. М. Баишева).

of tribal communities in which their members formed worldview. The article presents the results of the sociological research in the national settlements that support the hypothesis of adaptation of the Evenki society to the new challenges of the environment, due to their personal-professional qualities, ability to survive, develop desire and dynamically changing world.

Population and livelihoods of the indigenous people of the South Yakutia

During the implementation of the government programs to expand the use of non-wealth firewood and the construction of the transcontinental gas pipelines exposed to the adverse effects of large areas of southern Yakutia. Most mineral deposits lie within the traditional settlement areas and nature Evenki. National Aboriginal settlements themselves are at a considerable distance from the regional centers from 50 to 580 km, mostly in remote parts of the taiga and mountain taiga natural areas. Administrative-territorial structure of the study area shows that there are 4 fixed settlements four national Evenk naslega (Table 1).

Table 1

The Settlements inhabited by the indigenous people of the North

<i>Regions</i>	<i>Naslegi</i>	<i>Localities</i>	<i>The number of population, people.²</i>		
			<i>2002</i>	<i>2010</i>	<i>01.01.2013</i>
Aldanskiy	Anaminskiy	Kutana	658	573	540
	Belletskiy	Hatistir	1308	1760	1748
		Ygoyan	308	–	–
	Chagdinskiy	Chagda	–	218	204
Nerugri	Iengrinskiy	Iengra	1216	1104	1067
Total rural population in the region			5800	5890	5657
Total population by national settlements in the region			3490	3655	3559

The basis of their livelihood are herding, hunting, fishing and trapping, as well as crafts (national sewing, fur garments, manufacturing equipment, household utensils, etc.), gathering wild berries and medicinal plants. According to the government statistics, the population of the municipality "Belletsky Evenk National nasleg" on 01.01.2013 is 1748 people. Main demographic indicators: births, death, natural increase - show a picture of relative prosperity only in this naslega. In 2011, the municipality "Belletsky Evenk National nasleg" was born 39 people (for 5 people. Less than in 2010), 18 people died, the natural increase of 21 people.

Total population in the national naslega region declined over the past three years 3655 to 3559 people, or 2.6 %. The greatest reduction Evenk population (6.4%) occurred in the village Chagda smallest - 0.7% with Hatystyr. Decline in the rural population is mainly due to migration

² Численность населения в 2002 и 2010 годах приводится по данным Всероссийских переписей населения

from rural to urban areas sparsely populated settlements and ulus centers. Reasons for such movements - the impossibility of employment within the settlements, the desire of young people come to study and dissatisfaction with the transport scheme, social and living conditions of everyday life, changing the system of value orientations of the younger generation, the most moving part of the population of the migratory flow.

Preservation of the native population as a set of the ethno-cultural communities depends on the status of the traditional industries and, primarily, reindeer. This is confirmed by many research scientists severovedov (Kostyaev A.I., I. Krupnik, Klovov C.B., etc.), found that "the abundance and reproduction of the native people of the North is in direct correlation to the number of the nomadic herders and reindeer [9, 2012, 10, 2012, 12, 2002, 13, 2000, 17, 2006].

People, who are preserving the stable performance reindeer have positive dynamics of the natural growth"³. The economic cycle of the aboriginal population is based on the use of the biological resources and is directly dependent on the state of the environment. Many researchers have noted the negative impact of the industrial invasion debugged ecosystems [1, 2012, 2, 2011, 4, 2009, 6, 2011, 7, 2011, 8, 2009, 11, 2003, 14, 2002, 15, 2002].

Methodology of the sociological research and its results

In the course of fieldwork (November-December 2012, June-July 2013) by a group of the researchers of the ethno sociology sector case studies were conducted in the national settlements MO "Nerungrinskiy District" (p. Iengra), MO "Aldan region" (p. Hatystyr and c. Kutan) and in large industrial cities Nerungri, Aldan, Nizhny Kuranakh.

Data collection was done on the basis of the analysis of the archival, current materials municipalities and national naslega on issues of land, logistical, human resources, etc.; conduct a questionnaire survey and expert interviews in national naslega settlements and the greatest concentration of Evenki South Yakutia, where there is intense implementation of the so-called mega-projects [16, 2010, 18, 2012].

In order to ensure the greater representativeness of the study, due to the small number of the respondents, it was decided to conduct a survey by a "snowball", including the maximum possible number of people of working age and older working age respondents from the general population of the corresponding age where the main criterion is to engage in the traditional economic activities.

³ Долматова С. А. Кризис традиционных этнохозяйственных сообществ в условиях глобализации: коренные народы Российского Севера. М.: ИМЭМО РАН, 2003. С. 30.

The researched surveyed employed and unemployed population of working age and older working age, which is relevant to the development of the traditional industries of the North with regard to the type of business (specialization) settlement. Terms of ethnic composition, it was decided not to be limited only by the representatives of indigenous people, as we were interested in trends of modernization of the traditional industries through the lens of indigenous representations of the South Yakutia. Respondents attributed those professional activities which refers to the traditional industries of the North, or in everyday life, they are complicit in the process of the social modernization within the boundaries of the study area. In addition, it was necessary to take into account a person with dual ethnic identity, born in the interethnic marriages with representatives of uncertain or ambivalent identity. Total questionnaire is covered by about 300 people, including the Evenki - 72.2 %, other representatives of the indigenous people of the North - 15.8% Yakut and Russian - 8.5% , did not indicate the nationality of - 3.5% [19, 2013].

Interviews were conducted among the professionals municipal authorities, heads naslega (Anaminsky, Belletsky) and tribal communities ("Bugati ", "Hatystyr", "Idzhek", "name Sidorova," etc.), members of the neighborhood associations Evenki. Most experts – are the representatives of the Evenk community, their opinion is that as a result of the intensive industrial development of the South Yakutia is not only a significant rejection of the area of land intended for conducting traditional occupations Evenki (hunting, herding home), but also industrial pollution territories of the traditional nature. This includes not only areas of land, including reindeer herding, hunting grounds, but ponds, leading to a deterioration of living conditions of the indigenous population, as well as the habitat of domestic reindeer, game animals, game, fish and growing berries, mushrooms and drug and technical resources. Significant undermining the very basis of livelihoods of indigenous peoples will have negative consequences inevitable deformation of their original ethnic culture and economy, as well as a gradual departure from the traditional way of life.

Some experts adopted a more rigid position, which means that modern industrialization destroys their unique, created over the centuries a culture based on the harmonious interaction of man and the fragile nature, thus there is a threat of the extinction Evenki themselves as an integral part of the world civilization.

Our earlier study (2006-2009) showed that the natives it hard to adapt to changes in the socio-economic environment, subject to all sorts of the risks associated with the industrial projects and the socio-economic reforms, including the risk of loss of identity, culture and traditional way life, the spread of diseases [1, 2012 Baisheva 3, 2006].

Critical attitude of the population to the problems of the traditional industries of the North, especially in the terms of land and property relations, strengthening the material - technical base of the tribal communities and other forms of the economic activity is a consequence of the general public concern and an indicator of the institutional reforms feeling of instability in the northern community. Our data confirm once again the complexity of adaptation to the new aggressive social environment associated with negative consequences invasion industry in places native habitat of the indigenous people of the North.

Traditional economic activities of indigenous ethnic groups (Evenki) is maximally adapted to the northern conditions. Everyday life of the aboriginal population is closely linked with the reindeer and hunting and fishing partially having serviceability. Indigenous ethnic groups of the North for centuries engaged in traditional sectors of the economy and were nomads. During the period of intensive industrial development area, due to the peculiarities of their life periodically change their place of residence, moving to the new camp.

Reindeer herding refers to the traditional industries of the North, which is engaged in indigenous Bellet'skogo naslega. General condition of reindeer in the past five years is characterized by stable performance. Analysis of the development of reindeer shows that a significant reduction in the number of reindeer herds during periods when reduced state support (1994-1997). Developing in the extreme climatic conditions, the industry always needs not only effective government support, but also a constant, systematic work in the tribal communities to streamline the structure of the deer herd, bringing order to the accounting and reporting, effective control over the targeted use of budgetary funds creating the necessary working and living conditions of the nomadic herders in the conditions, as well as higher material and moral interest and responsibility herders themselves. As a result of the operations managed to stabilize the key performance indicators in the reindeer (saving adult livestock, business output Tugutov).

Directly related to the traditional occupations has autochthonous population, leading a nomadic and semi-nomadic-herders, human hunters and fishermen. They need primarily in the state support productive activities and social life-enshrined lands, , fishing areas, compensation in case of rejection of land, environmental violations traditional nature. They should be provided with adequate shelter in the base populations for their families, the relevant social conditions.

Tribal communities in the modern conditions

Priority status of the tribal communities of other forms of the agricultural education is that they have a duty, along with participation in the supply of the products of the traditional branches of the North - the protection of their original habitat, conservation and the development of the

traditional ways of life, traditional farming, crafts and unique culture. There has been a reduction in the number of tribal communities in recent years, due primarily to inadequate legislation, new challenges in the area of the industrial development, socio-economic difficulties in nature (Table 2). Tribal communities, according to the head of tribal communities, "as a form of management best represent the national mentality of ethnic groups, their interests are in demand in the adaptation of the indigenous population in modern market conditions" [20, 2013]. Themselves members of tribal communities interested in further improving the organizational and economic structure of the formation of a market model of traditional nature.

Table 2

Dynamics of the number of tribal communities and granted lands to them

<i>Territories</i>	<i>2000</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2008</i>	<i>2009</i>
<i>The number of tribal communities, units</i>						
<i>Totally in Republic</i>	272	273	273	292	301	299
In region	70	68	68	68	68	45
Aldanskiy	46	44	44	44	44	25
Nerungri	24	24	24	24	24	20
<i>Area of land granted to them, thousands of hectares</i>						
<i>Totally in Republic</i>	43 234	45 605	42 007	43 404	45 233	48 362
In region	10 259	10 259	10 280	10 280	10 280	9 438
Aldanskiy	6 245	6 266	6 266	6 266	6 266	3 205
Nerungri	4 013	4 013	4 013	4 013	4 013	6 233

For 2000-2009 marked decrease in the amount of land tribal communities of South Yakutia on 842.2 hectares, mainly due to the reduction in the number of communities in Aldan region (from 46 to 25.) due to cessation of their activities or synergies shallow subjects, as well as exclusion of land under industrial facilities. However Neryungri area there is a sharp increase in land in 2009 (1.4 times) by assigning them to the jurisdiction of tribal communities engaged in hunting (mainly sable).

Total in the researched region studied workers in the traditional industries of the North, is fixed at the beginning of 2010 632 people., or 12% of the national figure (Table 3).

According to the Ministry of Agriculture of Sakha (Yakutia) in 2010 in the republic of all reindeer herders engaged in 128 unions and tribal communities, 187 reindeer brigades worked in 2219 people. However, during the summer holidays worked 624 student. 394 families are nomadic.

Table 3

The number of employees of the traditional industries of the North in the republic of Sakha (Yakutia) on 01.01.2010

Territories	Totally workers	including:					
		Reindeers employees			fishermen	Hunters	Farmers
			Herders	Tent workers			
PC (Я)	5 270	2 219	1 574	645	1 029	1 911	150
Aldanskiy	383	259	180	79	-	124	-
Nerungri	249	168	116	52	-	67	14
In region	632	427	296	131	—	191	14
The share of the region, %	12,0	19,2	18,8	20,3	—	10,0	9,3

Resource: Fund materials USDA Sakha (Yakutia)

The average family working in traditional sectors of the North region consists of 3.5 persons (an average of Sakha (Yakutia) - 3.8 pers.). In South Yakutia contains every tenth deer and works every fourth nomadic family Yakutia, most of which we attributed to the category of the poor [1, 2012 Baisheva]. Poverty profile analysis suggests that half of the poor - it's working poor families, including members of the tribal communities.

Table 4

The number of families in reindeer breeding

Territories	Deers	Number of deers, flocks	The number of families, totally	including	
				number of families	Number of teams
PC (Я)	200 861	187	1 382	394	94
Aldanskiy	12 736	20	118	66	-
Nerungri	6 735	13	63	31	-
In region:	19 471	33	181	97	-
Density of the region, %	9,7	17,6	13,1	24,6	—

As the survey shows, in tribal communities and between the Communities observed significant differentiation in the level of life indicators such as the provision of material and technical resources (vehicles Snowmobiles "Buran", ATV, car, means of communication, the availability of hunting huts and bases herders nomadic routes) stationary housing in settlements, etc.

We found that there is a direct dependence of material prosperity of tribal communities from the whole complex of interrelated parameters, both quantitative and qualitative. These include: the number of members of the tribal community, the area granted possession of the land, the location and quality of reindeer pastures and hunting grounds, the presence of blood ties (not only within the community but also outside), level of education of its members, the ability to es-

establish contacts in the power structures at the settlement level, naslega, district. This factor is important also in connection with the provision of office on budgetary allocations to employees of traditional industries of the North. Thus, herders subsidized in two directions in subventions from the state budget of Sakha (Yakutia) for reimbursement of expenses: to create the conditions to workers reindeer brigades (including labor costs and herders chumrabortnikov) for logistical reindeer brigades.

Traditional industries for most indigenous representatives to cease to be the fundamental criteria in determining the ethnic characteristics of the people. High unemployment among indigenous peoples, including the Evenki complicated features of the sectoral structure of employment, vocational qualification and the educational level of the economically active population. Socio-economic status of members of the tribal communities is also exacerbated by the objective unsuitability lifestyle, and most importantly, mental warehouse mentality hunters and herders to market transformations, accompanied by the commercialization of public and industrial relations. Recently there has been a shift in search of livelihood through the extension of the Evenki activity towards collecting and crafts gathering wild berries, mushrooms, medicinal and industrial plants, production of souvenirs, household utensils, sewing national clothes, etc.)

The economic crisis has sharply aggravated social tensions and decreased input of housing, health and culture, unstable level of the social protection Evenki.

In the course of the political, economic and social reforms occurred scale destructurization former industrial and social infrastructure. This led to a loss of jobs, a sharp decline in production and the elimination of the various exemptions, which caused the migration mobility of the population in different age groups. In tribal communities, and in some villages of compact residence of Aboriginal unemployed ranges from 60-80% of the population. Moreover, official statistics do not take into account the many nuances and untrue. Widespread among the indigenous settlements of the South Yakutia (and not only) form of hidden unemployment. This is because there are several places on the circumstances preventing the official registration of the unemployed person actually. The difficulty lies also in the fact that not everywhere is labor exchanges (or other bodies that are charged with the mission of accounting and registration of the unemployed). The vast majority of respondents in sociological research IGLiPMNS SB RAS (2007 – 2009., 2012-2013.) Respondents from South Yakutia Evenki of the opinion that no benefits can not attract young people and Aboriginal people in other age groups to work in the traditional industries North [5, 2011]. Many parents do not want to see their children herders, hunters or fishermen. The vast majority of the respondents in the sociological research IGLiPMNS SB RAS (2007 – 2009., 2012-2013.) Re-

spondents from South Yakutia Evenki of the opinion that no benefits can not attract young people and Aboriginal people in other age groups to work in the traditional industries North [5, 2011]. Many parents do not want to see their children herders, hunters or fishermen. The bulk of aboriginal youth in the urban areas remains after receiving a diploma of education. They believe that on arrival at their homes as their experts can not provide permanent job, sufficient funds supplement the family or personal budget. Have no intention of returning to his small home and the individual members of the younger generation of Aboriginal people come to study. Having tasted the fruits of civilization, they have no desire to return to the countryside, where there are no extremely necessary living conditions or, in their opinion, at least in consumer services (cultural and recreational facilities, television, Internet, centralized water supply, sanitation, etc.) [1, 2012, Baisheva].

Aboriginal jobs provided mainly due to the functioning of public institutions, business entities in the traditional sectors of the North (such as indigenous peoples of "Hatystyr" tribal communities), individual entrepreneurs (trade and paid services). The greatest number of the employed population relates to the field of education and agriculture. For example, in the municipality Belletsky Evenk National nasleg has 28 farms of different ownership forms, including parent company of indigenous people "Hatystyr" tribal communities and agricultural production cooperatives, 2 farms. At the beginning of 2012 they listed deer - 12339 goals, including of indigenous people in "Hatystyr" - 6897 Goals (55.9 % of the total number of reindeer on naslega). Over 32 tribal communities as economic entities, fixed reindeer pastures total area of 6,348,722 hectares, which works in 269 attendees with an average salary of 6646 rubles [20, 2013].

Set of social infrastructure depends on the number of inhabitants of settlements belonging to the Belletskogo naslega and employs: educational institutions - 7, health, culture, post offices - 2, private shops - 13 (including a bakery - 2), boiler (central and departmental) - 6, diesel power - 4 units, etc. The bulk of institutions located in adapted premises of the old buildings (1940-1970s.). Pupils are taught in secondary schools (including the national component in teaching methods) or ungraded (nomadic) schools in tribal communities in areas Ugut and Amma. Additionally, you can work out in the Youth (year of commissioning in with. Hatystyr - 2000, with branches in with. Ugoyan with. Kutan). Preschoolers have a nursery-garden, whose buildings are obsolete (the year beginning exploitation buildings - 1940 and 1962.).

Hatystyrskaya local hospital has a day hospital (5 beds), a total area of about 200 square meters, year of construction - 1950., buildings out-patient (p. Ugoyan) and the private pharmaceutical item requires repair. Besides private shops, cafes, computer lounge, individual entrepreneurs

built a sports and recreation center. Using traditional construction completed construction of the farmhouse in the village culture Ugoyan (since April 2011).

On the territory of the municipality "Belletsky Evenk National leaned" no-forming enterprises. Main activities of industrial enterprises for forestry and forest products (I.P. Egorov I.L., I.P. Egorov V.V., of indigenous people 'Hatystyr'"S.P. Janulytè JH) and agriculture (and tribal communities of indigenous people Hatystyr"). Harvesting and processing of forest - a laborious process, but despite this, got its start in the development of the construction (transfer) the new settlement - naslezhnogo center - with Hatystyr on the new place is not flooded and the implementation of the republican target program to provide housing for young families and young professionals. However, in recent years, the industry is developing rapidly enough, as the production of marketable timber hindered by the lack of export opportunities year-round timber with dividers for processing and deficiency of working capital of the enterprises.

Development of agricultural production in the municipality "Belletsky Evenk National nasleg" is mainly due to the development of tribal communities. The total number of deer at the end of 2016 is projected to reach 14,000 head of livestock or the annual increase will be 4.5 %. High performance can be achieved through the introduction of a whole range of the systematic measures on reindeer herding, which include: improving the mechanism of state support for the industry; reindeer gradual transfer from the consumer to commodity production, staffing, reindeer, reindeer herds production specialization, increasing their quality indicators.

Interview with CEO of Indigenous People "Hatystyr" I. A. Dormidontova revealed that the company on an ongoing basis, purposeful work to improve breeding, in addition to the activities of the Republican program to its 2016 annual shipments will be organized along tribal deer lease through federal and national agencies. In order to increase the number of reindeer is planned to continue the planned zoo technical and veterinary activities (annual obligatory two single korali-zatsiya deer, healthy herds of brucellosis disadvantaged) monitoring the state of reindeer pastures (a complex of land works reindeer pastures), predator control and payment of material compensation for their prey, protection of reindeer pastures, annual construction and renovation of production structures (fences and corral); insurance basic herd of deer, etc.

Conclusion

These studies confirm that the provision of the social status, a decent standard and quality of life depends on the Evenk methods of the preservation and the development of the traditional economy on a new logistical and technological basis. Currently, among the Evenki settlements noted the existence of processes of transformation of traditional systems of settlement, employ-

ment and urgency of the problems of high unemployment, low quality of social and productive infrastructure. Market relations in reindeer herding, hunting, fishing, handicrafts constrained features of the nomadic lifestyle and mentality of the Evenki, the slow pace of the implementation of the principles of the local self-government in the settlements of the indigenous people of the North South Yakutia.

The current laws have sometimes implementation mechanism clear instructions for their use in practice, and in heavy industry invading the territory of South Yakutia infringe on the rights of the Evenk community to traditional land. Thus conscious and unconscious distrust of public authorities by the Alaska dictated not only by their deteriorating socio-economic situation, most likely due to alienation of land in the traditional nature to develop their industry (large business structures). Thus, our studies confirm that indigenous ethnic groups acutely aware of themselves as marginalized communities distant from the benefits of the civilization, where the conditions of intensive industrial development within their traditional nature there is disruption of the ethnic rights on a scale threatening activities of daily living.

As a result of the socio-economic reforms and has been no significant improvement in the living conditions of the northern population indicators such as accessibility and availability of basic services, favorable living conditions in the region. Moreover, against the background of market reforms clearly manifested such problems of everyday life, as low income from their traditional occupations and high unemployment in the national populations, low life expectancy and the deterioration of the health of children, etc.

In general, our research shows that in some indigenous communities, there is a complex and contradictory process radical reconstruction lifestyle of small peoples of the North, forcing the Evenki adapt to modern forms of life support (small businesses, crafts revival, ancillary and temporary works, retraining, commitment to education and ability to defend their interests, learning from other ethnic groups, etc.). A reduction in the number of Aboriginal people within the boundaries of traditional residence in connection with intra-regional migration in urban settlements that deterministic imperfection of the labor market, the reduction of natural habitat for traditional lifestyle and environmental pollution. Widespread violation of Aboriginal rights in the sphere of traditional nature led to the rejection of the ancestral areas of reindeer pastures and hunting grounds, places of gathering wild plants and drug-technical materials. Markers of everyday life are small peoples motivations devaluation of labor, the marginalization of the individual layers of the aboriginal community, the change of value orientations and the alienation of young people from their ethnic group. Despite the negative developments in the national society, Aboriginal adapt to new

challenges will help such character traits as optimism and faith in their own strength, ability and communal mentality, the ability to live in harmony with nature, responsibility, creative approach to business.

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ШТРИХИ К ПОРТРЕТУ ЖИТЕЛЯ АРКТИЧЕСКОЙ ЗОНЫ ЯКУТИИ

STROKES TO THE PORTRAIT OF A RESIDENT OF THE ARCTIC REGION OF YAKUTIA



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Аннотация. Статья раскрывает результаты социологического исследования, в котором приняли участие жители, проживающие в 6 арктических улусах из 8 Республики Саха (Якутия), по основным этнодемографическим и этноязыковым аспектам развития якутского общества в начале XXI в.

Ключевые слова: арктические территории, социологическое исследование, демографические и этноязыковые установки

Abstract. The article reveals the results of the survey, which was attended by residents living in six of the eight Arctic encampments of the Republic of Sakha (Yakutia) of the main demographic, ethno-linguistic and socio-cultural aspects of the development of the Yakut society in the early twenty-first century

Keywords: Arctic territory of the Republic of Sakha, sociological research, ethno-linguistic and socio-cultural processes

Introduction

The North-Eastern Federal University named after M.K. Ammosov together with the Center for the Strategic Research and Development of Siberian Federal University from 5 to 10 October 2011 conducted a comprehensive sociological survey among the representatives of indigenous people and of Sakha (Yakutia) (№ 1982) 16 34 areas of the Republic of Sakha (Yakutia). The purpose of research – is the revealing of the reflection of the Sakha people and representatives of the indigenous people of the basic demographic, family, reproductive, cultural, sociolinguistic, socio-professional and socio-psychological aspects of the development of the Yakut society in the early twenty-first century. Mathematical and statistical analysis was performed using the software package SPSS 12.0.

Characteristics of the sociological research

Ethno-cultural landscape of the Russian Arctic includes dozens of large and small ethnic groups of the North with their language, culture, historical, civilizational communication times; arctic artifacts, cultural universals, communications, folklore, legends and myths, lifestyles, mentalities [1, 2012]. Therefore, the basis of this article are part of the research results related to the

empirical study of only 578 respondents living in encampments 6 of 14 relating to the Arctic zone of the Republic (29.2% of 1982 people).

Names of the geographical locations where the survey was conducted: townships. Abyisky White Mountain area Tiksi Bulunskiy District, paragraph Zyrianka Verkhnekolymsky district. Rural settlements: Bykovskii National Bulunskiy District, p. Verkhnekolymsk with Coal Verkhnekolymsky area with Khon (Moma national) Moma district, p. Saskylahsky National Anabarsky ulus with Olenyok Olenek Evenk National District. The word means a national compact residence of Indigenous People (hereinafter - the indigenous people).

Sample characteristics by gender: 44.2% of men and 55.8% women. Distribution of respondents by age: 18 – 29 years - 27.0%, 30 – '44 - 35.0%, 45 – 60 years - 30.4% over 60 years - 7.6%. Among took precedence in the survey respondents with higher and secondary vocational education: postgraduate have 0.2% higher - 41.9%, incomplete higher - 5.9%, vocational - 36.1%, high school graduates 14.2%, primary school - 1 6% did not go to school - 0.1%.

Important in our study is the question of national identity. Their national identity on self-determination, respondents identified as follows: sugar - 65.8%, representatives of indigenous peoples - 34.2% (see Table 1). It should be noted that approximately 24.3% of the respondents were born in the Yakut-northern families and 5.4% of the respondents were born in the ethnically mixed families, but prefer to identify themselves as indigenous peoples or sugar, and not as a Russian or any other nationality.

Table 1

Definition of national identity

Possible answers	Nationality of the respondent	Nationality of the father	Nationality of the mother	Nationality of the spouse	Nationality of the children
Sakha	65,8	72,0	74,0	61,5	55,2
Indigenous people of the North	34,2	23,6	25,0	28,6	39,8
Russian	–	2,7	0,8	5,9	3,6
Other nationalities	–	1,7	0,2	4,0	1,4
Totally:	100	100	100	100	100

The questionnaire was given a factual question about the nationality of the spouse (s). Here is the picture of somewhat different. 38.5% of the residents of the northern uluses consist of the interethnic marriages, of which the share of families with mixed Russian and other nationalities is less than 10%. This percentage is high in Russian Arctic, it is superior to the average percentage of the sample. Such a small amount of the intermarriage is unlikely to threaten the "smearing" of the Yakut or the "northern" ethnic group, because, according to research by a num-

ber of ethno , ethnic structure can be destroyed if the number of the interethnic marriages begins to exceed the figure of 10%. In the Republic of such marriages are common given the multinational composition and high tolerance towards other cultures. Nationality children defined by parents: are noticeably increase towards the adoption of indigenous peoples and other ethnic.

Family. Further, in the questionnaire were questions relating to family. Family problems, its strengthening, improvement of interpersonal relations of spouses each year are becoming increasingly important for the Arctic society. Some researchers Yakut, dealing with family, began to express the assumption that young people, and middle-aged people to actively adopt Western models of behavior in terms of family values.

Marital Status: in a registered marriage - 54.4%, in a civil marriage - 9.1% divorced - 8.5%, the widow (eu) - 5.0%, never married - 22.0%. Interestingly, the person involved in a civil marriage, only 9.1%. Although maybe not all the answer to this question sincerely. According to the observations of statisticians conducting the census, more than 90% of women living in a civil marriage, noted in the survey that they were married, while 80% of men consider themselves to be bachelors. It operates a psychological factor: civil marriage does not negate the household chores and child birth, women are aware of their responsibility, so consider themselves married . Men also are focusing on the other side of civil marriage: relative freedom, the absence of mutual obligations and moral framework of behavior, call themselves bachelors. Apparently, to get an accurate answer to this question is not possible. At the same time as small numbers of citizens who are unmarried, with the hypothesis that in the past decade has increased the number of free, guest , partner, as opposed to formal marriages registered.

Interviewed the head of his family believe the husband (61.5%), both spouses (6.0%), parent (s) of one of the spouses (5.9%), wife (23.7%), adult children (1.4 %). This fact suggests that the specificity of the traditional culture of family relations in the North continues today: common type of family where the head of the family is a man. In our view, sometimes a man today formally recognized head of the family, just according to tradition.

Features of the traditional Northern family is the presence of numerous family ties and relationships, recognition of the value of kinship. The vast majority of respondents (81.8%) describe themselves as part of the genus (a member of the tribal clan), while its relationship with relatives described as a close and friendly 84.0% of the respondents.

Migration. Our region is characterized by intra-oriented migration flows. These streams are generally presented migration of the rural population, which in turn can be subdivided as follows: 1) migration from village to village; 2) migration from rural to urban areas; 3) migration from

the city to selo. The main part of migration flows in intra-youth exchange is 18 – 29 years, the city of the republic for education, skills development, employment and family formation. At the moment of the Arctic zone of the republic many leave and this is mostly forced. Thus, urban residents have become 28.0 % of respondents, although their parents (59.9 %) lived or live in a rural village .

Table 2

Possible answers	In what village live or lived your parents ?	Where do you live?	Where do you adult children live?
Rural settlements	80,6	58,6	44,1
Village of the urban type	13,4	40,0	25,2
Town	6,0	1,4	30,7
Totally:	100	100	100

As we can see, the rate of return migration of young ages is not high, which leads to an aging population and worsening demographics and demographic potential decrease in the Arctic zone of the country.

Answers on the question "How long do you live in this village?" Revealed that living with the birth only 41.8% of respondents, 27.3% came from another part of the Ulus naslega (intraregional migration), and 30.9% are natives other areas of the country.

Answers to the question "Are you comfortably feel living in this village?" As follows: "totally comfortable" and "mostly comfortable" feel 58.9% of the respondents. Not quite comfortable - 12.9%, other 24.1% feel "comfortable sometimes, sometimes not".

Overall assessment of urban and rural lifestyles nevertheless found that there is the same orientation to life: 35.8% believe that it is better to live in the village, 35.1% said that it is better to live in the city, in a small town 27.1 % chose another option 2.8%. Going to live permanently in the Republic of Sakha (Yakutia) - 81.1% of respondents who live in different regions of Russia - 3.8%, plan to leave temporarily to another region or country to get an education - 0.5% intend to leave for permanent residence in another country - 0.9%.

Analysis of the responses to the question "How do you think, where your children will live in my adult life?" Revealed that the interviewed respondents admit that their children will be less "tied" to a residence in the Republic of Sakha (Yakutia). Confident that their children will live permanently in the Republic of only 50.2%, leave temporarily to another region or country to get an education - 11.1%, live in different regions of Russia - 6.7%, will leave for permanent residence in another country - 2.2%. As you can see, the difference in migration intentions involving residence, either temporarily or permanently, outside the Republic, is almost twice or more in the direction

of increasing in the generation of children of the respondents. Steady migration moods of their children suggested respondents living in regional centers and Russian towns.

In Yakutia live 140 folks. The analysis of the language situation

In the Republic of Sakha (Yakutia), representatives of more than 140 people, including indigenous people are Evens, Evenki, Yukagirs, Dolgan and Chukchi, whose languages belong to different language groups: Tungus- Manchu, Paleosiberian, Turkic and Finno-Ugric. The complexity of the language situation in Yakutia and confirms the fact that in the Atlas languages UNESCO endangered include all the languages of indigenous people - Even, Evenki, Dolgan, Chukchi, Yukagir (Tundra Yukagir, Kolyma Yukaghir) - official languages and Yakut language is the state language of the Republic of Sakha (Yakutia).

Analysis of the responses and correlations led us to the conclusion that recognition as a "native" language of their nationality often does not reflect the fact their mother tongue, and commitment to human certain cultural values, which presents language. Of 578 respondents overwhelming majority (89.0%) said their mother tongue Yakut. And 14.3% of the inhabitants of the Arctic region called Russian speakers, 2.3 and 2.1% - Even and Evenk, and Dolgan Yukaghir languages 0.8%.

Need to clarify the following point that the results of the answers exceeds 100% because some respondents deliberately and persistently noted as a mother tongue in two languages, such as Russian and Yakut, or Yakut and Evenki. This case can be attributed to the positive zone of the second belonging to the cultural boundaries. Or we observe the phenomenon of "floating ethnicity". One of the main mechanisms drift ethnicity serves interethnic marriage, creating alternative ethnicity in children.

Table 3

***The distributions of the answers on the question «What language do you consider as the mother language?»
Depends on the districts***

Languages	Abiiskiy	Anabarskiy	Bulunskiy	Verhne Kolimskiy	Momskiy	Olenekskiy
Evenskiy	1,0		3,9	5,0	4,1	
Evenkiiskiy		1,3	1,0	1,0		9,0
Ukagirskiy				4,0		
Dolganskiy		4,0				
Others						

The socio-cultural space of Yakutia characterized by a strong dispersion medium of language use. Language life of the northern people dispersed in 20 northern districts, 152 reindeer herds, 232 nomadic tribal communities, fishing areas and 69 villages ohotbrigadah and recognized

areas of compact residence of indigenous people. Thus all ethno-linguistic processes are poly lingual in an environment where the language of the indigenous ethnic group is in the position of the non-dominant. Distribution by region can be seen in Table 3.

Table 4 presents the results showing the dynamics of the native language from generation to generation.

Table 4

The division of the answers on the question «How do you speak your native language?»

Proficiency of the mother tongue	Parents of the respondent	Respondent	Spouse	Older children	Young children
fluent (speak, write, read)	86,0	70,7	73,6	53,6	47,0
Can speak	0,1	10,7	10,5	14,3	10,5
On the basic level	6,8	10,2	6,7	15,0	16,2
Knew several words	3,3	4,2	2,5	10,8	16,2
Don't know	3,8	4,2	6,7	6,3	10,1
Bcero:	100,0	100,0	100,0	100,0	100,0

Answers to the question "How much do you and your family use own national (native) language?" Define and fix the real language situation in the country: the degree of native language is directly correlated with the age of the carriers. The proportion of the respondents who are fluent in their native language, the maximum (over 80%) in the older age group is minimal in the group of younger children. Gap ranges from 23.7 to 39.0%. Fluent (owned) national language of the vast majority of the parents of the respondents (86.0%), as do 70.7% of the surveyed respondents. It is worth to note that only 53.6% of older children fluent, and fluent in younger children - 47.0%. Do not speak the mother tongue of 10.1% of the younger children, consider these data is not yet reliable as it small children, their degree of proficiency to judge prematurely.

Currently, the country has developed typical of many regions of the country national language situation unilateral (national- Russian) bilingualism providing linguistic understanding owner. When linguistic shift changes functional load language (it is used less and less in all those functions), community changes its carriers (mean age carriers endangered language increases with the development of language shift, there are many different kinds of incompetent carriers that during life can both improve and worsen the possession of endangered languages), and change the language settings of the community with respect to a given language.

Reproduction of the national language is essentially dependent on the intentions of the parent to teach (or teach) their children to speak that language . Without the active position of parents, by teaching children the basics of a national language in school , you can not save it as a "living" language . Answers to the question "Will you teach your children to speak at the national (native) language?" Showed that the vast majority (83.0 %) of the respondents plan to teach their

children to speak their native (most Yakut) language. Do not plan to teach their children to speak their native language - only 3.6 % of subjects. Still do not know (have not decide), whether they will teach their children to speak the national (native language) 13.4%.

Distribution of the answers to the question 'What language do you think you need to start teaching a child in first grade?' "Showed that the absolute majority of 59.3% of the respondents believe that it is important to educate children in first grade at the same time in the Yakut and Russian languages. For training only in their native language - 22.8%, only in Russian - 13.4%, with a choice of difficulty 4.5% of the respondents.

The republic is saved understanding natives Republic of objective necessity in the possession of the Russian language as the language of higher levels of education and related social and professional perspectives. This is evidenced by the distribution of the answers to the question "How do you think it necessary to teach core subjects at school (mathematics, physics, chemistry) in their native language?": The majority of the respondents (59.4 %) of the respondents oppose the teaching of the core subjects in the school come from language "for" - 26.4% , 14.1% were undecided respondents.

Today, the education system of the Republic of Sakha can be called a system of bilingual (bilingual education), as simultaneous use of two languages as languages of instruction. Results of the study showed a tendency to increase polylingual plants - the majority of the respondents believes certainly important to know Russian and Yakut languages.

46.2% of the respondents frankly admitted that they rarely read fiction in their native language, but still sometimes do. 18.5% do not read. Often turn to reading fiction, magazines native language 33.2%. Thus, it becomes less and less readers of the books in their native languages.

As for watching television in their native language, often watching television in the mother tongue of 44.2% of respondents rarely look - 45.9%, do not look - 9.9%. We understand that the TV in the North is a mobile information, communication channel to maintain integration. Through television, you can quite quickly and efficiently translate national ideas, talk about national culture. Minus of this communication channel is that not all the programs in their native language are quality, highly, most - entertainment and superficial. But, of course, require special studies of the effects of television on the formation of national culture.

National traditions

The next set of the questions deal with national traditions, clarify that aspect of the role played by national traditions in the respondents' lives. Respondents' answers to the question "How much space is occupied in your life mean to you?" Various types of folk (national) traditions

and activities. The most significant for the respondents are national kinds of management: hunting, craft, agriculture (54.2%), national holidays (53.9%), national cuisine (53.5%).

To the question "Do you think that now yakutians lose their folk traditions?" 41.5% of the residents of the Arctic uluses noted the option "Yes, and this is a serious problem," 37.7% believe that "no tradition alive, saved and continue to develop until there was a nation ", 9.3% of respondents loss Yakutians folk traditions considers" normal process ", 8.3% were undecided, and are not concerned about this problem are not interested in 3.2% of the respondents.

Quite a large percentage of the respondents found it difficult to reveal the answer to the question about his religion: 22.9% found difficulty, do not consider themselves believers - 35.9%. 41.2% of the respondents consider themselves followers of a particular religion: the first line is the paganism (64.3%), followed by Orthodox Christianity (24.2%), rounded out the top three Protestantism (3.7%).

Answers to the question "What do you mean by the phrase "living well-being"? "Nominated in the first place an indicator such as "having a family and children" (68.3 %), in second place - "good health" (49.4 %) third place went to answer "wealth, money" (48.9%), followed by "parenting worthy citizens" (48.6 %) and "interesting work" - 42.7%. Last place occupied the position of "possession of power" (3.1%) and "to achieve fame, popularity" (2.2%). Thus, in the RS (Y) family remains the main social value for human and important parenting.

*To the question "Should I keep the traditional way of life of indigenous people?"
We received the following answers (see Table 5)*

Table 5

Answers	Across an array	The inhabitants of the Arctic ulus
yes, because the traditional way of life – is a unique civilization	76,3	83,5
partly, only for the older generation	5,4	3,6
part, only as an ethnographic complex for the tourists	5,1	2,4
No, because in today's society is not relevant and do not need	1,8	1,3
other	1,0	0,3
Hard to get answer	10,4	8,9
Number of people:	1982	578
Totally:	100,0	100

We found that the inhabitants of the Arctic regions of the republic are supporters of maintaining the traditional lifestyle of the native population of the republic, a break from the sample average values ranging from 0.7 to 7.2% of all answers.

At the end of our questionnaire were asked the socio-psychological question about the fact, what mood respondents look to the future of the Republic of Sakha (Yakutia). It turned out that the mood of the northern society quite clearly: 40.1% of the respondents believe that "diffi-

culties will last a long time, but the republic is moving in the right direction." This "cautious optimism", typical for the representatives of the various socio-professional, gender, age groups can promote reforms forward. Second place went to the "mood of optimism, confidence in the future" - 31.5%. Doubting the fact that "even in the next ten years things will change for the better" is not so much - only 13.1% . As for the pessimists who do not believe "about the future of the republic," they represent a minority - 2.3 % as well as those who are "indifferent to everything that happens in the country" - 1.7%.

Conclusion

In conclusion, we want to note the results of the world in 2012 Delphi survey [2, 2013]. According to the experts, the most realistic and relatively key strategies in the field of the politics and law, aimed at guaranteeing the rights of indigenous people, may be:

- ✓ Legislative initiative of the Republic of Sakha (Yakutia), the development and promotion in the legislative bodies of the Russian Federation of draft laws;
- ✓ Development and approval of laws, environmental regulations and requirements of the companies on the territories of the indigenous people of the North;
- ✓ Approval norms of nature protecting indigenous people.

Other relatively less promising, according to experts, the strategy involves the formation of the Commonwealth of Northern peoples ideas within the circumpolar civilization, international policy and legal framework to protect the interests and rights of indigenous peoples.

Thus, in-depth analysis of the results of the survey and the Delphi survey project "Foresight Republic of Sakha-2050" continues, it will help illuminate the direction and magnitude of future demographic, social and cultural changes of the existence of indigenous people of the Sakha Republic (Yakutia).

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НЕКОТОРЫЕ АСПЕКТЫ СОЦИАЛЬНОЙ ЖИЗНИ В ОЦЕНКАХ И ПРЕДСТАВЛЕНИЯХ ЖИТЕЛЕЙ РОССИЙСКОЙ АРКТИКИ (ПО МАТЕРИАЛАМ СОЦИОЛОГИЧЕСКИХ ОПРОСОВ НАСЕЛЕНИЯ МУРМАНСКОЙ ОБЛАСТИ)¹

SOME ASPECTS OF SOCIAL LIFE IN THE ESTIMATES AND BELIEFS RESIDENTS OF THE RUSSIAN ARCTIC (BASED ON POLLS OF THE MURMANSK REGION)



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Аннотация. В статье представлены некоторые результаты социологического мониторинга населения одного из регионов российской Арктики — Мурманской области. Акцент сделан на оценках материального положения, покупательной способности, самоидентификации, социальном настроении и ожиданиях

Ключевые слова: социологические исследования, самоидентификация, оценки, мнения, социальная стратификация, социальное настроение, покупательная способность, территориальный социум, рейтинг проблем

Abstract. The article presents some results of sociological surveys of the population of a region of the Russian Arctic – Murmansk region in recent years. Emphasis is placed on the estimates of financial position, purchasing power, identity, social mood and expectations

Keywords: case studies, self-identification, evaluation, opinions, social stratification, social mood, purchasing power, the territorial society, ranking problems

Introduction

The Zone of the Russian Arctic, to which the Murmansk region, is currently the object of attention of the world because of contact in the region geo-economic interests of many countries.

¹ Часть результатов получена в рамках выполнения проекта № 12-32-06001 «Российская Арктика: современная парадигма развития» на 2012–2014 гг., грант целевого конкурса Российского гуманитарного научного фонда (РГНФ) «Россия в Арктике: история, современность, перспективы».

Numerous promises speedy prosperity and well-being of the region and even some steps in this direction by the Russian authorities so far no tangible results were not given. Exploration of the natural resources in the Arctic is impossible without augmentation of human potential, without the " long-standing problem solving people for a long time living and working in the Arctic land - Lyakh, ensuring a decent life to those who will lead them further development "[1, p.67].

The research methods of the sociology of the social reality allows you to organize and summarize the phenomena of the social life, and results-based management at all levels. The socio-economic situation in the Russian society in recent decades is not facilitated the development of balance and social justice in the areas of public life. Instability in the economy and politics, changing the structure of the social stratification of the population does not have added confidence in the present and the future.

The research of the representations of the inhabitants of a region of the Russian Arctic, Murmansk region on various aspects of their lives helps to identify patterns and trends of social mood, the most acute problems of life. This article presents some of the results of the sociological research in recent years, the emphasis is on material condition assessments, identity, social mood and expectations.

The level of life of the population

Basis for assessing the standard of living in the region are indicators such as revenues, cost structure, the consumption of products and services. According to opinion polls since 2007 marked increase in actual revenue in the Murmansk region, including in 2012, thanks to the indexing public sector wages and pensions. This corresponds to the official statistics, which recorded growth of per capita income (Table 1).

Table 1

Income dynamics of the population in Murmansk region in 2007–2012 [2]

Indicators	2007	2008	2009	2010	2011	2012
Per capita income of the population, per month	15859	19615	22333	24047	25303	27854
Average nominal monthly wages of workers organizations rub.	18581	23763	26592	29303	32304	36259
Subsistence minimum ^{a4}) (average per capita) per month	5676	6743	7582	8215	8878	9044

In addition to assessing the current financial situation, respondents were asked to indicate how much income would be sufficient for them. Throughout the years of the study, the difference between the received and expected income was approximately 1.4 times: in 2009 the average revenue generated was estimated at 12.4 thousand rubles, in 2012 - 17.3 thousand rubles, and the

desired respectively 32.9 and 43.4 thousand rubles. Thus, despite some positive developments, the current level of material well-being is clearly not satisfied majority.

In this regard, an interesting assessment identity of the respondents categorized as "rich", "middle-income" and "poor" (Table 2). Submitted indicators show very little difference in the amounts of money between "poor" and "rich": just 2,5 – 3,5 times. Of course, it should be borne in mind that the wealthiest representatives of the regional society available for this kind of the sociological information, but, nevertheless, we can conclude that the claims in the sample of the respondents who consider themselves "rich", quite small: in 2011 this amounted to 38.8 thousand rubles, in 2012 - 40.6 thousand rubles.

Table 2

Identity of the respondents in the terme of the income in 2009–2011.,rubles

Indicators	2009	2010	2011	2012
Income "rich", rubles per month.	25250,0	30646, 8	38800,0	40571,2
Income people of moderate means, rubles per month.	14140,7	16354,8	16198,6	17466,6
Income of the "poor and needy"	9330,2	10784,9	10801,9	13448,4

As we know, based on people has a direct impact on their purchasing power. Fig. 1 presents estimates of purchasing power in the last six years. Their fluctuations appear logical and consistent: positive changes in consumption patterns, formed in 2007 – 2008. Were violated significant impact of the financial crisis.

In May 2009, about half of the respondents (47.5%) indicated that their crisis noticeably touched, which was manifested in the increase in expenditures on consumer goods and services, delays and / or cuts in wages and social benefits. These phenomena are largely affected by public sector employees and middle managers. In the crisis of 2008 and the following two years have increased the proportion of those who "only had enough money for food" and "do not even have enough food," the bulk of these are representatives of the lower social strata. Richer also felt the "breath" of the crisis, pointing out that the purchase of durable goods has become difficult. In 2012, the purchasing power of the indicators have returned to pre-crisis levels, which indicates a certain stabilization of the purchasing power of the population.

At the same time, an adaptation of the population to speak crises preferred strategy of behavior during the crisis. If a decade ago, the prevailing mood of social dependency, and the bulk of the population counted on the help of the state, but now more than half are trying to find additional sources of income, while 17% of respondents chose austerity.

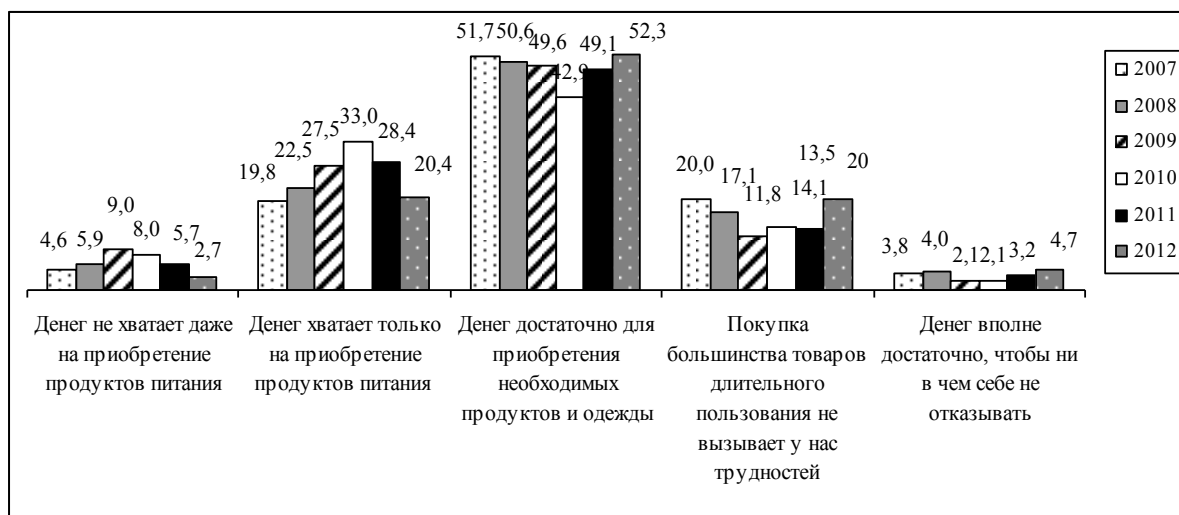


Fig. 1. Respondents' assessment of their ability to purchase in 2007–2012, %

Thus, in general, the assessment of the current personal financial situation of the urban population of the Murmansk region changed slightly, despite some revenue growth, while there was an increase in self-assessments of bad financial position and deteriorating purchasing power of the population of the region.

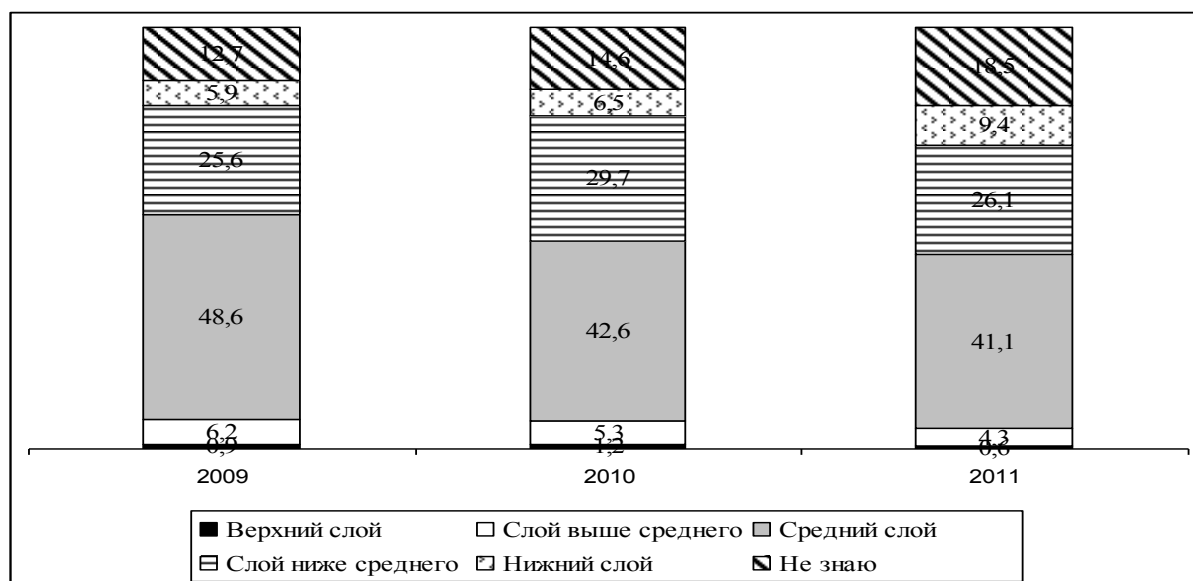


Fig. 2. Identity of the respondents belonging to a social group in 2009–2011, %

Self-esteem of belonging to a particular social class is important for everyone, because depending on her form attitudes, values, aspirations, level of social protest and more. During 2003 – 2009. social identity is characterized by a certain constancy. But in 2010, recorded negative trends:: decreased the percentage of those who identify themselves as layers "upper", "above average" and "average" in favor of layers "below average" and "low", as well as those who found it difficult to self-esteem (Fig. 2). This period coincides with the seemingly overcome the first wave

mirovogoeconomicheskogo crisis significantly affected in the mood of uncertainty, stratification vibrations fall in the level of positivity in the current mood.[3]

The role of the problem of the region

Among the most significant problems in the region traditionally respondents indicate undoubtedly interconnected inflation and low living standards (Fig. 3). However, in the 2012 version of "Low Life" has moved into fifth place (28.1%), "skipping" forward issues such as the poor quality of infrastructure (public utilities and state highways) - 35.9%.

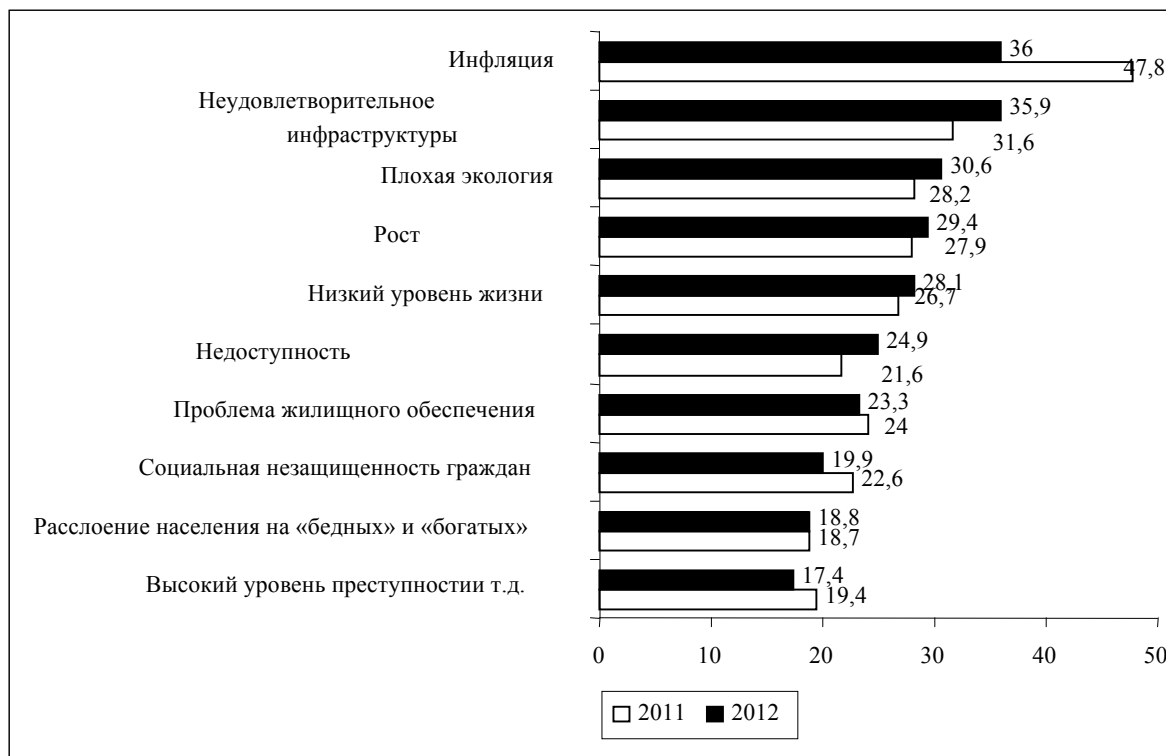


Fig. 3. Dynamics of urgent problems of the region in the respondents' assessments in 2011–2012 rr., %

Sphere Utilities – is a subject for a separate discussion, we need only note that from the outset of its reform fixed high level of distrust of this undertaking. Quality of housing and communal services in all the years of observation are evaluated by respondents as very low fees - unreasonably inflated. Many payment for utilities significantly affects the level of life, primarily concerns the socially disadvantaged and low-income citizens and persons in working age, as they relate to the category of people with the lowest incomes.

In addition, the residents critically assess the condition of the road network in the region. Also move the inconvenience, this most negative impact on the economy of the Murmansk region: overstated cost structure of goods, works and con-meadow; created obstacles in attracting foreign investment.

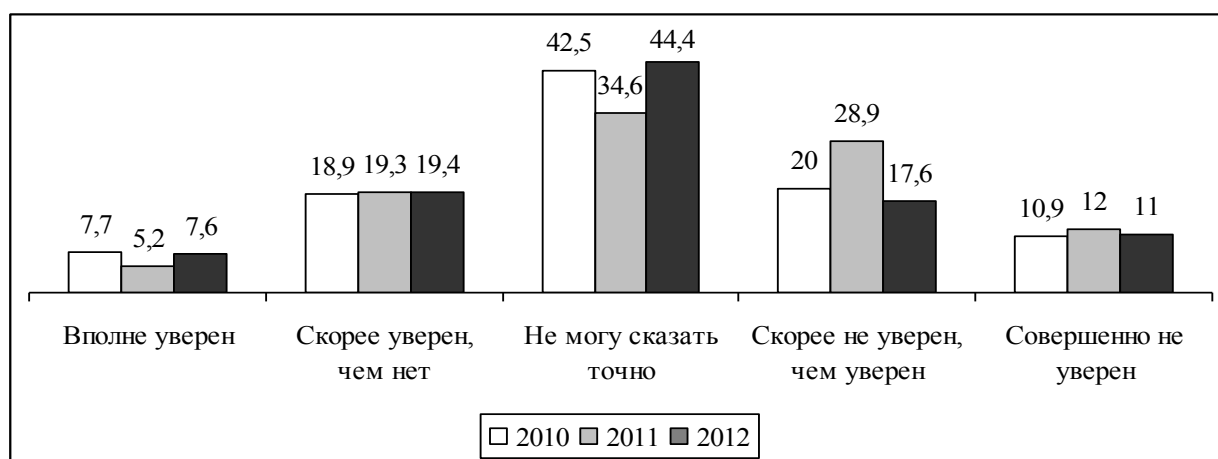
The third most important people in the region is isolated complex ecological situation (30.6%) due to a serious burden on the environment by industrial enterprises, the irrational use of this resource, as well as increased environmental awareness.

Problem of low availability and quality of health care is largely worried residents. Hailed as the modernization of this sector while not brought tangible results, rather the opposite: the so-called optimization of the network of health facilities, according to the respondents of the cities of Apatity, Kandalaksha Olenegorska, reduced them to the level of accessibility of health care. Health care remains one of the most socially sensitive areas as the need for health-care concerns of each person. Poor quality and inaccessibility (it was pointed out 24.9% of the respondents) care is adversely affected by the level of health in the Murmansk region. The distribution of responses on the degree of the satisfaction with the quality of health care in 2012 on a scale of 5 (completely satisfied) to 1 point (completely dissatisfied) revealed extremely low average - 2.6 points, which indicates the existence of the serious problems in improving health effective treatment and prevention of diseases.

Traditionally sharp remain problems such as alcoholism (29.4%), housing (23.3%), lack of the social protection of citizens (19.9 %), stratification of the population into rich and poor (18.8%), high levels of crime (17.4 %). At the same time representatives of the lower strata are more concerned about the problems of inflation, layoffs, unemployment, delays in the payment of pensions and benefits. Those who consider themselves to upper social strata, are more concerned with the poor state of roads, poor quality of health services, engineering infrastructure utilities, environmental problems.

Regional level of the social adaptation, life satisfaction

To assess the regional level of the social adaptation used sociological information about the degree of confidence in the future of the respondents (Figure 4). Sustainability of the current situation, positive or negative evaluation of the various aspects of their lives form the level of the positive perception of the future. The last three years have seen a situation of uncertainty: the constant group of respondents (25%) "completely confident" and "somewhat confident " in their future. Unfortunately, this figure does not characterizes the situation in the region as stable.



Pic. 4. Respondents' assessments of the degree of confidence in the future in 2010–2012, %

In 2011, 9% increase in the share of those who "rather than confident" in their future, while reducing the proportion of "very confident". In 2012 almost 45 % of the respondents could not determine the choice of the options, indicating that low mood adaptation to the current social situation. Thus, the instability of the socio-economic situation, the lack of clear, consistent policy implementation proclaimed reform course formed a third of northerners fairly low level of confidence in their future. This category includes the majority of the respondents who identified themselves as "poor", as well as workers in industry, transport, the service sector, trade and pensioners.

Preponderance of the opinion public uncertainty about the future development of the country for the next five years raises questions about the reasons for the following estimates: in 2012 over 40% of respondents did not answer this question, and 38.7% believe that these years are "neither good nor bad". Most likely, based on these evaluations - and the lack of awareness of the population in disbelief prospects for industrial production, economic and social policy, employment. To a certain extent, these ideas about the future of the country indicate a predominance of social sentiment social apathy.

Satisfaction with their own life is an important indicator of the condition and social stability in the territorial society and society as a whole (Fig. 5). Held us sociological monitoring revealed the following trends: in recent years dominated partial satisfaction assessment (40 – 45%), about one third of respondents were mostly satisfied (a significant share of this category of youth, which is inherent optimism) and almost 20 % in whole or in generally not satisfied with their life situation, and a trend towards worsening satisfaction ratings.

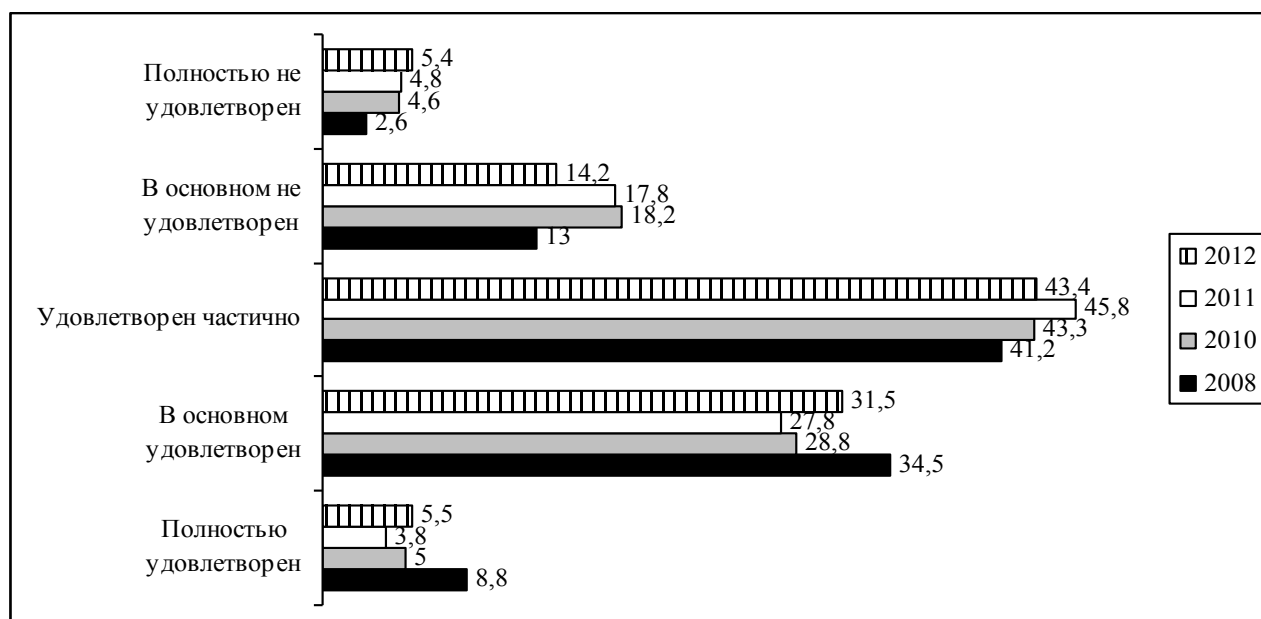


Fig. 5. Respondents' assessments of the level of the satisfaction with their lives as a whole in 2008–2012., %

Conclusion

Population representation of the social reality is largely dependent on the nature of the interaction between society and the authorities of the existence of the effective mechanisms of influence on individual public authority. On the other hand, it is important how seriously the authorities perceive public opinion about the implemented socio-economic policies as an important source of information to make good decisions.[4]

Sociological information contributes to understanding the public perception of social policy and implemented evidence-based conclusions and generalizations about its effectiveness and prospects for improvement. Possibility of structuring, synthesis and analysis represents a significant resource for improving the effectiveness of social control. It identifies the need for greater use of sociological methods in management.

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UDK (364-785.14+331.526)(=1-81)(571.5)

ИЗМЕНЕНИЕ ЖИЗНЕННЫХ СТРАТЕГИЙ И ЭКОНОМИЧЕСКОГО ПОВЕДЕНИЯ МОЛОДЕЖИ АРКТИКИ (ПО МАТЕРИАЛАМ УСТЬ-ЯНСКОГО РАЙОНА)¹

CHANGE OF LIFE STRATEGIES AND ECONOMIC BEHAVIOR OF YOUTH IN THE ARCTIC (BASED ON UST-JANSKY OF THE DISTRICT)



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Аннотация. Статья посвящена проблеме изменения жизненных стратегий и экономического поведения молодежи Арктики. Анализируются данные социологического исследования проведенного в одном из арктических районов Якутии, пути социальной адаптации молодежи в условиях изменения экономического развития региона.

Ключевые слова: молодежь, адаптация, жизненные стратегии, экономическое поведение, занятость, Арктика, Якутия, Усть-Янский район

Abstract. The article deals with the changes of life strategies and the economic behavior of youth in the Arctic. The data of the survey, we got in one of the arctic regions of Yakutia. The ways of social adaptation of youth in conditions of changing the economic development of the region analyzed.

Keywords: youth, adaptation, life strategies, economic behavior, employment, Arctic, Yakutia, Ust-Yansky municipal district

Introduction

Significant social changes that have taken place in Russia over the past 20 – 30 years have created a lot of challenges to modern society, including the question of the socialization is the younger generations. Indeed, the process of socialization of the younger generation as the transmission of the norms, values and traditions, developed by previous generations, disturbed, because the conditions of life and ideology have undergone significant changes. Modern Russian youth socialized under very different conditions and even values than their parents.

¹ Исследование выполнено при финансовой поддержке гранта президента РФ для государственной поддержки молодых российских ученых, в рамках научно исследовательского проекта «Арктика молодая: идентичности, жизненные стратегии молодежи Северной Якутии». Проект МК-3393.2013.6.

However, interest in youth issues in the Arctic due not only generational gap, but also features the impact of the globalization on the development of life strategies for youth peripheral regions.

On the one hand young people of the Arctic are now available such media and communication like television and the Internet, forming lifestyle, values, world view of modern society and bringing together the image of the desired life of their contemporaries from all over the country. On the other hand young Arctic territories is largely isolated, since the territorial remoteness. And because of this does not have the opportunities that have their counterparts in the central cities, or even in localities that are not on the periphery of the transport and economic infrastructure.

In terms of the territorial isolation and limited resources, facilities, which gives them a global world through the media, about how to build your life, what qualities you must have something to strive for and are not always achievable. In this connection, it is appropriate to recall the words of the Polish researcher Z. Bauman, who notes that "when people are not able to even try to achieve the goals to which many aspire to, or when he did not have enough money to get to the end of the road , become inevitable resentment and frustration, but man can not do anything to prevent a similar situation or avoid it...

The methodological research

In April 2013, the expedition was carried out in one of the arctic regions of Yakutia - Ust-Jansky Ulus. In Soviet times, the area was developed as an industrial, developed tin mining and placer gold. Currently, the district closed all major industries.

National composition of Ust-Yana region - 37.7% of Sakha (Yakutia), 35.4 - Russian, 10.7 - Evens, 0.6 - Evenki, 0.4 - Yukagirs 1.6 - other. Currently, children and adolescents under 19 years is 29% of the population, young people up to 30 years in Ust-Yanskiy area 44.1%. Thus, it should be noted that in the area sufficiently many young people.

The route ran through the two settlements. The deputy village where in 2011 closed the last tin mining company with. Cossack, Kazachinsky national naslega, one of the oldest settlements of Yakutia, where mainly developed the traditional forms of agriculture.

In this case, the survey methodology were applied, expert interviews, focus group. The complexity of the sampling for this study stemmed from a number of interrelated factors:

- ✓ republic's population is relatively small, especially in the areas of survey (total population of the Arctic regions is only 8.7% of the population of Yakutia);
- ✓ population scattered over a large area;
- ✓ population is spread out over the territory characterized by poor transport infrastructure.

Specifics of the region excluded the possibility to put into place a standard sampling model presupposes respect the principle according to which it is necessary to share the district lead in the sample according to the proportion which the area is in the general population. Mechanical Counting share areas would lead to the fact that some Arctic regions would be represented by a sample consisting of only a few tens of the respondents. In this connection, it was decided to bring the region to share representation hundred respondents in the sample.

The respondents were aged population of the districts from 14 to 30 years. In Ust-Yanskiy area were interviewed 101 people including 55 women and 46 men. Youth were divided into three groups: the first group of 14 to 17 years - 21.8%, the second from 18 to 24 years - 28.7%, and the third from 25 to 30 years - 49.5%.

The young people of Ust-Yani: past and present

Since the mid 20-ies. gradual development of the territory of Ust-Yana region of Yakutia. In 1925, the first primary school was opened in 1932 - the first medical center in the 30-ies. came the first collective farms. However, large-scale development of this region began in the 50s., When the district were identified deposits of gold and tin. This process is accompanied by the influx of population and its concentration in the settlements created. This process significantly changed the demographic situation and the social composition of the population in the area.

Prior to the beginning of the above processes, the local population lived dispersed, mainly engaged in traditional crafts, some of them led a nomadic life. After creating a regional center in p Deputatsky of which was to better manage the population, housing and social institutions is a gradual displacement and the local population in the villages, accompanied by the formation of relevant government institutions in the field.

In the historical period, the world of a young man begins to gradually acquire the Arctic different from the one in which their parents' and grandparents. In the past, young people had to socialize faster performing rapid transition from childhood to adulthood. Young people clearly know that their way of life and their parents is the future. Besides the traditional society of the past implies a clear distribution of gender, social roles and responsibilities imposed by the requirements of harsh environment.

Soviet power has significantly changed this picture, forming settlements for permanent residence, and building a system of education. Local youth had the opportunity to acquire education, but began to spend most of the day in isolation from the influence of socialization parents and other adults.

Now there is a further change in the life strategies of assimilation by youth values and attitudes of the modern world, through the broadcast media. In Ust-Yanskiy area 73% of the respondents indicated that the main source of information at the moment is the Internet. In second place in popularity response TV - 45%.

In this connection it may be noted such trends as:

- + extension of the age range of young categories. In today's world, these age characteristics are increasingly changing, expanding towards the older age categories. It happens everywhere, as a result of changes in traditional life strategies, frameworks age called young, stretched, creating a long life stage;
- + the gap between the life strategies of parents and children when the younger generation does not want to build their life strategies in line with the experience of their elders, as this experience may not always be in demand in today's world.

In this situation, the Arctic has a modern youth life is fundamentally different from what it was in the past. Now they go through the same stages of the socialization that many teenagers any other territories. They do not have to fight for survival in the harsh Arctic live in the settlements which receive secondary education as their peers in cities. Use Internet access and television, to form their own ideas about the world. As is well known television and the Internet are now not only a window to the outside world, but also a window to the world's youth subcultures. As a result, young people in the Arctic share the same values, social expectations and behavioral norms, as well as their peers in the modern world. In this regard, young people do not always want to see their parents in the example to follow, because it believes that their experience does not meet the accelerating and the globalizing of the modern world.

The question if you wanted to live your life as well as your parents gave an affirmative answer 29% of the respondents, 56% gave a negative response and 16% were undecided on this issue. The ratio of the responses received is typical for young Indigenous People of the North and Sakha, Russian youth living on the Ust-Yanskiy area.

Thus, the past is not completely adults desirable future for the next generation, therefore, lived their life is not desirable scheme future for their children.

This is indirectly confirmed by the fact that the most intimate relationship, including intimate sphere, such as discussion boards, please secrets and occurs most often in a friendly circle. With a friend (girlfriend) Council on the important 43% of the respondents, while the parents are only 26 %, with the older generation (grandparents) share their secrets even fewer respondents - 4%. Thus, it should be noted that as a result of many demographic, economic and social changes in

the society, parents and children interact much less than in the past. Interaction between generations, in the modern society, acquiring the features of configurational culture which once wrote Margaret Mead. The society is very rapid and significant changes, as a result of which children and adults learn from their peers, they are no longer so important experience of their ancestors.[2]

Thus, the impact on the system of the values of young people provides them with common patterns of behavior, standards of living, the desired behavior patterns. However, the resources and capabilities of the population of peripheral areas are limited and the economy of the region is not in the best condition. It can not meet the demand for employment and self-realization of the younger generation. In this regard, interesting for us is the attitude of young people to employment and a better representation of economic behavior. The important question for us is whether globalization mechanisms to work here ?

Economic changes and attitude to work

Since the middle of last century to our time Ust-Jansky district has undergone significant economic changes. During the years of Soviet power in Ust-Yanskiy area developed mining, manufactured products which were tin concentrate and placer gold. In collective developed industries such as agriculture herding, fishing, hunting.

In the 90-ies. economy of the region has undergone changes in the economic and political upheavals, first the Soviet state, and after its collapse, Russia. Arctic residents, including both local and migrant populations have experienced the most severe effects of the crisis time. Curtailment of the government programs of the industrial development of the northern territories, led to the destruction of the existing places infrastructure, transport links, plant closures and settlements. So, in Ust-Yana region during the post-Soviet time there were a few times a major accident in the housing sector, leading to freeze settlements. Social and transport infrastructure of the country did not function in the same volume.

Salary increments in a high inflation environment lost its catalytic role. It all together and entailed high migration. According to Academician V.A. Tishkov then the country as it receded from its northern borders, turning them into more distant suburbs. [3]

As a result, at this point in Ust-Yanskiy area completely curtailed all large-scale industrial production of 42.9 thousand people living in the area in 1989, to date, there were 8 thousand people. Remaining in the area of population is engaged mainly in the public sector, trade, agriculture, traditional crafts, moreover developed sector of the economy such as the collection and sale of mammoth tusk.

Needy young people have few resources to continue their education or obtaining additional education. Due to the expensive transport costs, young people are unable to move to other places where jobs are more readily available.

If we talk about the most common activities in the past, namely, the traditional forms of management, it should be noted that the proliferation of firearms and snowmobiles allowed local people to hunt reindeer herding and more efficiently. However backward material and technical base, low wages, severe living conditions and the remoteness inaccessibility production bases, high cost of fuels and lubricants, spare parts for snowmobiles and outboard motors, low purchasing price of agricultural and fishing products significantly hamper the development of the industry and attract young people. For example the number of herders and tent workers currently stands at 142 people. [4]

If we talk about hunting, it should be noted that, despite the fact that hunting is still available industry young people shows little interest in this type of activity, as the work requires high investment in equipment, and while that is not compensated by the appropriate fee

Extraction of mammoth tusk, although it is quite lucrative, but has a seasonal character and is quite risky, both in terms of health and life, and cost (not every squad can find a mammoth tusk).

The traditional forms of the oriented farming economy to an industrial and then directed primarily to employment in the public sector has led to what is now the most attractive sector for young people has become a public service. This, apparently, is due not only to the fact that the civil service is perceived as an opportunity to gain power or high income, but as an opportunity to have a stable income. But, really, even in the most critical time state structures remain to the viability of the Arctic regions.

The same trend is observed for the youth of Russia as a whole. Staff at the Institute of Sociology wrote: "we can say that the state failed to raise the prestige of employees of the state apparatus, and probably it will attract young professionals in public administration and municipalities" [5].

Spheres of activity which, in the opinion of young people themselves are easier to implement public service, social services (healthcare, education) and business. Representatives of indigenous people of the North see themselves in the civil service, the Yakut (Sakha) in the social sector and business in the Russian civil service and business. These responses suggest how the adaptation of youth to new economic conditions. They adapted by embedding into existing model in Russia economic relations. The fact that the adaptation of youth is in accordance with reality evi-

denced by the fact that 37% of the respondents were employees of the public sector, 30% of pupils of different forms of learning. Only one person interviewed was busy in agriculture and traditional crafts. As an entrepreneur himself also identified only one person, although 28% said that the easiest way to realize themselves in business. The business means not only permanent employment, but also seasonal work for the production of mammoth bones, as well as fishing and its further distribution, organization of adventure tourism - hunting tours. It should be noted that they would like to open your business in the future, 18% of people.

On the other hand, only 41% indicated that the work that they have now is their personal choice and that they would like to do in your life. 28% of the respondents indicated that their choice of the profession now was caused by external factors (just had to somehow make money and there was no other work). While 31% said that the lack of jobs - is a hallmark of life in the North. During the group interviews, many respondents also expressed concern about the issue is a good job.

Conclusion

In conclusion, it should be noted that if during the Soviet era 's emergence network of settlements, the spread of education and new forms of the economic activity (collective farms) of the local population were crucial for the economic behavior of young people, including steel alternative nomadic way of life, then this stage of the integration into the existing economic system under the influence of the modern, predominantly Western values is a determining factor in the choice of life strategies for young people living in the Arctic regions of the Republic of Sakha (Yakutia). Today's young generation is no longer socialized within the same system of values that were prevalent in the northern territories in a traditional society, or in the Soviet era. This conclusion is relevant in general for the whole of the current situation in our country. Younger generation of Russians choose other values and life strategies in the context of globalization, post-industrial development.

After closing of the industrial enterprises in the Arctic zone of the Republic of Sakha (Yakutia), as in other regions of the Russian Arctic, changing ideas about the best economic behavior. Young people no longer sees itself in the industry, but the change in orientation of agricultural area was not reflected in the desire of young people to go into this industry.

The lack of the jobs today is very acute in the Arctic, in the northern Russia - but it is not so clear. On the one hand the increased economic security of modern life now allows teens to stay in childhood, without taking on the roles and responsibilities of adulthood. At the same time powerful individualization problems, plans and aspirations characteristic of the modern society, bear full

responsibility for the situation of young people on their shoulders. Lack of the local employment opportunities limits the perspectives for teenagers and young adults. There is a tendency to be occupied only temporary or part-time. As a result, young people of working age who could and would prefer to work, faced with a lot of free time, which gives rise to drunkenness and crime rates. Seclusion and remote settlements of the Arctic territories creates a negative situation with competitiveness young northerner.

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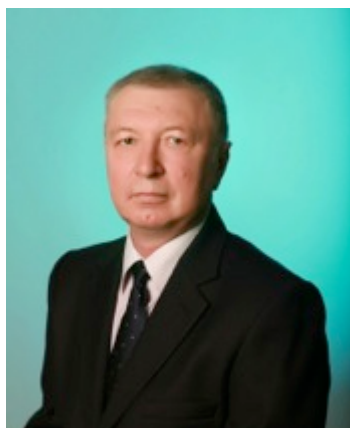
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Ecology

UDK 502/504:001.8

ОЦЕНКА ЭКОЛОГИЧЕСКОГО РИСКА. АНАЛИТИЧЕСКИЙ ОБЗОР ПУБЛИКАЦИЙ¹

ON THE CONCEPT OF ENVIRONMENTAL RISK. ANALYTICAL REVIEW OF PUBLICATIONS



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Аннотация. На основе обзора современных публикаций в статье анализируется роль моделирования в оценке риска, рассматриваются понятия экологического риска, риска здоровью человека, раскрываются проблемы и методология оценки экологического риска². Все эти вопросы имеют прямое отношение к ситуации в Арктике.

Ключевые слова: обзор, риск, экологический риск, Арктика, вероятностный анализ риска, охрана окружающей среды, экология

Abstract. Based on a review of contemporary publications in the article examines the role of modeling in risk assessment examines the concepts of environmental risk, the risk to human health, reveals problems and ecological risk assessment methodology.

All of these issues are directly related to the situation in the Arctic.

Keywords: review, risk, ecological risks, Arctic, probabilistic risk analysis, environment protection, ecology

Introduction

The research of the problems and concepts of the risk assessment is directly related to the situation in the moment in the Arctic in the connection with the here exploration, drilling and the production of hydrocarbons, their transport in the extreme environmental conditions of the Arctic environment. To assess the practical scale threats emerging in the Arctic during the development of the macro-region of the continental shelf, it is necessary to have a clear conceptual understand-

¹ Работа выполнена при финансовой поддержке Минобрнауки по государственному контракту от 14.03.2013 № 14.515.11.0001 в рамках ФЦП «Исследования и разработки по приоритетным направлениям развития научно-технологического комплекса России на 2007–2013 гг.».

² Анализ этих проблем продолжает тематику статьи «К вопросу о понятии экологического риска. Аналитический обзор публикаций», опубликованной ранее в журнале «Арктика и Север». 2013. № 13. URL: http://narfu.ru/aan/article_index_years.php?ELEMENT_ID=94755 (дата обращения: 9.01.2014).

ing of the nature of the environmental risks and their assessment of the existing methodology. To some extent, solve this problem allows an overview made available scientific publications.

The role of modeling in the risk assessment

It should be noted that the methods for solving particular problems of the risk assessment may differ from the risks of different nature. Thus, the authors of [1] suggest that the risk assessment of the technological origin statistical analysis of the previous experience is not quite acceptable. This is especially clear when it comes to new technologies. The authors propose the use of probabilistic safety analysis apparatus (probabilistic safety assessment, PSA), based on the simulation of hazards and the scenario approach. PSA methodology beginning to develop rapidly since the middle of the first decade of the XXI century, due, inter alia, and the efforts of the International Atomic Energy Agency (IAEA). At the IAEA contains the basic international standards in the risk analysis and safety man-made (primarily related to the use of nuclear energy) character (<http://wwwns.iaea.org/standards/feedback.htm>).

В публикациях [2; 3; 4] приводится описание детерминированных и стохастических математических моделей, применяемых в экологических исследованиях (см. также [5; 6]).

In the work technogenic risk [7] is considered as the expectation of the consequences (damage) of the accomplishments of the initiating events, the probability of the event and the value of the damage taken as random variables (independent or dependent). As the author points out, to determine the probabilities of initiating events of failures and accidents "so far in the theory of security developed and widely used in practice ... a variety of the logic and probabilistic model-based techniques such as" fault tree "-" event tree "functional circuits integrity, common logic and probabilistic, topological, logical-graphic and other methods. Many of these models are described theoretically in domestic and foreign literature".

Stochastic approach to ecological studies in the monograph [8]. Probabilistic methods of accounting for uncertainty in the estimation of the risks apply such approaches as Monte Carlo simulation of the 1st and 2nd order (first-and second-order Monte Carlo simulation), sensitivity analysis (sensitivity analysis), interval analysis (interval analysis), qualitative simulation (Qualitative Modelling), Bayesian belief networks (Bayesian Belief Networks), Akaike information criterion (Akaike Information Criteria), probabilistic analysis boundaries (Probability Bounds Analysis), the theory of informational deficit (Information Gap Theory) and hierarchical Bayesian methods (hierarchical Bayesian techniques) and others [9]. Other non-probabilistic approaches are described, in particular, in the article [10].

In the work [11] tried to account for the individual risk of the perception conversion "objective" assessment individually. At the same time, risk means the expected damage and keeping individual perception is performed by introducing a correction factor. Detailed and very representative overview of probability distributions used in risk analysis, adapted to the theoretical principles of [12] is given in the manual. [13] Description of the main ecological models that are used in the risk assessments, given in [14].

When assessing the risks widespread application models the behavior of these systems, but it should always be borne in mind that the models are not always correctly describe the system, which may lead to errors in the determination of the risk. In particular, the author of [15] drew attention to the need to comply with the requirements of the robustness of the model, especially in the case of the compliance with the precautionary principle (Precautionary Principle).

Ecological risk

Comprehensive outline of the historical development of the ecological risk assessment in the United States is given in [16]. According to [17], the environmental risk is defined as a chance (in the probabilistic sense) within a specified period of time with specific event occurs (usually negative) consequences. The authors emphasize the different nature used in the environmental risk assessment of probability: as a mathematical measure of the uncertainty and as a subjective measure of the degree of probability. V largest Encyclopedia of Life Support Systems (Encyclopedia of Life Support Systems) UNESCO are three main types of the environmental risk in the context of the risk management: low probability events with serious consequences, common events with minor consequences and events with medium consequences [18].

Environmental risk assessment, according to [19], determines the probability (likelihood) that adverse ecological effects may occur as a result of exposure to one or more sources (stress factors, stressors). In a simplified version of ecological risk assessment (screening level ecological risk assessment) risk measure is considered the ratio of the concentration level (chemical, exposure) toxicity (maximum allowable concentration, toxicity) in a deterministic interpretation [20 21].

As recommended by the Ministry of Education of the Russian Federation manual [22], risk is defined as "an event or a group of related random events prejudicial object with this risk". By the same author under the environmental risk is "the probability of the civil liability for the environmental damage, as well as the life and health of third parties". And damage to the environment, according to the indemnity "is expressed as pollution or destruction of forest, water, air and land resources (for example, by fire or construction), damage to the biosphere and farmland. By

the phrase "damage to life and health of third parties" means the result of "the harmful effects of the factors of production activities on the surrounding industrial facility population, expressed in the form of increased morbidity and mortality."

As quantitative estimates of the ecological risk applied statistical characteristics (expectation, median, quantile, etc.) appropriate probability distributions of random variables.

In [23] the risk - is responsible for the decisions made under uncertainty. In the same paper, see "Quantitative risk assessment" measure of the risk is considered the product of the probability of an accident and the likely relative damage, which is interpreted as the expectation of harm. Probability of an accident "is based on the analysis of operation of the facility or the technical system and processing of the statistical data on accidents." Probable relative damage is determined "on the basis of the simulation of an emergency." The estimate of damage caused by the loss of the life is done with the involvement of "the so-called cost of living", expressed in monetary units. Note that the problem of estimating the cost of living is considered in detail in [24], and from the moral point of view.

According to [25], the "risk – is a quantitative measure of danger with regard to its consequences. Consequences manifestations danger always bring damage which may be economic, social, environmental. Consequently, the risk assessment should be related to the assessment of damage: more than expected damage, the greater the risk. Moreover, the risk will be greater, the greater the probability of the hazards. Therefore, the risk can be defined as the product of the probability of the event in danger or process P on the magnitude of the expected consequences (damage). "Thus, the concept of the "risk" in the view of the authors combines two concepts - "probability risk" and "harm" and "risk assessment, therefore, must be two-dimensional".

The last assertion is questionable, since the product of two scalar quantities is also a scalar, ie a one-dimensional quantity. Additional difficulties arise with the opinion of the authors that "it is important to measure the expected loss included all the possible consequences of the event or process. The full measure of the consequences should include various types of damage - social, environmental, economic, moral, etc., because various measures of damage have different dimensions, what, in fact, written by the authors: "Social damage caused by disease or death, trauma and stress, as well as various inconveniences, reducing quality of life". Environmental damage is determined by the negative effects of hazardous events and processes that cause deterioration of habitats. Economic damage is characterized by the monetary expression of the negative effects of hazardous events, phenomena and processes". The assertion that "the social, environmental and moral damages may also have monetary value" rather polemical.

In a recently published monograph [26] rightly pointed out that "a survey of the scientific papers dealing with environmental risks, shows that the main emphasis in them is a critical analysis of the existing approaches and make recommendations for their improvement, which, of course, necessary". However, the main problem is that there is no universally accepted classification of the environmental risks, as well as the structuring of the conceptual framework and systematic approach in their analysis. In a recently published monograph [26] rightly pointed out that "a survey of scientific papers dealing with environmental risks, shows that the main emphasis in them is a critical analysis of the existing approaches and make recommendations for their improvement, which, of course, necessary". However, the main problem is that there is no universally accepted classification of the environmental risks, as well as the structuring of the conceptual framework and systematic approach in their analysis.

Because, as the author wrote [26], "in the general risk in theoretical risk is defined as the probability of a particular process or phenomenon within a certain time or under certain circumstances", "it is logical to give the following definition of the environmental risk - the probability of getting a certain damage manifestations resulting environmental hazards, or their combination in relation to the evaluation of a particular item". However, later the author under the risk understands average damage as "monetary value of damage caused to the environment or its separate components, a manifestation of the natural and / or anthropogenic environmental hazard for a certain period of time in relation to a particular item evaluation". Environmental damage is formulated by the author as a "negative change in the quality of the environment or its components caused by the manifestation of the natural and / or man-made environmental hazards, expressed physical indicators" that does not quite agree with the concept of damage (in the legal sense). In some cases, damage to the environment can not be assessed in terms of the cost, especially when it comes to buckling biocenosis or if the effects of adverse impacts may affect the distant future.

The report [27] presents an environmental risk as the product of the effects of the measure on their possibility (likelihood), and this measure can take values greater than one, resulting in a dimension of risk becomes quite clear. In the work [28] provides the rationale for the probabilistic assessment of the environmental instead of the deterministic risk assessments based on a comparison of the predicted or measured concentrations of the chemical exposures (exposure concentration, EC) and harmless concentrations as EC does not account for the variability of concentrations in time and space, as well as the sensitivity of target audiences (specie sensitivity, SS). The authors consider a more realistic probabilistic environmental risk assessment (Probabilistic Ecological Risk Assessment, PERA), assuming EC and SS random variables, and accentuate the difference

between the variability (variability), due to the random nature of the variables and uncertainties, which are due to errors caused by the inaccuracy of the measurement, closeness of the selected random distribution, application errors laboratory results to real conditions, etc. Under risk is the probability that $EC > SS$.

In the modern textbooks (see, eg, [29]), the advantage goes to the probabilistic interpretation of the concept of risk: "Risk: 1) a statistical concept, defined as the expected frequency or probability of adverse effects resulting from exposure to the hazard, and 2) the probability damage (injury), illness or death in certain circumstances (conditions). In quantitative terms, risk is expressed in values ranging from zero (damage will not occur) to one (harm will occur); 3) the probability that an adverse effect will occur in an individual or group in the ecological system when exposed to a certain dose or concentration of hazardous agent, ie it depends on the degree of toxicity of hazardous agent, and on the levels of exposure". At the same environmental risk (Ecological risk) is understood as "the likelihood of developing plants and animals (other than humans) adverse effects caused by exposure to environmental factors". It is important to note the distinction between objects adverse impacts: environmental risk, according to the positions of the authors benefit applies only to the animal world.

Risk to human health

The manual "Ecological Security. Ecological risk" of the Voronezh State University [30], under the ecological risk understands "the probability of adverse health consequences". According to the indemnity in terms of quantifying the concept of "environmental risk" can be formulated as the ratio of the possible damage from exposure to harmful environmental factors over a certain time interval to a normalized intensity value of this factor. Under the possible damage, primarily refers to human health.

In the modern interpretation [31] the risk (in relation to health) - it's likely that at some time an individual or group of people or plants, animals or the ecosystem certain places will receive adverse effects from exposure to certain portions or hazardous reagent concentration. The risk depends on the toxicity of the reagent, and the degree of exposure.

Under the risk to human health as a result of the disaster [32] refers to the symbolic formula: risk multiplied by the difference between vulnerability and resources aimed at compensation of damage. For specific estimates authors propose the ranking system contained units.

Examples of the ecological risks assessment

Examples of the ecological risk assessment for the development of wind energy in Montana (USA) is the work [33]. Considered in detail the problem of influence of wind plants on biodiversity

(in the first place - on endemic bird family, the family of migratory birds, inhabitants of the marshes, wildlife) in the interests of energy companies, the public and legislative restrictions. In addition, attention is paid to landscape diversity, cultural traditions and aesthetic issues.

An example of a qualitative approach to the assessment of the regional ecological risk can serve as a publication [34]. The evaluation framework included four main stages: identifying the source of risk (common mosquitofish, *Gambusia affinis*), identifying risk objects (endpoints), which were classified as local minnow and some other species, assessing the impact on the environment from the risk objects mosquitofish and finally proper risk assessment based on the results of the second and third phases. To quantify the risk assessment applied rank according to official guidelines state bodies (primarily - directives USOSTP (United States Office of Science Technology and Policy)). Ordnance Survey mapping the distribution of risks was carried out using ArcGIS 9.2.

Manuals

As already noted, the methodology of risk analysis and management in procedural terms is sufficiently well developed. This methodology is reflected in the official leadership of the Agency for Environmental Protection in different countries. An example of environmental risk assessment based on the deterministic approach provides guidance Agency U.S. Environmental Protection Agency [35]. If there is a sufficient amount of data can be probabilistic approach to use of the exposure and the effect produced. In the simplest form of probabilistic risk assessment in the interpretation is the probability of exceeding the RQ units. However, probabilistic analysis can be used and shared sensitivity distribution type and concentration of environmentally hazardous agent.

By the same token built leadership of the European Agency for the Environment (The European Environment Agency, EEA) [36] and the domestic standard [37] (in the latter, risk means the combination of the probability of an event and its consequences , according to [38]). Guidelines for the ecological risk assessment in Ohio (USA) with a detailed description of all the steps and prepared forms to fill observations, calculations and analysis provided in [39]. Methodological basis for environmental risk assessment guidelines are EPA 540 -R- 97 -006 and EPA 630 -R- 95 -002F Agency U.S. Environmental Protection Agency (<http://www.epa.gov>).

In the final version of the guide Canada's ecological risk assessment [40] noted that the probabilistic approach provides accurate and realistic estimates, which are unattainable for deterministic methods and, moreover, allows to take into account the cumulative effect of multiple sources of uncertainty. At the same time, the application of the probabilistic approach should be performed in cases where it is necessary and possible, since the purpose of risk assessment is translating complex scientific information in an accessible format to decision-makers.

According to the guidelines of the national public authority of Ireland, responsible for ensuring the safety and health (The Health and Safety Authority) [41], a measure of risk based on estimates of the possibility (likelihood, plausibility) of damage (harm), the hazard level (degree of impact on health) and the number of people who could be affected by exposure to risk factors. Risk assessment of the potential threats include a requirement for employers.

This guide [42] use the concept of the risk as a combination of the probability (frequency) of a specific threat and the magnitude of the impacts of this threat. In quantitative terms, the risk - is the product of the probability value implications on (low loss) while the probability of an integral range is applied from zero to 5 (by unit) as well impacts calibrated value (also in integers) from zero to 25 (in 5 units). In addition, the authors consider the possibility of reducing risk through the use of preventive measures, and the reduced risk is calculated as the quotient of the risk factors on the degree of the risk reduction (which also takes integer values from 1 to 5 in 1).

Problems of the assessment of the ecological risks

The disadvantages of the traditional approach of Ecological Risk Assessment (ERA) The authors of [43] relate primarily addressing risk assessment to one or a small number of impacts (chemical) agents on a limited number of target audiences. Approach suggested by the authors of the ecological risk assessment of the regional scale (Regional-Scale Risk Assessment) is focused on large areas with a large number of the sources of exposure and exposure to multiple objects. This approach is based on the model of the relative risk (Relative Risk Model, RRM). The main difference between the proposed approach is to construct a generalized map of the region, taking into account the characteristics (including animal habitats vulnerable ecosystems) bio resources development of the region and the interests of the various technological/political systems, followed by separation of homogeneous zones and construction of the conceptual model (conceptual model) region. A conceptual model is constructed each time based on the characteristics of the situation in the region. Relative risks are calculated in a deterministic interpretation based on certain systems exhibiting rank estimations. The main difference between the proposed approach is to construct a generalized map of the region, taking into account the characteristics (including animal habitats vulnerable ecosystems). Life and development of the region of interest by various technological/political systems , followed by separation of homogeneous zones and building a conceptual model (conceptual model) in the region. A conceptual model is constructed each time based on the characteristics of the situation in the region. Relative risks are calculated in a deterministic interpretation based on certain systems exhibiting rank estimations.

Development of the methodology for the environmental risk assessment faces a number of difficulties that have often fundamental. So, the work [44] is devoted to the problems of definition of population, measurable characteristics of the population, revealing the influence of the impacts on populations, scaling effects, etc. in terms of the environmental risk assessment. Promising areas of the research the authors of [44] is the development of predictive population models, methods for transferring the test results for the individuals on the population, the study of interspecific effects, evaluate the impact of multiple sources (as a whole and for individual risks), the development of approaches into account the spatial and temporal variability introduced by the impacts to clarify the extent of the risk assessment and the development of approaches to determining the environmental significance of the impacts both on the population and on ekoindikatory (and appropriate relationship).

Authors of papers devoted to the analysis of the risk of spread of invasive species and pathogens [45], pay attention to the need for a thorough study, as far as possible, the totality of the relationships of many features that define the conditions of habitat ecological communities, as the main factor in the formation probability of negative impact of aggressive species. It should also pay attention to the state and changes in the meteorological conditions. The authors also calls as possible, not to use the risk ranking as ranking leads to some loss of information (in particular, on the borders of gradation ranks).

The key problem of the ecological risk assessment is the definition of "negative consequences" of particular relevance for Arctic conditions. According to the authors of [46], relating to the adverse effects of the environmental terms implies the relation of man to environmental changes, involving concepts such as relevance, priority for the society (individual). Sociological aspect of negative environmental effects at once, as a rule, takes the concept of environmental risk from a strictly scientific sphere, giving it a quality concept (in other words, immeasurable) character. In particular cases, an environmental risk can be numerically defined: for example, in [46] for the specific task at environmental risk is the probability of introducing exotic diseases when importing animals or animal products. In general, keeping the humanitarian component can be made either legislative (legal) by, or on the basis of the arrangements.

The other problem of the environmental risk assessment applies object instantiation risk. [46] noted that under the facilities usually understand environmental risk or that biological components of the environment (outside the sphere of human activity), but remains a formidable range of ecological systems to characterize the changes of the biosphere.

The third major problem is the definition of the environmental risk in the target audience, which is focused risk assessment. Classic antagonists - are "conservationists" and "consumers of natural resources".

In 2007, the Agency for Environmental Protection Agency published a report which was submitted to analysis of the environmental risk assessment and identified the development of a methodological framework [47]. The report noted that the development of the environmental risk assessment practices possible by improving the methods and tools in the direction of a more comprehensive coverage of physical, biological and socio-economic aspects of the problems under consideration to make more informed decisions. In particular, we are talking about the spatial and temporal detail, taking into account the complexity of the biological systems and the reaction of the environment on the impact of single or multiple sources.

Development of the environmental risk management seeks to involve the general public, business, conduct dialogue between risk assessors, risk managers and stakeholders (including both environmentalists and the general public). Managerial decision-making at the local or regional level should take into account the public interest harmonization, economic needs and environmental risks. Should strive for the greater specialization in formulating requests for the environmental risk assessment, which entails additional requirements to sources of information, the data model is applied. For large, complex risk assessments to pre-scientific expertise at the stage of setting zadachi. Osoboe attention must be given the uncertainty inherent in environmental and other information in the risk assessment. Agency recommends iterative approaches as a means to minimize uncertainty. The report [47] formulated the requirement analysis of decisions to monitor the adequacy of the recommendations issued and allocated to a particular problem carrying out monitoring observations and research as a basis for future assessments of environmental risk.

With respect to the probabilistic approach to environmental risk assessment agency notes that the application of the theory of probability to successfully solve problems given the uncertainty (in this case, however, it is desirable to have a fairly representative sample). In some cases, when the data are limited, can be very useful application of the Monte Carlo or reasonably selected theoretical distributions (Poisson, Gauss, and others). For a posteriori audits of decisions provides substantial assistance Bayesian approach. However, the probabilistic terminology and statistical concepts are often poorly perceptible layperson that imposes additional requirements on the interpretation rezultatov. The need to develop statistically valid methods to assess environmental risks as stated in [48] .

The ways of the development

The authors [49] noted an important trend in the development of a methodology for assessing the environmental risk, namely the trend towards integration of the methods and approaches to risk assessment. The scope of integration fall extension analysis of the linkages and impacts produced effect, joint consideration of human health and the negative consequences for the ecosystems, involving engineering risks, though, and difficult to forecast, in some cases, may have a dominant role for the emergence of the environmental risks, the joint consideration of multiple kinds of contamination (the effect of which may be additive or synergistic), consideration of the interaction of the pollution and other factors (eg , geomorphological, hydrological itp), a pooled analysis of the pathways of the pollutants, the multiplicative approach to the selection of the environmental parameters that are relevant for the risk assessment and protection (endpoints in the sense of [50]) multiplicative recipients, total multiplicity of temporal and spatial scales, taking into account the life cycle (for example, chemicals), alternative management decisions, and finally, a set of the social and economic needs .

In the report a number of the scientific committees of the European Commission, intended for public comment prior [51] formulated the main problems and the development of the risk assessment procedures. The main drawback of the existing approaches is the low degree of the realism of the methods and the models of the risk assessments, which entails considerable uncertainty in evaluating the impact of various influences.

In the area of the environmental risk deemed necessary verification and joint consideration of the physical and chemical data, the development of the models of the metabolic pathways for polarized and ionized chemicals and metals, the development of the methods for assessing the impacts of nano materials, development of criteria and protocols for the comparison of monitoring data, especially for the products of metabolism and decay, thus necessary to develop approaches to forecasting states of matter with short scales of existence (time), the development of more realistic forecast models (in time and space), as well as models of bioaccumulation of the chemicals terrestrial and aquatic systems, a more detailed description of trophic chains. In particular, an important direction - risk assessment application of genetically modified foods [52].

In the analysis of the consequences of the impacts to the priority directions of the development of the environmental risk assessment include the development of estimates of variable effects depending on the variety of the spatial and temporal concentrations of the pollutants, the development of the models for the studying the vulnerability of aquatic and terrestrial ecosystems to different stressors, a deeper study of the interactions of toxicants and natural environmental

factors environment, to increase holistic (trait-based) approach to the environmental risk assessment, modeling estimates implicit impacts of the stressors, and finally, the development of stochastic methods and models as a consequence of increasing complexity estimation procedures.

Accounting of the hydrometeorological facts

The policy manual when describing the dangers of the objects of the technical regulation [53] stated that "the action of the biological sources of the risk must take into account the climatic and geographical factors". The manual states that "subject to regulation characteristics affecting... the security of the protected objects, biological effects, explosions, mechanical impacts, fires, industrial hazards, thermal effects, chemical effects, electric shock, and electromagnetic fields, nuclear and radiological impact".

It seems obvious that meteorological (including and climate) and geographical factors are extremely important for these types of the impacts, as these factors may amplify/attenuate the effect of human impact (see, for example, with respect to a favorable outcome of the incident in the UK sector of the North Sea on oil and gas platform company "Total", which led to the leakage of natural gas in 2012), and in some cases can be a source of the environmental hazards (the clearest example is the disaster at the Fukushima nuclear power plant as a result of the tsunami).

As a measure of the risk RAND Corporation in a special study related to assessing the U.S. defense capabilities, uses two values: the probability of future threat and the degree of impact on the status of Defense. [54] It is noteworthy that, although the work are just illustrative values of the risk profile for such hazards as natural disasters authors regardless of the chosen strategy (policy package) give the same values. In other words, for any strategy the risk of being subjected to natural disaster as a likely event with the same fixed effects.

Climate, as a fact of the ecological risc

In the article, [55] it is shown that the climate moisture status affects the degree of the risk of epidemics, and drought and waterlogging affected differently by different regions in China (which, apparently due to numerous additional factors). Climate as an environmental risk factor considered in article [56]. The authors propose an approach to risk assessment on the impact of climate warming retentive structures ecological communities and species for a better understanding of the environmental problems associated with climatic changes.

As noted in [57] within the past century air temperature increased in the Netherlands in accordance with the global rise in temperature, except for the last decade, during which the temperature rise and a half times higher than the global average temperature increase. This effect is caused by changes in prevailing wind directions. The number of cold days has decreased, and the

number of days with high temperatures has increased, particularly in the period from 1975. There has been a trend of increasing mean annual precipitation (especially in the period from October to March, while from April to September, no changes) and the increased number of cases of heavy precipitation. The number of storms for 1962 – 2002 decreased (although the authors believe that the period of observations is insufficient for rigorous conclusions), the sea level along the coast of Denmark grew by an average of 20 cm.

Climatic changes take place in the Arctic, which is not accidentally called "kitchen of the world weather".

Сложные природно-климатические условия морской Арктики являются фактором, существенно влияющим на безопасное и экономически выгодное освоение ресурсов шельфа и мореплавания в Арктике

Экстремальные погодно-климатические условия Арктики



Особенностями региона являются:

- экстремальные природно-климатические условия, включая постоянный ледяной покров и дрейфующие льды в арктических морях;
- быстрые климатические изменения;
- низкая устойчивость экологических систем по отношению к антропогенным воздействиям.

Экстремальные погодно-климатические условия арктической зоны создают значительные риски для морского и речного транспорта, для морских добычных платформ и отгрузочных терминалов, портовой инфраструктуры

Рис. 1. Dmitriev V. G. Hydro-meteorological security in the Arctic. SPB, 2013.

These climatic changes lead to the observed effects on natural systems and society over the last decade, the water flow in the Rhine increased winter and decreased during the summer season, the river water temperature rises. These changes were taken on state of the environment of the Netherlands: increased migration of plants and animals in a northerly direction, any violation of trophic chains. Reduced river Rhine water salinity led to the territory from the inflow of seawater, which negatively affected the plantations of trees in the central part of the country that are not adapted to high salinity. Climatic changes have affected the water transport system in the

country, as well as energy companies. In general, it is evident that climate change is the essence of environmental hazards that requires careful analysis for adaptation measures. In a time of global climate change as never becomes actual functioning of the climate monitoring in the Arctic macro-region and scientifically sound assessment of the environmental risks in the development of transport communications here and other socio-economic activity.

Система наблюдений: многоцелевая космическая система «Арктика»



Рис. 2. Dmitriev V. G. Hydro-meteorological security in the Arctic. SPB, 2013.

Sozialization of the risk assesment

Socialization estimation procedures environmental risks, proclaimed as a basic principle of the United Nations [58] initiated the emergence of the new methods designed to involve the general public in environmental assessment processes. Thus, the authors of [59] propose to assess environmental risks using Dempster-Shafer theory, based on the use of trust function (belief functions) and the likelihood function (plausiblereasoning) [60]

In the report a number of the scientific committees of the European Commission, intended for public comment prior [61], attention is paid to the use of the results of risk assessments in decision-making processes and business management areas. The most important findings of the report include the need to improve the relevance of risk assessments (including environmental and)

in respect of politicians and managers at various levels that can be achieved by strengthening the dialogue between the parties concerned. Since management decisions often lead to a contradiction between the use of health and the environment and the financial constraints on economic activity, "relevance" is intended to include the analysis of benefit / cost in the risk assessment.

A similar problem arises in the comparison of impacts on various risk objects, such as humans and ecosystems, which are often incommensurable. To resolve contradictions is proposed as an additional criterion for the inclusion of the notion of preference, which also means the need to integrate risk assessment with the economic (and social) analysis. One consequence of the need to take account of the social factors playing a recommendation to the formation of the conceptual apparatus of the risk assessment in a publicly accessible form.

Examples of this approach is the work of [62, 63]. The latter document applies ranking severity of the consequences, as well as the probability of a threat in three gradations: high, medium, and light level.

When generating reports on risk assessment recommended increasing the number of possible scenarios of, focus on populations and ecosystems as a whole, with the release if necessary especially sensitive subgroups/species, a clear description of all the uncertainties and non-obvious explanation hypotheses.

Additional difficulties arise from the widespread belief that "more than expected damage, the greater the risk" and "risk will be greater, the greater the probability of the hazards".

At first glance assertions seem obvious, but the expected damage can be assessed only after an analysis of all possible hazards, taking into account the probability (frequency) of their occurrence and the occurrence of damage due to these hazards. For example, the expected loss can be the same for rare events (the probability is small) with large losses (big damage) and for frequent events (high probability) with relatively small losses (damage to small). In addition, the above statements are not considered adaptive protection and environmental impact (including meteorological factors).

Personal attitude to the risk is the subject of the special theoretical research (The Value-Belief-Norm Theory) under the new environmental paradigm (New Ecological Paradigm) [64, 65].

Conclusions

Analysis of even a small number of publications in the field of the risk assessment leads to the following conclusions. Currently paradigm "risk thinking" becomes an accepted norm. Risk assessments in various areas by large teams of the specialists in public and scientific organizations.

There is no doubt the use referred to in Article theoretical concepts and methods in the evaluation of the environmental risks in the Arctic.

The concept of the risk broadly reflects uncertainty about the decisions and, consequently, is invariant to the type of activity and processes. Risk is always a priori, forward-looking, so that risk assessment may not be accurate.

Methods for solving particular problems of the risk assessment may be different for different nature of risk. To date, there is no unified theory of risk and common terminology.

Fundamental difference in the approaches to the risk assessment is the interpretation of the risk as either deterministic values (often expected damage) or as a random variable (the probability distribution of the degree of harm / damage).

Additional difficulties in determining the environmental risk caused by the circumstances that ambiguity and logical contradictions present in such basic concepts as the environment, environmental hazards (causes environmental risks), environmental risks, harm and damage to the environment.

Probabilistic risk assessment approach is the best guarantee realistic estimates that are unattainable for deterministic methods and, moreover, allows to take into account the cumulative effect of multiple sources of uncertainty. However, the application of the probabilistic approach requires additional knowledge and data.

In the environmental risk assessment is severely limited by lack of knowledge about the impact of the actions on the objects in the terms of the risk assessment. Requires a systematic approach to data collection (environmental monitoring) and developing better models of functioning of the ecological systems. This approach should be implemented and in monitoring fisheries, biodiversity of the Arctic environment.

Most developed mathematical apparatus (Actuarial Mathematics) risk assessment in financial activities (primarily in the insurance business). Dissemination of the actuarial methods to assess the environmental risk is very promising.

Hydrometeorological (including and climate) and geographical factors are extremely important for different types of impacts on the environment, as these factors may be the cause of environmental risk and/or strengthen/weaken the effect of human impact. Particularly relevant monitoring of the climatic changes in the Arctic.

Since the purpose of the risk assessment is translating complex scientific information to decision makers, there is a need to form the conceptual apparatus of the risk assessment, including with respect to the Arctic, publicly accessible form.

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ВИРТУАЛЬНЫЕ ЭКОЛОГИЧЕСКИЕ МАРШРУТЫ И ТРОПЫ В ПРИРОДНО-КУЛЬТУРНЫХ ГЕОСИСТЕМАХ И ЭКОЛОГИЧЕСКОЕ ВОСПИТАНИЕ

VIRTUAL ENVIRONMENTAL TRAILS AND PATHS IN THE NATURAL AND CULTURAL GEO-SYSTEMS AND ENVIRONMENTAL EDUCATION



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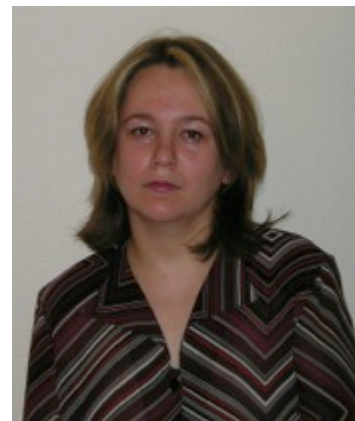
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Аннотация. Предложена инновационная концепция виртуальных экологических троп как наиболее мягкий вариант экологического туризма и подготовки к наблюдениям в ООПТ. Это особенно актуально в условиях труднодоступных и легкоранимых экосистем. На основе современных технологий сбора, обработки их хранения информации виртуальные экологические тропы станут важным этапом экологизации мировоззрения

Ключевые слова: экологический туризм, экотропа, экопросвещение, экотон, цифровые технологии, литораль, топонимика

Abstract. The innovate conception of virtual ecological paths as a foremost edition for ecotourism and attendance's preparation in specially protected natural sites was suggested. It's has a vital importance for remote and sensible ecosystems. The virtual ecological paths will be able to important stage of environmentalization of awareness on the base of modern technologies of elicitation, data processing and storage of information

Keywords: ecotourism, ecological path, environmental education, ecotone, digital technology, littoral, toponymy

Introduction

Global environmental problems increasingly affect the interests of all mankind and every individual. In the report "Principles of state policy in the field of environmental development of the Russian Federation for the period till 2030"¹ defined strategy and main challenges in the field of the environmental protection, implementation arrangements in the modernization of the economy, innovative development tools. Ensuring sustainable, green growth economy is impossible without the conservation of biological diversity and the natural resources needed to implement the human right to a healthy environment.

Currently is intensified the formation of environmentally responsible attitudes and environmental culture through the development of environmental education and training [1, 2002], especially in the form of eco-tourism. Direct contact with the natural objects for cognitive purposes is best carried out in the territory of the various protected areas as ecological trails and paths [2, 2011, 3, 2012]. However, the intensive use of natural and cultural sites for environmental education and awareness is not always possible (seasonality, weather, etc.), and occurs when tours increased human pressure on their Geosystems leads to various disorders, weakening and even irreversible destruction of their biological and cultural components [1, 2002 2, 2011 3, 2012]. To reduce or mitigate these impacts, as well as the intensification and increasing creativity of ecological thinking, we propose to use virtual ecological trails².

The aim is to develop the concept of virtual ecological trails and paths as the initial stage of acquaintance complex natural and cultural objects, phenomena and processes necessary for the formation of ecological culture.

Materials and methodology

Collection of the materials held in the intertidal zone of the White Sea in the innermost part of the Kandalaksha Bay (Kandalakshsky State Nature Reserve, sightseeing and tourist area, cordon Luvenga, 67°06'-N, 32°42'-E).

Littoral of Kandalaksh gubi vary in appearance, width and structure - rock, smooth glacier "muttons foreheads", ridge ("spit") boulders, gravel or sand and silt beaches. Drying zone boundary encloses boulders, arising from the interaction fast ice and tidal currents, seaward - tidal beach or hillside. In the innermost part of the gybi most of the coastal littoral meadows busy turning into sand and silt beaches to hundreds of meters wide.

¹ Основы государственной политики в области экологического развития РФ на период до 2030 г. [Электронный ресурс] // Официальный сайт президента России. URL: www.kremlin.ru (дата обращения 15.09.2013).

² В нашем понимании виртуальная тропа — представление цифровых фотоматериалов, сопровождаемого тематическим рассказом экскурсовода.

Littoral ("coast, coastal") – is a natural ecotone, the transition zone between the mainland and the sea, continuously changes the appearance. In ecotones specific spaces between communities and systems "actively proceed geographical and ecological processes" [6, 1197], which makes them especially difficult to understand, but very interesting for the purposes of the environmental education, training and formation of ecological culture.

White sea waters, are depending on the phases of the moon rises twice a day to 2 – 3 m and drops to 0 m Length tide on 1,5 – 2,0 hours behind at low tide. In Kandalaksha lips are many forested islands and islets, small treeless "Ludy" rocky shoals corgi, pour water in the tide, and the huge stones baklyshi.

Main place of work – is Luvengskaya Guba in the outfall Lower Luvenga creating significant seawater desalination. Guba is fenced off from the sea group of small islands. The water level in the tidal cycle in the work place (sightseeing and tourist area) from 0.0 to 2.8 m, while exposed to 0,5 – 1km 2 littoral [4, 2012]. White Sea, River delta. Luvengi, island archipelago Kandalakshsky shore create a picturesque landscape, particularly valuable in terms of recreation and ecotourism.

Human activities in the surrounding area for several centuries has created a natural and cultural landscapes - "ecological footprint " of a person. Already in the XVI century, mentioned semuzhya tonya and saltworks Luvengi absorb huge amounts of fuel and in XVIII – XX centuries in the surrounding taiga conducted mass industrial logging. Forest and drove on many islands, using them as pasture. In 1960 – 1970. Luvenga village was built for 2000 people, a dairy farm on 1,5 – 2 thousand cows, set up an appropriate agricultural infrastructure - field, storage, roads, etc.

Ecological path (real and virtual) is installed in the mouth of the river and covers the surface of the intertidal to subtidal zone of coastal meadows. As prerequisites virtual ecotrail we consider it necessary to use historical information, Annals of Nature Reserve, survey data of the local population.

Demonstrated materials – are digital photos (author V.V. Korbut) cordon around Luvenga observations during 2004 – 2013 performed under different conditions (weather, time of day, tidal stage , etc.) and photo mode, including in macro mode. Such a form of presentation - discrete - allows the tourists to focus on a detailed examination of the complex biological objects and immerse yourself in their world. On a series of images shows the most common natural objects and processes in place to form a sequence of images outside of the timeline.

The main objects of the show: changing the face of the littoral depending on the phase of the tide, climate seasonality and different weather; biological objects - plants, marine invertebrates and vertebrates (worms, mollusks, crustaceans, fish, birds).

For disclosure of human activity in the subarctic conditions as an important component of the development and demonstration in the virtual ecological path we use the terms - words and phrases of the local dialects and sub-dialects (Lappish, Karelian and Pomeranian) identifying historically designations of the natural objects and/or processes [5, 2005]. Some of them joined the international scientific terminology.

All material is grouped in the demo database, which consists of several units, including units that contain digital photographs of natural phenomena and objects, their text support (Table 1). Block - a set of the modules, a common theme; module – is the basic unit of storage of the digital photos and text materials needed to build virtual ecotrail. Number of modules in the blocks varies depending on the subject created trails. For example, the unit "geomorphological features", consisting of the modules "microrelief", "Coastal Processes", "Forms of the surrounding terrain" etc. The proposed scheme is not absolutely rigid and allows you to create new topics, supplemented by new units and modules. Such an approach to create a mobile system for forming virtual modular ecotrail.

Such a structure (Table 1) allows to increase or decrease the "route" depending on the tasks demonstrations, "compress" the time of the route, various processes, "stop" object / process for its detailed consideration of the interpretation or methods of scientific analysis and artistic appreciation.

Table 1

Compositions blocks and modules for the creation of virtual ecological trails

Blocks	Modules	The content of the module	The level of the module	
Litoral	A	general geographic information	A1	Maps, shemes, satellite imagery
	B	Tidal processes	B1	Kuipoga
			B2	Verhovodie
	C	hypsometric levels of littoral	C1	Litoralnaya Luga
			C2	Sublitoral
			C3	Supralitoral
	D	Description (appearance) littoral	D1	Micro relief
			D2	Mezo relief
	E	Dynamism appearance of littoral	E1	Bath and streams littoral
			E2	Shallows
			E3	Other elements
Flora and Fauna	F	Plants	F1	Weed
			F2	Lichens
			F3	Vascular plants
		Animals	F4	Invertebrates
			F5	Vertebrates
Cultural and historical aspects	J	Cultural landscapes and nature	J1	Historical aspects
			J2	Natural aspects

			J3	Toponimika
			J4	Selitba

As an example, a fragment of a virtual ecological path "Vegetation and animal population of the intertidal zone." Beginning of the story as part of a demonstration trails associated with the geomorphological, landscape and cultural features needed to start forming the image of the area. Highlighted text corresponds with the oral stories of guides accompanying display of visual material.

As the "promotion" to the virtual path pay attention to different levels of tourists ecological pyramid littoral communities, starting with kelp fucoids growing on rocks and stones at the bottom of the intertidal zone. Leaves, roots and stems of algae are not, they replace the thallus or thallus. Pomors named their tour, and it covered stones - turnitsami. These plants need a marine or brackish water, the sun and the substrate for the attachment.

In the uppermost part of the intertidal zone we find higher vascular plants that can withstand regular wetting and drying, long-lasting, increased salinity. This "kasha" small herb with powerful roots, rhizomes or bulbs with a reserve of nutrients. One of them - Solonchakovaya or sea aster *Aster tripolium* L. (Fig. 1) - is interesting because pollination occurs under water (pollen floats in her column) and in the air, insects. Sea plantain *Plantago maritima* L. - perennial with slender stems and narrow leaves collected in the rosette, inflorescence - spike up to 50 cm.



Pic. 1. (*Aster tripolium*)

One of the many intertidal animals – are marine polychaete worm lobworm (*Arenicola marina* L.), living at a depth of up to 30 cm in sandy-muddy bottoms and forming settlements of different sizes (Fig. 2). When the worm ingests soil on the surface of shallow recess occurs - funnel;

ejected from the intestine for long strings of sand with mucus to form near the sandy mounds-cones correct form.



Pic. 2. *Arenicola marina*

Among the numerous shellfish note, first of all, edible mussel (*Mytilus edulis* L.), marine bivalve filter feeders. Form clusters of several shells of mussel beds to huge underwater shallows. Clam length of 5 cm – 6 skips to 3 liters of water per hour, eating small objects floating in the water.

Iron in the foot of the mussel byssus thread highlights strong holding a clam on the substrate even when severe storms. Young mussels no longer than 2 cm – 1 good move, sedentary adults. Lay up to 5 – 25 million eggs, larva swims in the water column, reaching a length of 0,2 – 0,3 mm is deposited on the substrate. Along the shores of Europe for the first year they grow to 3 – 4 cm in the cold White Sea to 0.5. They live up to 13 – 14 years.

Among the White Sea mollusks have actively crawling and burrowing into the ground to a depth of littoral input and output siphons, single or double flexible and mobile handsets.

Maqam (*Macoma balthica*) – is small shellfish clams up to 2 cm, round shape. In kuypogu actively crawling along the ground, sucking food through a siphon input (like a vacuum cleaner). When bolshevode burrow into soft silty-sandy soils, breathe and eat through a siphon.

Mia (*Mya arenaria*), shell length 10 cm, the inhabitants of the shoals at a depth of 10 – 50 cm. Siphon - is two fused tube length up to 50 cm, covered with a dense shell holes on the edge of growths protrude above the ground on 5 – 15 mm. Live up to 15 – 18 years.

Sinks of the dead mollusks lie on the surface of the intertidal zone, birds eat them, filling the deficit of minerals, especially calcium and magnesium [4, 2012].

Crustaceans are common in the intertidal zone (Crustaceae), especially noticeable sessile crustaceans - barnacles (*Balanus*), barnacles barnacles of the suborder (Balanomorpha). These filter-feeding attached to rocks, shells of mollusks, underwater structures, tree roots, bottoms of ships, forming colonies. Their larvae swim freely, adults lie on your back in a limestone house of six plates (four mobile). Between the plates exposed legs, crayfish rhythmically flapping them driving into the house water with food particles. Done at the waters they are tightly closed shutters. In the cold waters of the White Sea barnacles live up to 7 years.

In the high tide and low tide in the water and on the wet substrate seen moving sandhoppers of Sem. Gammaridae. In kuypogu they are hiding in the rocks of the littoral and fucoidan at bolshovóde swim in the water, eating detritus and preying on small animals.

All animals and their larvae are the part of the coastal marine plankton food webs constitute littoral included in diets of many species of the marine invertebrates (starfish, crabs, clams) and vertebrate animals, fish, birds and mammals.

Even kuypogu intertidal fish can be found on desalinated littoral streams and puddles. Most often visible flocks moving fingerlings of different species of sticklebacks Sem. Gasterosteidae, Kolyushkoobraznye. These fish do not have scales, and some sharp elongated spines along close to the body, and with the threat of moving, menacingly up and sticking out the sides. Common in the intertidal zone during the "Done waters" flounder, Sem. Pleuronectidae, flatfish.

Trophic resources littoral attract vertebrates able to effectively use ecotones [6, 1997, 4, 2012], such as the oystercatcher (*Haematopus ostralegus*), bluish (*Larus canus*) and silver (*Larus argentatus*) gulls.

Beak and legs of Oystercatcher are long, red, black and white body. At high water bird sitting on the corgi, baklyshah groups of 2 – 5 individuals, as care waters move in the shallows. In kuypogu eat mussels on banks, drainage areas gather food from the surface or probed thickness of soil, plunging beak 5 – 15 cm and groping sink.

Seagulls in bolshovóde are sitting on ludam and baklysham, cleaned or sleep for 3 – 4 hours before kuypogi begin to feed on intertidal beaches on corgi and turnitsam.

In the natural and cultural landscapes of the Kola Subarctic over 100 years ago and penetrated hoodie (*Corvus corone cornix*); kind incurred as ecotones steppe zones of Eurasia, now mastered the White Sea. In bolshovóde they fly ashore in kuypogu actively feeding on intertidal areas with dry, moving on turnitsam, corgi, creeks and shallows, collecting dead or careless marine animals, hunting sandhoppers and fish.

Discussion

One of the contradictions of ecotourism is to connect the show "interesting" objects and their degradation, and even loss, during recreational use [2, 2011, 3, 2012]. Reducing the conflict (until complete elimination) is possible due to prior acquaintance visitor PAs features natural and cultural site, or systematization of existing knowledge using virtual nature trails. Virtual path can pave the rugged, secluded and maximally protected areas PAs, "compress" the time of natural phenomena. For example, all of these objects and processes can be viewed in real natural conditions, but the dynamics of the tide can not be shown in a relatively short period of the route. Also on the surface of the intertidal zone is impossible to organize a route or trail requisite infrastructure. Equally important for the route are the weather conditions are not always favorable to the conditions of the Arctic.

Moreover, the interested user can be the route according to individual needs, guided by the knowledge gained in the course of the journey on the virtual path.

Information obtained in the course of a virtual tour, combined natural and cultural, historical and artistic components of interest and understanding of the viewer and listener [7, 1982]. Virtual ecological trails without replacing routes and nature trails in nature, can reduce the pressure on natural objects of tourist show, subjected to various anthropogenic impacts. An important feature of this trail is themed selection of professionally designed descriptions and photos, allowing sightseers any level and age to get a general idea (prior knowledge) about the object or phenomenon.

Block-modular approach allows to increase the variability of fullness virtual-ecological trails, advanced forms of the scientific and environmental activities of PAs, the principles of the environmental management, provides a flexible, emotionally saturated image of the world of man. All this contributes to the overall ecological culture based on ethical principles of the environmental management. An innovative approach to environmental activities with the use of the modern information technologies in the field of environmental education, especially in protected areas of different rank, requires the formation of ecological outlook rapidly [1, 2002]. We propose its use for any target audience, including people with disabilities. Virtual nature trail can be a powerful information and cognitive resources.

Approbation of the virtual ecotrail "Littoral" was held on the pupils, students 1 – 4 courses geographical faculty of Moscow State University and other universities in Moscow.

Conclusion

The main thrust of the virtual ecotrail – is the environmental education, providing the perception of diversity and complexity of the natural environment. Virtual nature trails are not a substitute routes and nature trails in the nature and organically precede them, will reduce the burden on nature tourism show, subjected to various anthropogenic impacts.

Virtual ecological trail – is the initial stage of initiation to the perception of complex natural phenomena and their interpretation. They acquire special significance for different PAs, in particular, are in natural and cultural landscapes. That virtual paths reflect the continuity of natural and cultural interaction, emphasizing man's dependence on nature.

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ВИРТУАЛЬНАЯ РЕАЛЬНОСТЬ МЯГКОЙ СИЛЫ В АРКТИКЕ**VIRTUAL REALITY OF SOFT POWER IN THE ARCTIC**

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Аннотация. Впервые актуализируются проблемы фактической, бюрократической и виртуальной реальности при использовании мягкой силы в Арктике. Поднимается вопрос о заключении Arctic pact-XXI.

Ключевые слова: Арктика, реальность, мягкая сила, экология, Приразломная, шельф, северный полюс, Arctic pact-XXI

Abstract. First actualized the problems factual, bureaucratic and virtual reality using soft power in the Arctic. Raises the question of the conclusion Arctic pact-XXI.

Keywords: Arctic, reality, soft power, ecology, Prirazlomnaja, shelf, north pole, Arctic pact-XXI

Introduction

This article investigates the problem of the use of soft power in the Arctic and its impact on public opinion in the transforming reality. For this purpose, first introduced the notion of actual, bureaucratic and virtual reality, reflecting certain aspects of life by the example of the global society of the Arctic macro-region. Given the scientific novelty in the formulation of the problems article is not intended to be an exhaustive coverage of all the issues this topic.

Research Methodology is based on the interdisciplinarity and scientific methods. Geopolitical and regionological used approaches in naming the object of the study (the Arctic, the Russian Arctic, the Russian Arctic), multi-variant, general science (analysis, synthesis), as well as methods of the humanities subject - history, conflict resolution and management.

Factual, bureaucratic and virtual reality

Arises primarily the need to identify the main conceptual concepts of the direct relevance to the issues under study. Let's start with Reality (Latin *realis* - real, real) - is all that exists, all that exists, reality, facts, realism, truth, true essence, tangibility, strength. Taken together, this reality

–is the subject area of the science. In our case - is the subject of an interdisciplinary study of the Arctic macro-region, but only on the use of soft power, which creates virtual reality.

I have highlighted three types of the current reality.

First, this is the **factual reality**, close to the essence to the above, a common understanding of reality in the present tense. This current reality, facts, reality, human actions, social activity, as they say "live life" in all its beauty and filth, vanity of vanities. In practice, the closest to the definition of the true spirit and motivation of human actions are apparently law enforcement agencies (police, investigation, prosecution, court), excluding of course the facts of corruption and distortion of the reality of political pressure. Everyday real perception of reality is common to many citizens. However, due to lack of awareness, lack of expertise ordinary people can not always make an adequate picture of what is happening and are exposed to soft power to a greater extent than the professionals. Processes occurring in the Arctic macro-region, not an exception here. The real problems of the Arctic region in the Internet age is constantly broadcast to a global level, and transformed under the influence of soft power tools in the virtual reality perceived by people as an actual reality.

Secondly, lush color in the modern society from top to bottom across the vertical of power and **bureaucratic control** thriving reality. Power Administration, the paper often as far from reality as a reflection of the moon sunlight. Bureaucratic management is based on the established rules, procedures , hierarchy , division of labor, impersonal and rational behavior. There is no malice initially because state and municipal government to follow instructions, regulations, standards management, playing by the rules well-intentioned. What will we get from this? This can be seen from the example of the Russian Government for the implementation of decrees in May (2012) the President of the Russian Federation, when fully executed program to move people out of dilapidated housing. Not solved other social issues, although formally removed from regulation agencies with control as a fully formed.

The power of the paper and formalism dominated not only in government. Many historians study the past primarily on the basis of the written sources, sometimes deliberately distorting the actual reality in favor of the ruling elite, or using anti-Russian propaganda myths in the spirit russophobia as instruments of the soft power against Russia. This again showed discussion of the concept of a new educational complex national history.

The full all this applies to the bureaucratic reality of the present time in the Russian Arctic. Bureaucratic reality, for example, lies in the fact that the legitimate borders of the Russian Arctic (Russian Arctic) is actually today were not there. Internal borders of the Russian state in the

high northern latitudes exist only in virtual reality. 15 more ago to the State Duma shall submit the draft law "On the Arctic zone of the Russian Federation". Its adoption would legislate Russia's right to control the Arctic territories and waters, but then the law has not been adopted, mainly due to financial problems with the country's budget. In a letter to the Government of the Russian Federation of July 16, 1998 noted that the introduction of a number of the economic and social benefits for the businesses and individuals on the fifth part of the territory of the Russian Federation is only possible due to a significant reduction of federal budget revenue and expenditure by increasing enrollment in the budgets of Russian Arctic in full all taxes and fees for the use of natural resources. Substantial budgetary resources required changes in the applicable tax regime, the introduction of additional public benefits (housing subsidies, travel expenses) to persons living and working in the Arctic region, at the expense of the federal budget, rather than employers, other measures. Therefore, the Government of the Russian Federation did not support the adoption in 1998 of a bill ¹.

At a meeting of the Security Council in September 2008 was discussed and then finalized and published March 27, 2009, "the Russian newspaper" most important political document "Principles of the State Policy of the Russian Federation in the Arctic up to 2020 and beyond" ². Five years ago, was set the task of preparing a realistic normative legal acts of the Russian Federation to clarify the geographical boundaries of the Arctic zone of Russia, including its southern border with the list and status of municipalities included within the specified zone. None of this has not been done, the bureaucratic and things there. Distressful federal law on the Russian Arctic, another project which was held in 2012-2013. public examination, has not been adopted so far.

Frozen since 2004 the projects of the federal laws on the North. In Salekhard (April 2004) to the Far North and equivalent areas were attributed fully or partially territory 27 subjects of the Russian Federation with a total area of 11.9 million square kilometers, accounting for 70% of all Russian territory and population 12.2 million man ³. It was assumed that the development of the northern regions will be based on objectively established modalities of the economic and social development in these areas. Among the tasks specified: ordering system of remuneration of the

¹ Письмо Правительства РФ от 16 июля 1998 г. N 3596п-П11. Заключение по проекту федерального закона "Об арктической зоне Российской Федерации". URL: <http://www.pravoteka.ru/pst/925/462178.html> (дата обращения: 19.07.2009).

² Основы государственной политики Российской Федерации в Арктике на период до 2020 года и дальнейшую перспективу (утверждены Президентом Российской Федерации Д. Медведевым 18.09.2008. Пр.-1969) //Российская газета. – 2009. – 27 марта. URL: <http://www.scrf.gov.ru/documents/98.html> (дата обращения: 29.04.2009).

³ Заседание президиума Государственного совета №36 «Основные направления государственной политики в отношении северных территорий России» 28 апреля 2004 года: URL: <http://www.kremlin.ru/text/appears2/2004/04/28/97302.shtml> (дата обращения: 05.06.2009).

persons working in the northern regions, on the basis of reforming the current system of guarantees and compensation taking into account existing economic relations, the formation mechanisms of compensation costs increased regional and local budgets to ensure the life of the population, etc. The relevance set in 2004 year caused no problems and no doubt. However, the transformation of reality into the practice of the bureaucratic life northern societies require adopting appropriate legislation and resource provision. Working Group of the State Council of the Russian Federation on policy towards northern territories proposed in April 2004 (Salekhard) adopt a law on zoning of the North (Northern Territories differentiation by living conditions). In the State Duma after a long time the package of zoning Russian North, including four draft federal law "On the Russian North zoning", "On the list of the Far North and equated localities", "On State Guarantees and compensation for those living in the Far North and equated localities", "On Amendments to the Labor Code". No progress in the bureaucratic reality never happened, prepared bills again hung in the State Duma of the Russian Federation⁴. No progress in the bureaucratic reality never happened, prepared bills again hung in the State Duma of the Russian Federation.

The Arctic zone of the Russian Federation is fully included in the regions of the Far North. In freezing conditions the next project of the State Program on socio-economic development of the Russian Arctic at the end of 2013, versions of which are developed unsuccessfully for several years, one of the few realistic goals today becomes the adoption of the 2014 federal law on the Russian Arctic. It is sure to re stepping on the same rake and link definition of the southern borders of the Russian Arctic exclusively with public benefits and preferences for business. They can be identified later in the adoption of other laws on the Far North, and not all at once fell in a heap, creating a formal bureaucratic problems. Arctic Russia needs is not less than the priority today Far East and Western Siberia. It's not just a matter of internal policy, but also the most important geopolitical problem. Russian Arctic - is the northern borders of the Eurasian civilization, our northern house, inhabited in the days preceding the millennial history. It is time to identify all the legitimate boundaries of the Russian Arctic.

Third, virtual reality, which is reflected in the culture, art, media, Internet, geopolitics and domestic politics in the Arctic, and other states, when wishful thinking in many different attractive package. Virtual reality – is the past, present and future in one bottle. Immediately say, that beyond the analysis of this article remain the mythmaking, fiction, literature, theater, painting and other arts, realism, abstract art, postmodernism and other isms creative perception of the real

⁴ Комитет Государственной Думы РФ по проблемам Севера и Дальнего Востока подготовил проект законов о районировании Севера России и государственных гарантиях и компенсациях для северян. URL: <http://www.insev.ru/read.php?mm=01&session=313597&dd=19&yy=07&id=290331> (дата обращения: 04.04. 2009).

world. And religious denominations and church organizations, rituals, morality, life, based on the imperative of faith. And all that has to dream - dream, fantasize, imagine; reality dream - dream awake.

In virtual reality, which has a direct relation to geopolitics, usually using mass media, the Internet and other soft-power resources, the most disguising the truth, lies, reticence, to manipulate public opinion and consciousness of the vast number of people around the global society called Earth. Dominated russophobia known pragmatic principles earlier century (by Machiavelli: "Finis sanctiflcat media"), the idea of the political realism Morgenthau (national interests based on power and might; strength above right). But implemented these and other settings in the new version using the most advanced technologies (information and communication, IT, social and psychological), and postmodern pluralism shares Global Performance. To achieve its goals in the XXI century the state in their policies, primarily the United States, NATO, make efficient use of all instruments of soft power, change the consciousness and behavior of people, destabilizing the political landscape, organizing and financing color revolutions, wreaking havoc on the basis of mob rule in different regions Earth.

Soft power in the Arctic

Hard power with violence universally used in acute situations of conflict, often escalating into armed regional conflicts and wars. On the basis of military, economic and financial power of the USA, for example, implement globally the ability to coercion, using, other than weapons, a variety of sanctions against a country with undesirable political regime (Iraq, Iran, Syria), embargoes and other restrictions, such as the so-called "Magnitsky Act". Permanent hotbed of violence and regional armed conflicts are many countries in the Middle East, Asia and Africa. War continues in Syria, for which truth has already appeared peaceful window of opportunity .

Need to use hard power does not disappear in the XXI century, because violence and terrorism have not disappeared from the life of the global society. In today's world, as noted by V.V. Putin 01.01.2014, multiply pockets of violence and civil strife, shattered the system of international law, the planet is shaken by fluctuations of the economic conditions, natural and environmental disasters [1]. In the war against terrorism at the end of XX - beginning of XXI centuries of Russia. Responsibility for the attacks on 29-30 December 2013 in Volgograd took, for example, over the radical Islamist group "Ansar al -Sunnah", since 2003 serving in Iraq ⁵.

⁵ Иракские боевики взяли на себя ответственность за теракты в Волгограде. URL: <http://www.forbes.ru/news/249827-irakskie-boeviki-vzyali-na-sebya-otvetstvennost-za-terakty-v-volgograd> (дата обращения: 20.01.2014).

Not preclude the use of the military force in one form or another in the Arctic and the macro-region. A war for the resources, space, communication in the Arctic, internationalization attempts of the northern territories and waters of the Northern Sea Route in the beginning of XXI century take place in a peaceful manner, using mostly soft power. The Arctic opposition remains largely within the virtual reality correlated the bureaucratic machine of the Arctic states (diplomacy, Arctic Hint demonstration of military power during the exercise, marking presence). However, the risks of the local armed conflicts during exacerbation of the de facto situation (reality) can not be discounted here. Escalation explicit militarization of the Arctic continues acquiring more conflictual with increasing amounts of multiple actors in the macro-region of the global society of the Earth.

Soft power - is controlled impact on the minds and hearts, people's feelings, their souls to achieve its goals, not only in our country but also in the global society. Orientation of soft power in politics is an endogenous (internal) and exogenous (external) character. Historical, scientific myth-making, information and psychological war, culture, education, and other resources used lay the foundation base of soft power in all its manifestations.

In contrast to hard power to the soft power in geopolitics, international relations, diplomacy are the opportunities of achieving the desired results by creating a positive image (image) of the country, the spread of mass culture, democratic tsennoctey attractive individual opportunities, other instruments of the power and influence to create a virtual reality. Seemingly peaceful opposition rally within a country can not be called with a non-violent, given the practice of "color revolutions" and their consequences, in fact aimed at the real power grab. A striking example is the "Ukrainian Maidan» its blockade of the government buildings occupied premises, pogroms, hundreds injured participants not peaceful protests and the police officers themselves.

Total Soviet propaganda, powerfully carried out in the USSR under the leadership of the CPSU in 1922-1991, International politics, the activities of the Comintern and other similar organizations essentially put the same purpose as the modern soft power. In the post-Soviet period to support the population of the state's policy, as well as during election campaigns in a competitive political struggle widely used variety of political strategies, including "black PR" as manipulating voters, campaign to create a negative image of the competition, the organization of public scandals, the use of compromising.

Defining information as a force in the Joseph S. Nye famous work "soft power". Means to achieve success in world politics "(2004) emphasized that today most of the world's population has access to that power. Therefore, the locus of control (what to look for) , and not the infor-

mation itself is becoming a scarce resource. At the same time the most important source of soft power becomes trust, reputation. Governments compete for credibility not only with other governments, but also with a wide range of alternatives, including the news media, corporations, non-governmental and intergovernmental organizations, networks of scientific communities [2].

Diplomacy, often playing a key role in achieving the desired results in the international arena, inferior place in the country's Public Diplomacy, social networks and other institutions of the civil society, really shaping public opinion and social activity of people. Public diplomacy, as the interaction with non-governmental organizations and individuals, including daily and strategic communications, long-term relationships with key individuals through scholarships, exchanges, training, seminars, conferences, and access to media channels [2, Joseph S. Nye]. However, the decisive influence in this, in my opinion, have the social conditions and quality of life, the actual reality, not opening sometimes beyond the boundaries of his native settlements (Kuschevskaya, Busan, Anderma, Arkhangelsk, Dixon, Murmansk, Tiksi, etc., and not bureaucratic or virtual reality.

Broadly speaking, the soft power of the methodology managed to influence the consciousness and emotions of people in the society to the beginning of the XXI century comprehensively worked in management, marketing, conflict management. This promotion and protection of the image (the image) of all types of organizations: PR - PR, public relations (PR), PR-promotion. OAO "Gazprom", "Rosneft", "Atomflot", JSC "Sevmash" and other organizations today to create and promote a positive image of the professional use their Internet sites. A good example of branding territories in the Arctic show Nenets and Yamal-Nenets Autonomous District. Not very good Arkhangelsk region with promoting discussion ambiguous brand "Pomerania" in Norwegian actually transform tool of soft power, as indeed the Barents Euro-Arctic Region.

For soft power in the XXI century is still relevant complex a variety of marketing communications: advertising, Internet, TV, radio, press, point of sale, logo design and packaging, printed products of the Viral marketing uses anecdotes, links, videos, send each other; guerrilla marketing – is the impact on small groups, word of mouth ("CBOs") – is the dissemination of information from person to person in the process of the personal communication. Today, these methods are added to social networks on the Internet, cheating hearts and likes (I like it) in contact programmed polls, photos, comments, and other methods of forming public opinion, mobilize volunteers "color revolutions", participants of the protests.

In one way or another above the levers of soft power, the information war for the Arctic resources and space involved in the practice of the Barents Euro-Arctic Council, Arctic Council, a unified network of University of the Arctic, environmental and human rights organizations, associ-

ations of indigenous peoples and other stakeholders with relation to the Arctic macro-region. Soft power of exogenous origin arises when a country draws its culture, political ideals and programs, creates a positive image of the geopolitical state. Succeeded in European countries and the USA. But Russia, I think, has made a qualitative leap (success of Russian diplomacy for a peaceful settlement of the conflict in Syria, priority positive conservative family values, internal social stability in crisis situations, social cohesion, scientific reassessment of the historical past, a gradual withdrawal from the historical myths and etc).

Most impressive successes in the Arctic through peaceful expansion⁶, use soft power to increase their polar domains (onshore and offshore) in the XX-XXI centuries reached Norway (Svalbard - Svalbard, Jan Mayen, and others). Following the approval of the Norwegian proposal by the UN Commission on the Limits of the Continental Shelf of the year 09.04.2009 Norway managed to legalize their shelf increment by 235 thousand km². Treaty between Russia and Norway on maritime delimitation and cooperation in the Barents Sea and the Arctic Ocean, ratified in 2011, divided the disputed area with a total area of about 175,000 km² in two equal parts. As a result of ownership Arctic Norway is already more than one million square kilometers (1,068 km²). Scale peaceful Norwegian expansion in XX-XXI centuries in the Arctic have no analogues in the world and very significant for such a small population of the country.

Classic example of the ability in practice to achieve the desired based on the voluntary participation of allies, not by coercion or handouts, take a worthy place in the history textbook of the Arctic, the visit of former U.S. Secretary of State Hillary Clinton in Norway. After negotiations of Clinton at a joint press conference June 2, 2012, then-Minister of Foreign Affairs J. Store Norwegian town Tromsø proclaimed "capital of the Arctic", and the U.S., its main NATO allies, the leading state in the Arctic [3]. Solovetsky forum in turn called in September 2012 Arkhangelsk capital of the Russian Arctic. However, allies in Russia in Archangel unfortunately almost was not, interregional integration and solidarity Arctic we completely absent, losing competition between Arctic cities (Murmansk, Salekhard) and the subjects of the Russian Arctic.

Meanwhile, ostre spears soft power of other states in the Arctic today directed uniquely against Russia. According to the president of the Academy of Geopolitical Problems, Doctor of History, Professor, Colonel-General LG Ivashov twenty-first century, despite the declared end of the "cold war", not for humanity became more stable and secure. In the epicenter of the international

⁶ Экспансия (от лат. expansio — распространение, расширение) понимается как территориальное, географическое или иное расширение зоны обитания, или зоны влияния отдельного государства, народа, культуры, или биологического вида, осуществляемое как мирным путём, так и военным с применением вооруженной силы и ведением военных действий для захвата территории другого государства.

tension out energy problems. Acute shortage of energy, with a vibrant development of the eastern economies and increasing energy Western countries, Latin America and the Islamic world, has led to confrontation is not individual countries, but civilizations and regions. Powerful challenge concerning Russian Arctic throws, forming new threats to its security. In the Arctic region in geopolitical relations system develops bipolar model - Russia and all the other candidates [4].

Ecology as the instrument of the soft power in the Arctic

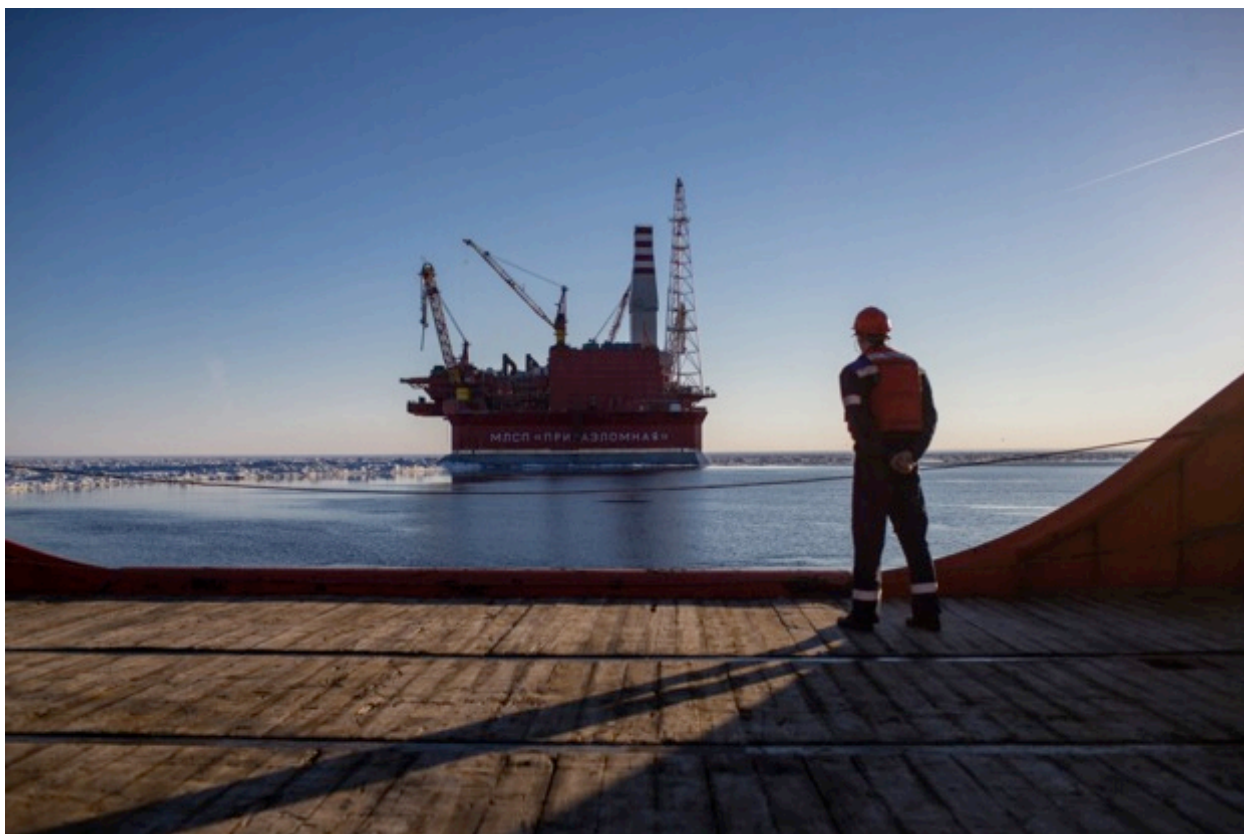
One of the main instruments of the soft power in the Arctic has actually become ecology. Examples of the real problems with environmental protection, environmental hot spots as a soft power to exert pressure on the Russian government more than enough. Twice, for example, in August 2012 and in September 2013 the Russian platform "Prirazlomnaja" on the Pechora Sea shelf was exposed to attacks of the international organization Greenpeace. To achieve in general good purposes environmentalists chosen within the "soft power" actions similar whether on piracy, whether on hooliganism. Stop the actual operation platform "Prirazlomnaya" such shares Greenpeace could not, but the universal virtual noise in the press, the Internet has turned out well.

It is possible that the main objectives was to put shares Greenpeace Russia image losses, forming a negative image of the leading Russian campaign "Gazprom" and braking the Russian shelf in the Arctic. However, this did not happen.

"Gazprom" in its press release, December 20, 2013 reported that really started oil production at Prirazlomnoye. This is the first project in the history of Russian resource development of the Arctic shelf, the beginning of large-scale work of "Gazprom" in the region to establish a major center of the production of hydrocarbons [5]. Shipment of the first tanker with oil Prirazlomnoye expected in the first quarter of 2014, total for the year is expected to produce at least 300 tons of oil, and the planned production level of about 6 million tons per year will be provided after 2020.

The Arctic oil with the environment in mind requires huge expenses necessary to pay for everything, do not give an absolute guarantee that cost recovery and profit. The total cost of the project to develop Prirazlomnoye estimated, for example, 200 billion rubles. This amount includes the cost of the platform (65 billion rubles), infrastructure, and construction of a special fleet of four vessels, including two ice-class tankers. In so far invested about 100 billion rubles⁷.

⁷ Газпром начал добычу нефти на платформе «Приразломная» с 10-летним опозданием. URL: [http://www. news-ru.com/russia/20dec2013/gazprom_print.html](http://www.news-ru.com/russia/20dec2013/gazprom_print.html) (дата обращения: 01.01.2014).



Pic. 1. Prirazlomnaya. URL: <http://www.gazprom-neft.ru/upload/medialibrary/419/AVD40858b.jpg>

Risks associated with operating platform "Prirazlomnaya" in harsh Arctic conditions are inevitable⁸. But Gazprom and taken measures to drilling safety and oil shipments under increased public attention to them credible⁹. "Gazprom" argues that "Prirazlomnaya" – is a unique platform designed to operate in the extreme conditions, namely in the Russian Arctic shelf¹⁰.

Greenpeace position is a total ban of oil production in the Arctic. Kumi Naidoo, executive director of Greenpeace International, said more 24.08.2012: "The Arctic –is not the place for oil. We want to be heard. And if it is necessary to carry out the action - we will do it"[6]. Greenpeace seeks to build a global reserve in the Arctic, as well as a ban on oil and commercial fishing in the Arctic waters.

With your Greenpeace solidarizes with Higher School of Economics S.A. Medvedev, who said: "In good, in Russia as in the right and not an irresponsible owner Arctic is necessary to select

⁸ Моделирование поведения разлива нефти при эксплуатации МЛСП «Приразломная». Оценка возможности ликвидации чрезвычайных ситуаций, связанных с разливами нефти. 14 августа 2012 г. URL: <http://www.greenpeace.org/russia/ru/press/reports/14-08-2012-modelirovanie-razlivov-nefti/> (дата обращения: 01.01.2014).

⁹ В аварийно-спасательный флот у «Приразломной» вошло третье судно. 14 января 2014. URL: http://www.arctic-info.ru/News/Page/v-avariino-spasatel_nii-flot-y--pirazlomnoi--voslo-tret_e-sydno (дата обращения: 17.01.2014).

¹⁰ Морская ледостойкая стационарная платформа «Приразломная» — уникальный в своем роде проект. А уникальность познается в сравнении: «СН» оценила достоинства и недостатки конструкций морских буровых. URL: <http://www.gazprom-neft.ru/sibneft-online/archive/2013-december-projects/1096788/> (дата обращения: 01.01.2014).

and pass under international jurisdiction like Antarctica with a total ban on economic and military activities" [7]. According to Sergei Medvedev, Russia will lose the war for the Arctic due to the effects of environmental disaster, there is already happening and can turn into a catastrophe. Later, he clarified his position that offers not a rejection of the sovereignty of States within the existing borders and territorial waters and exclusive economic zones, the economic and military activities in the Arctic (Vedomosti.ru 04.10.2013). Higher School of Economics offers do Arctic global nature park, where all States will be prohibited mining, any economic activity, as well as the introduction of weapons. Such a restrictive position really reflects some spectrum of the public opinion. At the 14th Solovetsky Forum (2011), for example, sounded a warning about a possible "revenge bowels" - in the Arctic seismicity problems encountered in the production of hydrocarbons.

Not only in the public mood, but also in business there are more supporters to freeze production of hydrocarbons in the Arctic shelf. Companies should not to drill for oil in the Arctic because of the high reputational risk - said in September 2012, the newspaper The Financial Times head of the French Total Christophe de Margerie ¹¹. After a gas leak on an oil platform in the North Sea (March 2012) French Total abandoned offshore drilling and urged competitors, given the risks, it is better not to touch the Arctic unnecessarily. Suspended in 2013 its activities in exploration and drilling in the Chukchi and Beaufort Seas company Royal Dutch Shell. Not began to develop offshore oil fields in Alaska British BP, estimating all the costs to comply with environmental standards. And frozen until the Shtokman project.

Arctic Council, in turn, adopted May 15, 2013 panarctic document "Agreement in the field of preparedness for marine oil pollution in the Arctic and to deal with it" ¹². And on the eve of the meeting of the Arctic Council 15 indigenous organizations signed a joint statement against oil development in the Arctic.

In light of the emerging issues in the Arctic in the extraction of hydrocarbons is very important systematic analysis of threats and opportunities to prioritize activities that are not in the plane of virtual reality, but in reality. Vasily Epiphany, Deputy Director of Research Institute of Oil and Gas Institute, without underestimating all existing risks, notes, for example, that at the stage of oil production in the world is 1.3% of pollution and accidents due to leaking pipes and Oceans gets about 35% of petroleum products. Greater danger is posed by oil spills from tankers trans-

¹¹ Французский нефтегигант раскритиковал бурение в Арктике. URL: <http://lenta.ru/news/2012/09/26/total> (дата обращения: 04.01.2014).

¹² AGREEMENT on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic. URL: <http://www.arctic-council.org/index.php/en/events/meetings-overview/kiruna-ministerial-2013/784-illustrated-versions-of-kiruna-documents-available-2> (дата обращения: 03.01.2014).

porting these risks increase. In 2020, the year in the Russian Arctic is expected to transport by sea 50-80 million tons of hydrocarbons, which means from 750 to 1100 flights tankers [8].

Problems of the development of the Arctic resources is enormous, the risks of oil and gas transportation are enormous. One of the main causes of the accidents, spills is the human factor. Obviously, that does not need much emotion, a strictly adjusted balance economy and ecology; dialogue between the government, business, society and constant monitoring, training and the development of the professional competence of all personnel, monitoring and implementation of other protective measures during production, transportation of hydrocarbons in the Arctic. Po-suschestvu such activities , especially public openness will be the best answer any soft power on the other side, which is under attack.

Struggle for North Pole, Continental shelf

The North Pole to the XX-XXI centuries actively developing Russian. In 1937, here the world's first research station "SP-1" raised the flag of the Soviet Union.



Pic. 2. Circumpolar arctic area around the North Pole.

URL: http://www.victory-cruises.com/graphics1/map_route_pole.jpg

In 2012-2013. number of drifting research station "North Pole" has already reached forty ("SP-40")¹³. This year, problems with financing "SP-41"¹⁴. Due to changes in the ice conditions in the Arctic The Russian government allocated 1.7 billion rubles for the construction of self-propelled drifting ice-resistant platform for future plants [9].

August 17, 1977 atomic icebreaker "Arktika" the first time in the history of navigation reached the North Pole on the surface. Today, the journey to the North Pole, including nuclear-powered icebreakers, became expensive tourist trip.

In 1962, the Soviet nuclear submarine K-3 "Leninsky Komsomol" surfaced at the North Pole and hoisted the flag of the USSR. Prior to this, in 1958 the North Pole submerged submarine passed American "Nautilus" SSN-571. This peacefully-Arctic military rivalry is still going on. Submarine K-410 "Smolensk" in 2014 will make the ascent to the geographic North Pole.

One of the most famous commercial projects in recent years Steel Arctic drifting station "Barneo" which operated in 2013 for the seventh time (Fig. 3). Boyarsky V.I., Director of the Russian State Museum of the Arctic and Antarctic, said its effective reference point of the Russian presence in the Arctic.

To a large extent these and other projects, all polar expeditions of the USSR-Russia and other countries have had and have not only scientific, economic, military significance, but play an important role in creating a positive image of their state as part of soft power.

From Russia perhaps the most visible manifestation of the soft power in the Arctic, a major scientific achievement was the expedition "Arctic - 2007" under the direction of A.N. Chilingarov. August 2, 2007 at the North Pole were committed in two dives of "Mir". During this dive people first reached the ocean floor beneath the North Pole. There's a team of "Mir-1" was set flag of the Russian Federation made for the longevity of titanium alloy.

The emergence of the Russian flag on the Arctic shelf excited world's leading media. U.S. State Department spokesman Tom Casey, commenting on the results of the Russian expedition "Arctic 2007" stated that this fact has no legal meaning or effect for RF applications at Offshore¹⁵. Even more irritation expressed F.M. Peter MacKay: "The yard is not XV century. You can not pass

¹³ Дрейфующая станция «Северный полюс-40». URL: <http://www.aari.nw.ru/news/text/2013/BAЭ300513.pdf> (дата обращения: 02.01.2014).

¹⁴ Росгидромет просит правительство помочь возобновить работу станции «Северный полюс». 15 января 2014. URL: http://www.arctic-info.ru/News/Page/minfin-otkazalsa-platit_-za-izycenie-arktiki (дата обращения: 17.01.2014).

¹⁵ США отрицают юридическое значение флага России на дне океана. 3 августа 2007 г. URL: <http://www.vz.ru/news/2007/8/3/98524.html> (дата обращения: 02.01.2014).

through the world, set some flags, and then say: "This is our territory"¹⁶. Such a reaction was quite expected and direct evidence that Russia used very effectively if its soft power.



Pic. 3. Boyarsky V.I. Russian ice base "Barneo". – SPB, 4 December 2013

Many countries in the global society started after the event vying to claim various kinds virtual claim to the Arctic area. In the world press started talking about that in the confrontation between Russia and the West seem to have opened a new "arctic front" called polar expedition - 2007 "provocation". However, nobody in the world has still not done anything like this , not again reached Russia in the Arctic Ocean results. Russians are proud of their country for this and other expeditions in the Arctic , as well as the first flight of Yuri Gagarin into space.

¹⁶ URL: http://www.rian.ru/trend/expedition_Arctic_North_Pole_310707/ (дата обращения: 10.09.2008)

Real Russian presence in the Arctic in a variety of the shapes and forms, not excluding the virtual reality as a manifestation of the soft power of the state, certainly meets the national interests of Russia.

The Arctic shelf – is «the amin bone of contention»

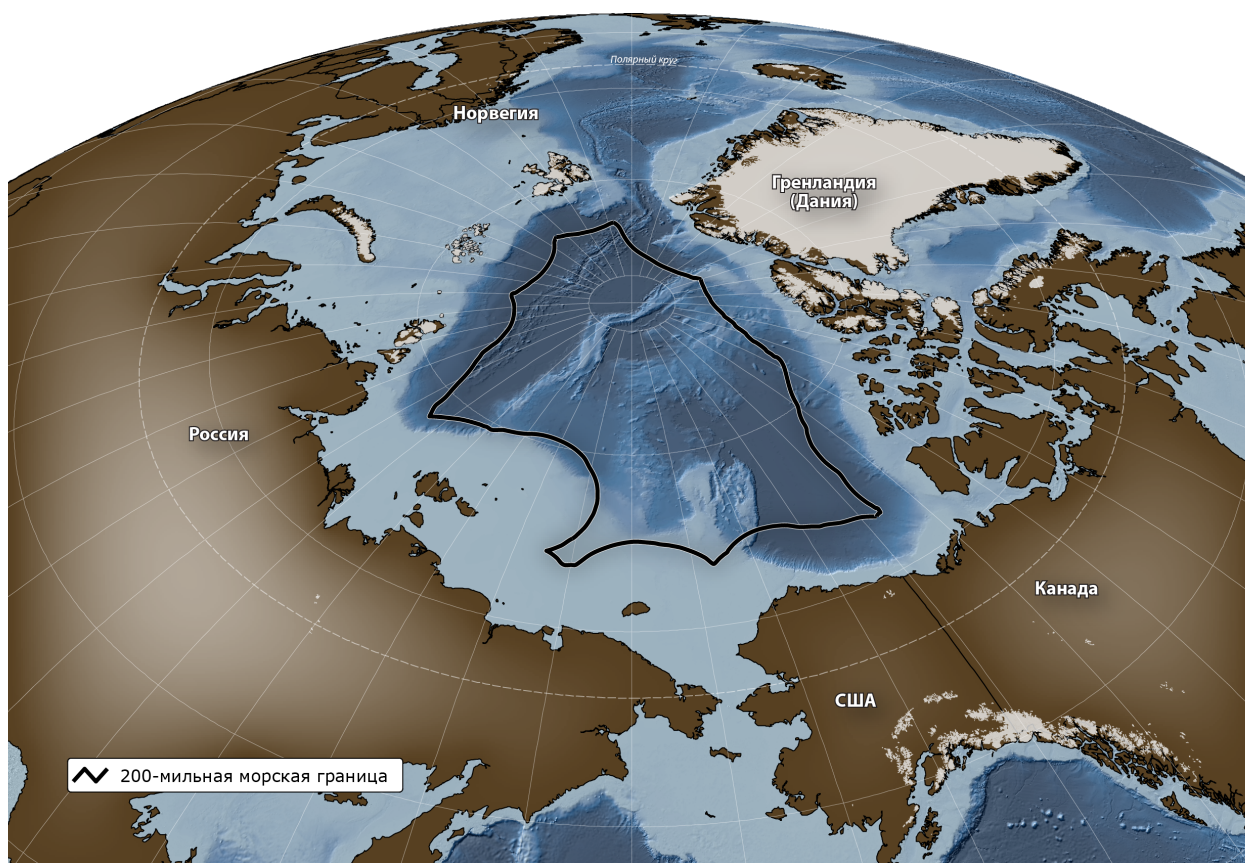
Continental Arctic shelf, the sea bottom of the Arctic Ocean is now the main problem of the Great Arctic geopolitical redistribution in a peaceful war for the Arctic resources, space and transport communications. It is important to emphasize that the national interests of the Arctic states largely realized being quite legitimnoý the basis of international law of the sea in full compliance with the 1982 UN Convention on the Law of the Sea - United Nations Convention on the Law of the Sea (UNCLOS).

Four states having coastline in the Arctic Ocean (Canada, Denmark, Norway, Russia) on the basis of the international law legitimately established their exclusive economic zones, law extends its sovereignty and jurisdiction over the internal waters, territorial sea and airspace above them, struggling under existing law beyond the boundaries of the continental shelf. Besides the U.S., have not ratified UNCLOS and thus effectively as if ignoring the international law of the sea. There is the powe in the Arctic, so why do we need the right in the Arctic? However, claims one of the leading powers of the world to the continental shelf will be legitimate if it is a State ratifies the UN Convention on Law of the Sea, and will issue an application to the UN Commission on the Limits of the Continental Shelf.

As a result, determining the boundaries of the EEZ in the central part of the Arctic Ocean Arctic formed space, the so-called zone of the United Nations or international waters, circumpolar enclave located outside the exclusive economic zones of the Arctic states.

The area of the international waters in the central Arctic Ocean is 2.8 million square feet. km. Figures 4, 5, 6, you can see what kind of the circumpolar waters of the Arctic Ocean is about and who it claims to ocean space with the current position of the UN Convention on the Law of the Sea in 1982, with a claim to the continental shelf of the Arctic.

Thus there is a need to resolve the conflict between Denmark, Canada and Russia in connection with their claims on circumpolar waters, or rather on the seabed in this area circumpolar Arctic Ocean. How to resolve conflict with the boundaries of the continental Arctic shelf - today we do not know and can only predict the various options. Here there is an element of uncertainty or of the diplomatic reticence, incompleteness negotiations.



Pic.4. Skott Hailimen, Director of the International Arctic Programme Charity
Pew. Protection of the Arctic fisheries.

URL: <http://russiancouncil.ru/arctic2013/presentations/> (Date of access: 22.12.2013).

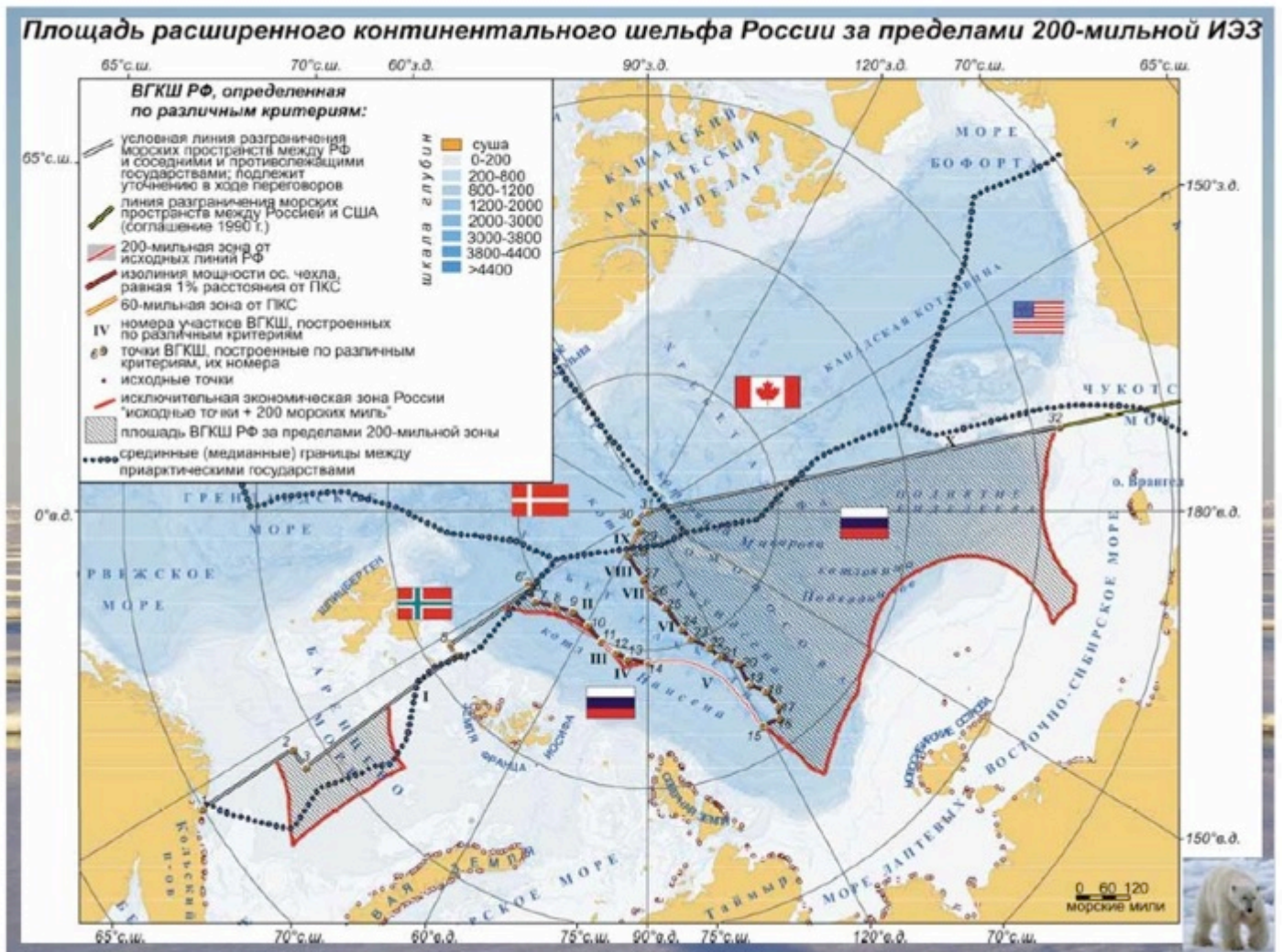
It is currently completing a long period of the perennial Arctic countries work expeditions, research in the XXI century in the waters of the Arctic Ocean. To prove that kontinentalnyĭ shelf extends beyond the exclusive economic zone of Canada, Denmark, and Russia must submit a well-designed according to the rules in the Commission proposal OON CLCS, as did Norway, the application of which was granted in 2009.

Due this date to December 7, 2013 a request to the UN Commission filed Canada. At a press conference in Ottawa 12/09/2013 Canadian Foreign Minister John Baird and Minister of the Environment Leona Aglukkaq made the clarification on the content of the application. Canada claims to continental shelf in the Atlantic and all scientific work is completed. However, if the science is over the Atlantic, the Government of Canada presented by the Arctic only the most preliminary information ("preliminary information"). Claim to the North Pole, on natural resources beyond the 200 -mile EEZ is not yet supported by science. At a technical briefing on the same day experts Natural Resources Canada, the Department of Fisheries and Oceans and Foreign Affairs tried to explain why the Canadian Arctic application was incomplete, despite years of work and tens of thousands of kilometers of the mapped Arctic seabed". The goal is, of course, to get the

most extensive continental shelf of Canada", - said the lawyer Hugh Adsett. And added that they do not know how much work there is to do, and the government is in the process of trying to understand it [10].



Pic.5. Alexey Ivanov (Institute of the Earth's Crust SB RAS, Irkutsk). Again on the Arctic shelf. URL: http://www.e-reading.by/bookreader.php/136209/Troickiii_Variant_2009_%202342_%202824-11-2009%2029.html. State of the Arctic region, the spread of their 200-mile zones and potential areas beyond 200 miles, which can claim these states. Bold red color allocates disputed regions between Canada, Denmark and Russia. Diagram taken from the site www.dur.ac.uk/ibru/resources/arctic/Research_Centre_at_Durham_University's_international_boundaries (IBRU, Durham University).

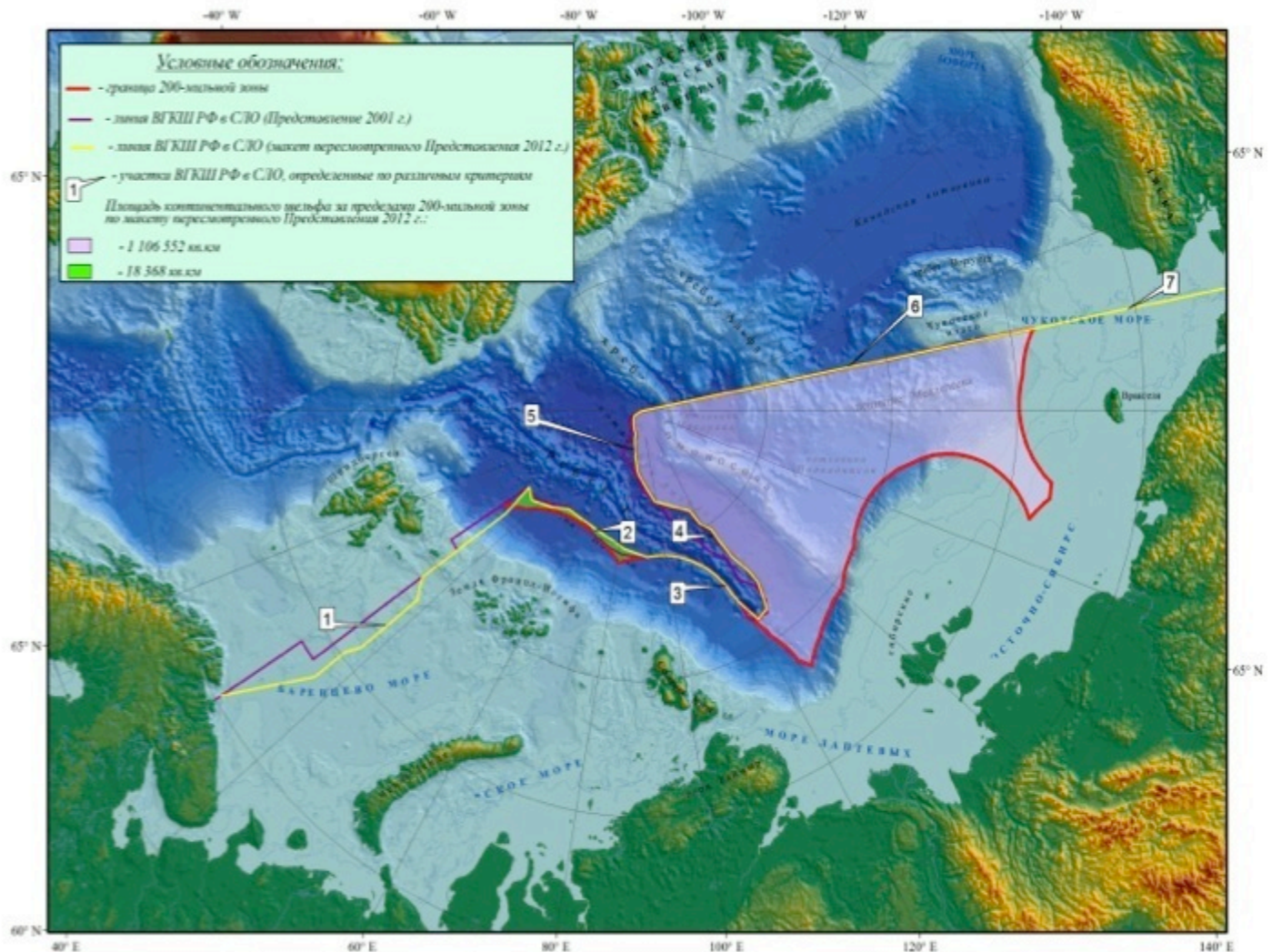


Pic.6. Kaminskiy V.D. Deep structure of the central Arctic Basin (in connection with justification outer limits of the continental shelf of the Russian Federation and the assessment of hydrocarbon resources). 8 June 2010. URL: http://www.ocean.ru/index2.php?option=com_docman&task=doc_view&gid=274&Itemid=78 (Date of access: 10.12.2013).

Such positioning is dramatically different from the optimism that had earlier expressed Dr. Jacob Verhoef, Natural Resource Canada's head of Arctic mapping, in a report in 2011. Quantity and quality of data has exceeded our initial expectations - with delight when he wrote. Canada, he said, was ready to present its external borders of the extended continental shelf and substantiating information [10]. In December 2013 officials have not been able to answer, what has changed since 2011. If we assume that in 2011 there was the usual PR, ie elementary use of soft power, in 2013 and returned to Canada boomerang several ruined his reputation. What may be a claim to the North Pole, if there is no scientific evidence, the real facts? Can not always promote only virtual reality, in fact, not supported by the image of the Arctic states.

I think our readers quite naturally interested in the question of whether, and if today Russia is ready to re-imagine the UN Commission on the Limits of the Continental Shelf refined its se-

cond bid? Russian scientific organizations in 2002-2013 spent a whole lot of work on the study of the Arctic Ocean and received materials to clearly justify Russia's claims to the continental shelf in the Arctic beyond its exclusive economic zone.



Pic. 7. Kaminskiy V. D. The model of the Russian layout of VGKSH in the Arctic Ocean in 2013.

V.D. Kaminsky, director of the FSUE "VNIIOceanic named after I.S. Gramberg" at a conference in St. Petersburg, December 4, 2013 stated that the layout of the application is ready (Fig. 7) and is being coordinated by the Government of the Russian Federation.

Arctic pact - XXI, Arctic summit, reorganization of the Arctic Council ?

In 2014 - 2020 years of struggle for the Arctic shelf, the sea bottom for the Arctic Ocean and for the Arctic resources is entering its final phase. According to Deputy Prime Minister Dmitry Rogozin, the Russian government today "unfolds the whole battle is still virtual, but serious players" for who first foothold in the region "not verbally and physically". [11] Hot war in the Arctic de

facto useless. But to sit and wait, as they say here, "idly in vain" Russia of course there will not be.

Russian Defense Minister Sergei Shoigu said that the most important task for the War Department in 2014 is the development of infrastructure in the Arctic, the deployment of the National Center for the Defense of the Russian Federation¹⁷. Russian army and navy began to receive modern equipment and weapons, including submarines of the fourth generation. Arctic modernized network of airfields and communications systems. Ships and support vessels of the Northern Fleet (NF) continue to actively explore new areas of navigation in the Arctic. In the summertime 2014 several detachments of ships SF made incursions in the waters of the Kara Sea and the Laptev Sea, than to continue in 2012 started work on the new sailing areas in the Arctic Ocean. Planning studies in the area of Severnaya Zemlya archipelago. Continue the study of navigation and hydrographic conditions, proofreading maps and marine sailing directions, meteorological observations, examination of the geodetic stations in the Arctic and check their links, as well as to explore the possibilities of navigation neledokolnogo class in high latitudes in ice conditions favorable for the period¹⁸. These and other measures will take control of the situation and the space in the Russian Arctic.

NATO statement on cancellation of the plans for the direct military presence in the Arctic can be taken at the same time taking into account the evolving reality "of the actual situation, only as part of a virtual reality of the soft power in the Arctic region. And nothing more. Post-Soviet Russia, bitter experience of previous promises declarative NATO after the collapse of the USSR, simply has no more right to take seriously such statements with permanent use of the "double standards".

"National Strategy for the Arctic region" (May 10, 2013) defines the CSHA Arctic nation and proves as a first priority security in the Arctic, covering a wide range of activities, improving the knowledge of the activities, conditions and trends in the region, which may affect the safety, environmental or commercial interests. U.S. seeks to increase the corresponding sea, air and space capabilities, safe transit, development of the necessary infrastructure Arctic. Declared the preservation of the Arctic region as a zone free of the conflicts. Work of the Arctic Council is used as a tool for promoting U.S. interests. [12] U.S. Navy wants to spend nearly \$ 8 billion to strengthen

¹⁷ Министр обороны России генерал армии Сергей Шойгу провел первое в новом году селекторное совещание URL: http://function.mil.ru/news_page/country/more.htm?id=11888945@egNews (дата обращения: 17.01.2014).

¹⁸ Одна из приоритетных задач Северного флота в новом году – дальнейшее освоение Арктики. URL: http://function.mil.ru/news_page/country/more.htm?id=11883864@egNews (дата обращения: 17.01.2014).

presence in the Arctic, to build 10 new icebreakers provide coverage of the Arctic zone satellite constellation¹⁹.

U.S. military same strategy (NMS-2012) as a whole is aimed at global superiority (global leadership) [13]. According to military experts, the most effective way to proceed against Russia CSHA elected concept drawing of the first "preemptive strike" in the Arctic region, which is the basis not ballistic nuclear missiles and precision-guided weapons systems and non-traditional technologies (drones, robots, ships with hundreds of long-range arsenals cruise missiles, missile defense system). System - network operations are covert destabilization for six subsystems defining national development and defense of the Russian Federation: political, military, economic, social, infrastructure and information [4, L.G. Ivashov].

In other words, the rate in the war over the Arctic resources, space and communication is done by a combination of methods of application of hard and soft power. I think that down the real situation in the Arctic conditions in the world requires monogopolyarnogo discuss and develop possible options for the restructuring the Arctic Council and the conclusion of a comprehensive pan-Arctic agreement.

In the event of the conflict in the Arctic for their prevention and resolution is possible and necessary to use a batch approach. Prisoner in 2010-2011. treaty between Russia and Norway clearly demonstrated the presence of the public demand package approach to the delimitation of the Arctic continental shelf in the Arctic Ocean, referring to the contentious issues of Spitsbergen, fishing, military threats. Therefore, in the negotiation process, it is important to seek to conclude agreements, system including not only concerning the attribution of the continental shelf of one or another of the Arctic states, but the search for a balance between economy and ecology in the Arctic environment, conservation of the biological resources, fisheries control, making joint concerted action in the prevention of marine oil pollution in the exploration, production and transportation; problems demilitarization of the Arctic macro-region. This will be vital real arctic package.

Not excluded the probability of making "Arctic pact - XXI" or the Arctic international agreement (treaty) to actually create a multipolar world, which should support at least declaratively entire Arctic G20. Public opinion is quite matured to the conclusion and implementation of such large-scale pan-Arctic Ilulissat Declaration, contrary to the agreement, signed by the short-sighted Russia May 28, 2008 in Greenland, legalized monopoly regional Arctic Five (A5 = Denmark,

¹⁹ Американские ВМС хотят потратить почти \$8 млрд на усиление присутствия в Арктике. 15 января 2014. URL: http://www.arctic-info.ru/News/Page/amerikanskies-vms-hotat-potratit_-pochti-8-mlrd-na-ysilenie-prisytstvia-v-arktike (дата обращения: 17.01.2014).

Canada, Norway, Russia, USA). Interest in the region among the several dozen other states monopolize impossible without creating new tensions artificially.

Finland, with an eye on the upcoming transition in 2017 to her presidency of the Arctic Council, made a very important initiative. Finnish Prime Minister Jurki Katainen proposes to hold in 2017-2018 Arctic summit of the presidents are the permanent members of the Arctic Council and observer countries. He also considers it possible to move forward in the Arctic Council to transform the organization, on the basis of the existing contract. Yu.Kataynen confident that in the coming years, the Arctic Council will acquire a greater global role:"Finland strongly supports the Council, emphasizing its global role and supporting efforts to involve stakeholders from outside the Arctic in his work "[14].



Jyrki Katainen, Prime Minister of Finland (Photo: Thomas Nilsen)

Russian diplomacy would be illogical to reject the proposed upgrade options of the international relations and conflict resolution in the Arctic, including the development pact «Arctic pact-XXI», the transformation of the Arctic Council in A5 regional organization of global importance A20, other possibilities. Otherwise, the problem of thenpeaceful partition and Arctic exploration will not be solved and the embers will smolder Arctic conflict for a long time, threatening at any moment turn into flames of a bonfire with unpredictable consequences in a changing world.

Conclusion

Introduction to the scientific revolution actual conceptual notions, bureaucratic and largely virtual reality allows us to understand the mechanics of using soft power in the Arctic. Different novel approaches to the definition of a system of soft power and its manifestations in the real Arctic macro-region.

Deserves attention and constructive discussion of the question of the «Arctic pact-XXI» with the involvement of the Arctic G20 (Arctic Council comprising eight countries - members and 12 states - observers). And also on the initiative of Finland and Arctic Summit transformation Arctic Council in the organization of global importance.

Of course, the problems discussed is not reduced to the publication. The article does not address issues of culture, education, real state and status of indigenous people, problems of cultural, ethnic, religious identity, and many others, are used as instruments of soft power and the creation of virtual reality in the Arctic macro-region, mainly directed against Russia.

I hope that the article will be used as a resource and allow more than once to return to the virtual reality of soft power in the Arctic and to the assessment of the evolving Arctic waking in the journal "Arctic and North".

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INFORMATIONAL RESOURCES

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НОВОЕ ИЗДАНИЕ О МЕМОРИАЛЬНОЙ КУЛЬТУРЕ ЖИТЕЛЕЙ КОЛЬСКОГО СЕВЕРА

NEW PUBLICATION ABOUT MEMORIAL CULTURE OF THE KOLA NORTH INHABITANT



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Аннотация. В статье представляется новое издание «Человек – место память: Мемориальная культура старожильского населения северных районов Кольского полуострова в условиях социальных трансформаций»

Ключевые слова: мемориальная культура, места памяти, интервью, устная история

Abstract. New publication «Man – place – memory: Memorial culture old-timer population's the north territories of the Kola Peninsula in conditions of the social transformation» is presented in the article

Keywords: memorial culture, memory places, interview, oral history

In mid-2013, the publishing of Murmansk State Humanities University released a new book - "Man -Place -Memory: Memorial Culture old residents of the northern areas of the Kola Peninsula in the conditions of the social transformation," which describes the form of the memorial culture in the two population centers Murmansk region- and Kola. Teriberka [1].

Editors were P.V. Fyodorov, Doctor of historical sciences, Professor, Vice-rector for research work of Murmansk State Humanities University, and A.A. Malashenko, bibliographer Murmansk State Regional Universal Scientific Library (MGOUNB). They are already known to readers in several joint publications [2, 3, 4]. Research project, the result of which was the work of a memorial dedicated to the culture was carried out in the framework of grants and



RHF together representatives of several institutions in the region - the teachers and masters MGGU, employees MGOUNB and Murmansk Regional Museum (MOKM).

Theoretical bases of different paradigms were modern historical research - memory studies, oral history, the history of everyday life, microhistory. If you choose a concept describing the general direction of the study, provided that the publication can be described as done in line with the social (cultural) anthropology.

The book of P.V. Fedorov theoretically interprets the results of the research. It describes a number of memorial practices that are arranged in a specific sequence: from practices spontaneous memory (censoring impossibility verbalization ritual involuntary verbalization) practices to managed memory (associations, participation in exhibitions, public memuarirovanie installation naive monuments).

Maximally detailed study stages. Interviewing veteran conducted by a single scheme, taking into account differences Cola and Teriberki. Questionnaire for the interviews with informants submitted in text publication contains several blocks. Introductory unit provides general information about the informant (year, place of birth, residence time and the absence of settlement, education and employment of the informant). They allow you to retrieve information about the Settlement and migration activity of the informants. The next set of the questions reveals information about ancestors and family informant. Here including issues related to the functioning of the everyday practices of family communication "in your family in Soviet times there was something Missed speak aloud, discuss with neighbors?". Recorded data on the history of the place of residence, in particular: the event, the founders, etymology, history of division and there are objects.

Relationship of the cultural memory and speech are analyzed by the questions about the use of old words, nicknames and song culture. Rituals of the interest interviewers were weddings, funerals, holidays. In addition, the veteran asked about artifacts that relate to the preservation of the memories. Finally, in the concluding section contains questions related to the possible desire to leave the village, and the question of additional information about the interview. It should be noted reasonableness and correctness of the questionnaire, its adaptation to the informants .

The most important theoretical problem, which stops P. V. Fedorov impact of the social transformation on the memorial culture. In this case, the fixed number of features - the disappearance of the tradition and its replacement by a memorial prose. Also interesting to observe the depth of the memory of old residents - it is not over 100 years old, it does not differ from the displaced and hereditary old-timers. Another observation, which is offered to the reader, is related to

the role of religion and places of memory, representing the local religious history (eg, worship the cross and the Annunciation Church, located in Cole). They carry bonding memory gaps and maintain continuity between generations in times of the social transformation.

Thus, the level of towns (as defined by the author), in contrast to the large memory locations, not less important, as in the story it is possible to hear the old-timers living history.

Thereotical section ends with a kind of the theoretical introduction to the theory of memorial culture . P. V. Fedorov raises a number of levels memorial cycle duration (unstable, with sred-nestoykaya, duration) and describes his step (memorization, commemoration, pseudomemoratsiya, rememoratsiya). The notion of "mnemosfera" within the meaning of live shells land, which is a link between anthroposphere, sociosphere and noosphere. In general, according to P. V. Fedorov, memorial culture can become a new dimension of human knowledge, if it is designed to be versatile study qualitative methodological tools .

Referring to the main content of the book, which presents materials illustrating the form of memorial culture. The first part covers the materials collected by Kola, the second - with the materials. Teriberka. The study involved 15 interviews by respondents Kola and 11 respondents. Teriberka living in settlements not less than 35 years for Teriberki (mostly - 50 years).

Furthermore, P. V. Fedorov and A. A. Malashenkov materials presented in the book museum and library collections. Documents show specificity MOKM memorial culture veteran Cola 1930s - 1940s. This record memories made employee of the museum A. P. Popov¹, memories of old-timers and a letter A. E. Abalyaevoy belonging to the ancient family was exiled to Coke SM Abalyaeva - associate Pugachev. These documents contained memories dating back to the 2nd half of the XIX century and more facts about the ancient history of Coke, the data on the employment residents Cola.

A. A. Malashenkov prepared an annotated bibliography of 57 articles in local periodicals (Kola district newspaper "Polar work" and "Kola word", one article found in the regional newspaper "The Polar Truth") 1930s - 2000s. The article presents the local memories residents, covering the period from the end of the XIX century of 60-ies. XX century.

Through it the old-timers, passed in lyrics verbatim, preserving the style, tempo and emotion reflection becomes visible living person who sometimes disappears behind the official stamps and stationery wording of archival documents. Emotional story opens up the possibility to get

¹ Подробнее о деятельности А.П. Попова в МОКМ [5, С. 33-40].

away from detachment and creates immediacy of perception. Contents memories usually broader than specific questions. Because the facts contained in the answers and are not directly related to the question asked to describe them. But they are also valuable. A man tells his own history. He's one of our contemporaries, living in the northern cities and villages of the Kola Peninsula. However, the story about the history of this man, unknown to most, almost bygone and preserved only in the memory of the old-timers. He does not simply describe a life experience, presents a panorama of the events, perceptions and evaluations. Answering questions tells about another culture and bygone daily life of a society with specific norms, values and relationships between people. For example, whether experienced shocks (repression, war, evacuation) or from past years, but the narrators evaluate their contemporaries in the past, as the bearers of the principles of mutual aid, friendship, humility, optimism [1, p. 89, 111, 314].

Memories informants are mainly related to the pre-war and post-war history of the different localities of the Murmansk region (Kola and Teriberki, encampments and closed military towns) - memory locations family history. But they appear to other regions - Arkhangelsk and Vologda regions, the Republic of Karelia, Kaliningrad and the former Soviet republics. Enumeration locations leads to the issue of migration. It can be considered from two sides: visit to the Kola Peninsula and out of the region. According to the recollections of old-timers fixed that increased migration is observed on the Kola Peninsula in the second half of XX century". To us here < to Kola - KK > drove all Russia . We called them ... Katsap "[1, p. 61]. Departure from the Kola Peninsula have experienced some informants or their families. However, there are opposite situation - despite the possibility of moving to a more southerly region, resident does not leave the North, there is evidence of the return of the South [1, p. 86 , 375]. Memories show content migration within the region: for example, moving encampment families engaged in fishing [1, p. 275-276]. Informants or their children moved to permanent residence in Murmansk. But despite the move, the locality may be a summer vacation, "summer here <in Teriberke - KK> better than there <Murmansk - KK>. Here the sea air here is much better live than in the city "[1, pp. 309]. Memories of one man show the evolution of the relationship to the locality from where the "stuck" to the point "where pulls like home" [1, p. 326, 330].

Places of memory - are not only the settlements, but also familiar objects by name and location only a local , hidden under the earth strata, mostly not preserved houses and churches. According to surveys of the old-timers were created maps and charts Teriberki Cola (they are given in the publication on the colored tabs). They identified 24 neighborhoods toponym Cola. Schematic map Cola commits some areas of the city, which was identified 165 objects. In Teriberke found 79

objects. The vast majority of them did not survive. In his memoirs, created two images Cola - patriarchal, with wooden walkways and houses and modern, in which private wooden houses were replaced panel apartment buildings [1, p. 150]. Memory gives the feel inexorable movement of history through landscape change: "We have a steep mountain was, here's how to Mironov ... now ... there it was razed houses and garages set up", "station itself was not. There was ... a swamp. My father went there, those caught in the winter ... partridges ... "[1, p. 59, 77].

Consumer side also occupies an important place in the descriptions of the old-timers: attract the attention of the objects used in everyday life - kokoshniki, rubber boots, rocker, vintage instruments. Similar to them are stored in the modern museums. In fact, given by the recollections can build a hierarchy of things that help to keep the memory. In many ways these things informant identifies events of his own life, family history, region, country. Among them – are photos, awards, documents, letters, icons and tools. Memorabilia and objects form a memory, make history tangible and real.

Many memoirs contain data on the traditional fisheries. One of the most important among them was fishing. Seines fished traps hiding places for prying tier. The main target species are cod, capelin, salmon. Salmon fishing is often engaged girl [1, pp. 59, 70, 221, 311]. As for the other classes, it is noted, for example, the demand for the specialty masonry [1, 100]. Mentions some games including rounders and now forgotten Shtander [1, 111].

Another level, present texts - a remembrance of important events (weddings, family celebrations, funerals). Their dedicated team aims to identify issues of family memory and rituals. However, P.V. Fedorov said that "attempts to reconstruct a particular ritual, using the memory of informants had difficulties it meaningful description" [1.11]. Informants remembered appeared in the Soviet time holidays: May 1st , November Seventh Day victory. Professional holiday, which is most often remembered informants , Fisherman's Day is : "And the feast < Fisherman's Day - KK > exported to the tractor, these ... beer there, saying all sorts of snacks. This ... danced and danced. Very nice it was "[1, p. 297]. Funeral - already emotionally tragic event. At the thought of them often old-timers reminiscing about music and marching band, noting this is the difference from the present [1, p. 69, 160]. Despite the anti-religious propaganda \, sometimes accompanied by funeral burial service [1, p. 81, 160].

Facts that tell about the history of the local church and religious practices, there are many memories. Religious holidays and ceremonies - Easter and Christmas - were not forgotten during the Soviet era. They kept the older generation of priests and their families [1, p. 165, 167]. As rel-

ics estimated icons available in families [1, p. 189]. Fixed krestovanie – is custom of exchanging breastplates crosses using falls [1, p. 227-228].

A special place in the book is naive memuariraven. Lyrics memories composed V. S. Lopintsevym, E. M. Popova and the resident of Teriberki T. A. Uvarova². In the center of the narrative memoir, describes it as P. V. Fedorov, are "a biography of the memoirist, and relatives, the description of everyday life, place names, local speech" [1, p. 13]. A. A. Malashenkov the example of Coke talks about another form of preserving cultural memory - club activities of the ethnographers "Kolyanom", as well as local history tradition of the city.

The varied material book helps navigate finding aid. This many comments about people, events, vocabulary. The book is a pointer northern Russian vocabulary veteran, name and geographic indexes.

The publication will be undoubtedly useful for the specialists of the different scientific fields. Historian will find data on migration to the Kola Peninsula, collective farms, the repression of the 1930s., Life period of evacuation during the Great Patriotic War. Memories contain estimates of the past and the present views on the historical events and political figures. Many materials researchers will find a church and economic history.

Psychologist interested in fully reproduced the text of memories that can be a source to find out the work of the individual mental processes (memory, thinking, attention), mechanisms of memory (recall, rationalization, forgetting). Sociologist may consider the impact of the social institutions on the individual. Ratings incumbents politicians can be compared with the data of the modern sociological research. Social anthropologist will receive information about the economy and employment, life and everyday residents of Cola and Teriberki .

Philologist attracts various examples of the use in the speech of the local vocabulary. In index -mentioned special veteran northern Russian vocabulary words presented with their derivatives, an explanation is given a value that gave the informant. For comparison, given the interpretation of the famous dictionary I. S. Merkureva [7]. Several informants remembered the nickname of his contemporaries. In his memoirs, recorded A. P. Popov, is an example of the local name Great Bear - Moose [1, p. 43]. Limericks from the collection of resident Cola M. I. Zherebtsova interested in folklor .

² Одним из интересных вариантов исследования было бы сравнение специфики сохранения семейной памяти северных и южных районов Кольского полуострова. Традиции семейной памяти южных районов региона на примере города Кандалакши представлена в публикации 2012 г., подготовленной исследователями Кольского научного центра РАН, О.В. Змеевой и И.А. Разумовой [6].

For the specialists in the social philosophy and theory of the history is significant proposed by P.V. Fedorov theory memorial culture and important generalization of the results of the research. Of course, the particular value theoretical constructs makes the fact that they are based on preliminary fieldwork.

Submitted interview will be of the interest not only to the professional scientists, but also to all readers interested in the regional history, memoirs, everyday.

The value of the collected material in a book is that they have the status of the source whose value will eventually increase.

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ABSTRACTS, KEYWORDS

REGIONOLOGY OF THE ARCTIC AND NORTH: SOCIUM, CULTURE, POLITICS, ECONOMY

© **Burtsev I. G., Burtsev I. N.** Mining industry in the Komi republic: social and economic aspects of the development

Аннотация. Показано современное состояние горной промышленности Республики Коми, выделены основные социально-экономические проблемы. Рассмотрены экономические аспекты ведения горного бизнеса в регионе, потребности будущих горнорудных предприятий в трудовых ресурсах и возможные социальные риски

Ключевые слова: горнорудная промышленность, минерально-сырьевой потенциал, социально-экономические проблемы, маркетинг минерального сырья

Abstract. It is shown the modern situation in the mining industry of the Komi Republic, and it is defined the main socio-economic problems. Economical aspects of the mining business in the region are considered. The needs of future mining companies in labor resources and possible social risks are shown

Keywords: mining industry, mineral resource potential, socio-economic problems, marketing of minerals

© **Vasilieva N. D.** Religion and power in Yakutia: From the history of relations

Аннотация. Анализируется политика советской власти в отношении религии и ее служителей в 1920–1930-х гг. на материалах Якутии

Ключевые слова: религия, священнослужители, политика, повседневность, антирелигиозная пропаганда

Abstract. The article contains analysis of the Soviet regime policy in its attitude to religion during first years of the Soviet modernization

Keywords: religion, priests, policy, every day, anti-religious propaganda

© **Grushenko E. V.** The development of cruise tourism in the ports of the Western Arctic

Аннотация. Анализируется текущее состояние и перспективы морского круизного туризма в российских портах Западной Арктики – Мурманске и Архангельске

Ключевые слова: Арктика, морской туризм, круизные суда, Мурманск, Архангельск, атомный ледокол

Abstract. Analysis the current state and prospects of marine cruise tourism in the Russian ports of the Western Arctic – Murmansk and Arkhangelsk

Keywords: Arctic, marine tourism, cruise ships, Murmansk, Arkhangelsk, nuclear icebreaker

© **Ievlev A. A., Jdanova L. R., Astahova I. S.** Geological and mineralogical heritage of Komi region as a potential for the development of the North tourism

Аннотация. Анализируется сложившаяся в настоящее время в Республике Коми система сохранения геологического и минерального разнообразия в рамках особо охраняемых природных территорий (памятников природы) и музеев геологического и естественно-исторического профилей. Геологическое наследие является потенциалом для развития туризма в северных регионах

Ключевые слова: геологическое разнообразие,

Abstract. Analyzed the currently prevailing in the Republic of Komi saving system geological and mineral diversity in the framework of the specially protected natural areas (nature monuments) and museums of the geological and natural profiles. Geological heritage is a potential for the development of tourism in North regions

Keywords: geological diversity, mineral

минеральное разнообразие, геологическое наследие, Республика Коми, туризм *diversity, geological heritage, the Komi Republic, tourism*

© **Popova L. A., Terentieva M. A.** Employment potential of the Russian North

Аннотация. В статье предложен методический подход к количественно-качественной оценке трудового потенциала региона. Произведен сравнительный анализ динамики трудового потенциала северных регионов России за 2002-2010 гг. Выявлено, какие компоненты трудового потенциала играют наибольшую роль для уровня и динамики интегрального индекса развития трудового потенциала северных территорий.

Ключевые слова: *трудовой потенциал, индекс развития трудового потенциала, частные индексы, северные регионы.*

Abstract. This paper proposes a methodological approach to the quantitative and qualitative assessment of the employment potential of the region. A comparative analysis of the dynamics of the labor potential of the northern regions of Russia for 2002-2010 years. Identified which components of the labor potential play the most important role for the level and dynamics of the integral index of development of labor potential of the northern territories.

Keywords: labor potential, development index of labor potential, partial indices, the northern regions.

© **Tolcheev V. O.** The analysis of the level of the development of the Russian regions on the base of «human development index»

Аннотация. Дается описание индекса развития человеческого потенциала (ИРЧП) применительно к Российской Арктике. Проводится сравнение региональных ИРЧП с помощью методов интеллектуального анализа данных

Ключевые слова: *индекс развития человеческого потенциала, индекс образования, индекс долголетия, индекс дохода, сравнительный анализ российских регионов, методы интеллектуального анализа данных*

Abstract. A description of the human development index (HDI) in relation to the Russian Arctic. A comparison of regional HDI using data mining techniques

Keywords: *human development index, index of education, index of longevity, index of gross national product, comparison of Russian regions, methods of Data Mining and Knowledge Discovery*

SOCIAL SCIENCES

© **Baishева S. M.** The national daily life of the settlements of Yakutiya in the context of the sociological researcher

Аннотация. Анализируются данные социологического исследования в национальных поселениях, которые подтверждают гипотезу адаптированности эвенкийского социума к новым вызовам внешней среды, благодаря их личностно-деловым качествам, способности к выживанию, желанию развиваться в динамически меняющемся мире

Ключевые слова: *Южная Якутия, промышленное освоение, коренные малочисленные народы Севера, традиционные отрасли Севера, этносоциальная адаптация, трансформация общества*

Abstract. The data of sociological research in national settlements that support the hypothesis of adaptation of the Evenki society to the new challenges of the environment, due to their personal-professional qualities, ability to survive, develop desire and dynamically changing world

Keywords: *South Yakutia, industrial development, indigenous peoples of the North, the traditional industries of the North, ethnosocial adaptation, transformation of society*

© **Borisova U. S.** The strokes to the portrait of a resident of the Arctic zone of Yakutiya

Аннотация. Статья раскрывает результаты социологического исследования, в котором приняли участие жители, проживающие в 6 арктических улусах из 8 Республики Саха (Якутия), по основным этнодемографическим и этноязыковым аспектам развития якутского общества в начале XXI в.

Ключевые слова: арктические территории, социологическое исследование, демографические и этноязыковые установки

Abstract. The article reveals the results of the survey, which was attended by residents living in six of the eight Arctic encampments of the Republic of Sakha (Yakutia) of the main demographic, ethno-linguistic and socio-cultural aspects of the development of the Yakut society in the early twenty-first century

Keywords: Arctic territory of the Republic of Sakha, sociological research, ethno-linguistic and socio-cultural processes

© **Gushina I. A., Polojenzova O. A.** Some aspects of the social life in the estimates and beliefs of the residents of the Russian Arctic (Based on polls of the Murmansk region)

Аннотация. В статье представлены некоторые результаты социологического мониторинга населения одного из регионов российской Арктики — Мурманской области. Акцент сделан на оценках материального положения, покупательной способности, самоидентификации, социальном настроении и ожиданиях

Ключевые слова: социологические исследования, самоидентификация, оценки, мнения, социальная стратификация, социальное настроение, покупательная способность, территориальный социум, рейтинг проблем

Abstract. The article presents some results of sociological surveys of the population of a region of the Russian Arctic – Murmansk region in recent years. Emphasis is placed on the estimates of financial position, purchasing power, identity, social mood and expectations

Keywords: case studies, self-identification, evaluation, opinions, social stratification, social mood, purchasing power, the territorial society, ranking problems

© **Osipova O. V.** The changes of the life strategies and economic behavior of the youth in the Arctic (based on Yst-Yanskii region)

Аннотация. Статья посвящена проблеме изменения жизненных стратегий и экономического поведения молодежи Арктики. Анализируются данные социологического исследования проведенного в одном из арктических районов Якутии, пути социальной адаптации молодежи в условиях изменения экономического развития региона.

Ключевые слова: молодежь, адаптация, жизненные стратегии, экономическое поведение, занятость, Арктика, Якутия, Усть-Янский район

Abstract. The article deals with the changes of life strategies and the economic behavior of youth in the Arctic. The data of the survey, we got in one of the arctic regions of Yakutia. The ways of social adaptation of youth in conditions of changing the economic development of the region analyzed.

Keywords: youth, adaptation, life strategies, economic behavior, employment, Arctic, Yakutia, Ust-Yansky municipal district

ECOLOGY

© **Dmitriev V. G.** An estimate of the ecological risk. Analytical review of Publications

Аннотация. На основе обзора современных публикаций в статье анализируется роль моделирования в оценке риска, рассматриваются понятия экологического риска, риска здоровью человека, раскрываются проблемы и методология оценки экологического риска. Все эти вопросы имеют прямое отношение к ситуации в Арктике.

Ключевые слова: обзор, риск, экологический риск, Арктика, вероятностный анализ риска, охрана окружающей среды, экология

Abstract. Based on a review of contemporary publications in the article examines the role of modeling in risk assessment examines the concepts of environmental risk, the risk to human health, reveals problems and ecological risk assessment methodology. All of these issues are directly related to the situation in the Arctic.

Keywords: review, risk, ecological risks, Arctic, probabilistic risk analysis, environment protection, ecology

© **Korbut V. V., Tulskeya N. I., Zekina M. V.** Virtual ecological routes and paths in the natural-cultural geo systems and ecological behaviour

Аннотация. Предложена инновационная концепция виртуальных экологических троп как наиболее мягкий вариант экологического туризма и подготовки к наблюдениям в ООПТ. Это особенно актуально в условиях труднодоступных и легкоранимых экосистем. На основе современных технологий сбора, обработки их хранения информации виртуальные экологические тропы станут важным этапом экологизации мировоззрения

Ключевые слова: экологический туризм, экотропа, экопросвещение, экотон, цифровые технологии, литораль, топонимика

Abstract. The innovative conception of virtual ecological paths as a foremost edition for ecotourism and attendance's preparation in specially protected natural sites was suggested. It's has a vital importance for remote and sensible ecosystems. The virtual ecological paths will be able to important stage of environmentalization of awareness on the base of modern technologies of elicitation, data processing and storage of information

Keywords: ecotourism, ecological path, environmental education, ecotone, digital technology, littoral, toponymy

© **Lukin Y. F.** Virtual reality of the soft power in the Arctic

Аннотация. Впервые актуализируются проблемы фактической, бюрократической и виртуальной реальности при использовании мягкой силы в Арктике. Поднимается вопрос о заключении Arctic pact-XXI.

Ключевые слова: Арктика, реальность, мягкая сила, экология, Приразломная, шельф, северный полюс, Arctic pact-XXI

Abstract. First actualized the problems factual, bureaucratic and virtual reality using soft power in the Arctic. Raises the question of the conclusion Arctic pact-XXI.

Keywords: Arctic, reality, soft power, ecology, Prirazlomnaja, shelf, north pole, Arctic pact-XXI

INFORMATIONAL RESOURCES

© **Kotkin K. Y.** New publication about memorial culture of the Kola North inhabitants

Аннотация. В статье представляется новое издание «Человек – место память: Мемориальная культура старожильского населения северных районов Кольского полуострова»

Abstract. New publication «Man – place – memory: Memorial culture old-timer population's the north territories of the Kola Peninsula in conditions of the social transformation» is

ва в условиях социальных трансформаций» presented in the article

Ключевые слова: мемориальная культура, места памяти, интервью, устная история **Keywords:** memorial culture, memory places, interview, oral history

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