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The Founder is Northern (Arctic) Federal University named after M.V. Lomonosov, Arkhangelsk, Russia. Editor-in-Chief is Elena V. Kudryashova, Dr. Sci. (Phil.), Professor, Rector of Northern (Arctic) Federal University named after M.V. Lomonosov. All journal issues are available free of charge (CC BY-SA) in Russian and English at the webpage of the journal. Rules and regulations on submission, peer reviews, publication and the Declaration of Ethics are available at http://www.arcticandnorth.ru/en/requirements/

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No payments for publication are collected from authors, including students and post-graduate students. Honorariums are not paid.

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Our English webpage is located at http://arcticandnorth.ru/en
We will be glad to see you among the authors of “Arctic and North”!

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The appeal of the editorial office

Dear readers and authors! In issue no. 37 of the “Arctic and North” journal, we published an article by Osipova E.E., Smirnova S.V. and Khairova T.A. “Preconditions for the development of Russian Arctic export, coastal (cabotage) transportation and project cargo for the arctic demand”, where, after the issue, borrowings from the works of the Director of the consulting company “Gekon”, a member of the Scientific Council under the Security Council of the Russian Federation M.N. Grigoryev were discovered without references. Unfortunately, the “Antiplagiat” system, which checks all the articles we publish, did not reveal illegal borrowings.

The Editorial Office asks Grigoryev M.N. to accept apologies for the absence of references or unproperly done references to the materials in the article mentioned above. Soon a revised version of the article appears on the official website of the journal http://www.arcticandnorth.ru/

SOCIAL AND ECONOMIC DEVELOPMENT

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Competence centers for Arctic studies: thesis-based analysis *

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Abstract. The article deals with theses thematic grouping, both following the Russian Arctic zone's areas of socio-economic activity and organizations where they were prepared. Thesis selection on Arctic topics was carried out using morphemes (titles and keywords) of theses defended in 1990–2018. 1.436 of theses were selected, incl. 1.201 for the degree of Candidate of Sciences and 235 — for the degree of Doctor of Sciences amounting to 1% of the total number of analyzed theses. More than 50% of theses related to the Arctic topics were dealing with three principal areas of Arctic socio-economic activity: "water and biological resources", "ecology, climate and people", and "geology and minerals". Researchers' organizations were in 51 different territories of the Russian Federation. Among 503 organizations involved in Arctic research on all topics, the leaders are Lomonosov Moscow State University (72 theses), Murmansk Marine Biological Institute, Kola Scientific Center, Russian Academy of Sciences (62 theses), Knipovich Polar Research Institute of Marine Fisheries and Oceanography (43 theses). The analysis allows us to create an objective list of all organizations — Competence centers for Arctic studies — involved in areas related to Arctic socio-economic activity.
Keywords: *Russian Arctic zone, areas of social and economic activity, region, R&D, thesis, university.*

Introduction

The Arctic is a strategic territory of the Russian Federation, providing mineral resources both the needs of the Russian economy and the demand for hydrocarbons in Europe and Asia. The Arctic zone of Russia includes wholly or partly nine subjects of the Russian Federation, starting from the Republic of Karelia and ending with the Chukotka Autonomous Okrug [1].

The development of the Arctic requires new technologies and materials, the development of which engaged in scientific and educational organizations. Research and development work is in the form of grants from the RFBR, RSF, international scientific foundations, government assignments to subordinate organizations from federal ministries, and scientific and technical projects. The results of these projects are often inaccessible to the scientific community or potential customers of Arctic research. They do not allow choosing the scientific organization most competent in a narrow subject area. At the same time, there is the possibility of an objective ranking of the potential of scientific and educational institutions (Competence Centers) in the field of Arctic research by analyzing dissertations

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[1] Ukaz Prezidenta RF ot 2 maya 2014 g. № 296 «O sukhoputnykh territoriyakh Arkticheskoy zony RF». Sait Prezidenta Rossiyskoy Federatsii [Decree of the President of the Russian Federation of May 2, 2014 No. 296 "On land territories of the Arctic zone of the Russian Federation". Website of the President of the Russian Federation]. URL: http://www.kremlin.ru/acts/bank/38377 (accessed 25 November 2019).

by full-time employees of these organizations [1, Gurtov V.A., Pakhomov S.I.].

The dissertation represents completed scientific research carried out for 3–5 years for candidates and 10–15 years for doctoral dissertations, which is an advantage of the above approach to the selection of Competence centers. When preparing a dissertation, an applicant for a scientific degree of Doctor of Sciences publishes an average of 56 scientific articles in scientific journals on the subject of dissertation research, incl. 22 scientific articles in the HAC list journals, and 4 WoS and Scopus publications. An applicant for the degree of Candidate of Science publishes 12 scientific articles, incl. 5 HAC publications, 1 WoS, and Scopus [2, ed. Pakhomov S.I.]. Scientific research in the organization requires annual R&D financing of about 1 million rubles per one scientific employee. Thus, organizations, where dissertations are completed and then defended, are de facto leading research centers in the subject area.

The purpose of this article is to analyze the thematic distribution of dissertation research in the areas of socio-economic activity in the Arctic zone of the Russian Federation, to group dissertation research by organizations where they are prepared, and the formation of Competence Centers on their basis.

Materials and methods

The basis for the analysis was an array of dissertations for the degrees of Candidate and Doctor of Sciences, defended in 1990–2018. Review of this array for 1990–2000 years was carried out and based on the data of the dissertation fund of the Russian State Library, and for the dissertations 2001–2018, it was based on the database of reports of dissertation councils. The analysis included over 300 thousand prints and made it possible to make selections by keywords and the names of dissertations using specific morphemes.

As a result, the number of dissertations for 1990–2018 was about 2,500. Of these, 1,436 dissertations were selected by the expert assessment method as the ones belonging to the Arctic theme, incl. 1,101 dissertations for the degree of Candidate of Science and 235 for the degree of Doctor of Sciences, which amounted to 1% of the total number of dissertations analyzed.

Selected dissertations were grouped into nine main sections on areas of socio-economic activity in the Arctic territories:

- water and biological resources;
- ecology, climate, and people;
- geology and minerals;
- the medicine;
- economics;
- oil and gas;
- transport infrastructure and construction;
- law;
- pedagogy.

This sample does not pretend to be entirely complete, but it includes the main Arctic topics and publications devoted to Arctic research in the HAC list journals, as well as WoS and Scopus ones.

A significant part of the publications is related to the study of the Arctic aquatic and biological resources. So, in the article [3, Mozhaev E.E.], the author considers a variety of renewable natural marine resources of the Arctic region of the Russian Federation, directly dependent on the currently changing climate. In the next article [4, Gordeeva N.V., Mishin A.V.], the authors consider specific biological resources of the Arctic and provide data on the genetic variation of the Arctic cod Boreogadus pollack in the Kara, Laptev, and East Siberian seas. Climate change issues on the planet [5, Zolotokrylin A.N., Vinogradova V.V.], the impact of global warming on ecology in the Arctic [7, Matishov G.G., Dzhenyuk S.L.], as well as environmental protection issues in the Russian Arctic [6, Doronina A.K.], are always in the focus of Arctic researchers. Geology and minerals in the Arctic zone are no less popular. So, in the article [8, Pronina N.V., Makarova E.Y.], the authors summarized information on the geological structure of coal-bearing sediments in the Arctic, the quality of coal, the main associated minerals, and particularities of tectonic conditions accompanying the process of the coal formation. The article [9, Bogoyavlenskiy V.I., Bogoyavlenskiy I.V.] represents the analysis of various natural and technological threats to the safety of hydrocarbon development in the Arctic, incl. seismic activity, subsidence of the earth and the seabed, gas deposits in the upper part of the section, and gas emissions from the permafrost zone with the formation of large craters.

Also, medical topics are common in publications on the Arctic. The article [10, Gribanov A.V., Anikina N.Y.] examined the features of the reaction of brain energy processes to cold stress in young people — residents of the Arctic zone of the Russian Federation. It was concluded that in girls, adaptive neurophysiological processes associated with the energy supply to the brain proceed more intensely and require higher energy expenditures than in boys. The article [11, Tereshchenko P.S., Petrov V.N.] studied the incidence of the population beyond the Arctic Circle in comparison with the middle zone of Russia. It was noted that morbidity in the Arctic region is more pronounced for such nosologies as diseases of the eye and adnexa, endocrine, and nervous systems.

Due to the enormous economic potential of the Russian Arctic, which plays a significant role in the development of the country, considerable attention of Russian scientists is paid to various problems of economic growth in the Arctic zone of Russia. The article [12, Mitin A.N., Voronin B.A.] presents a methodology for assessing the resource potential of the Arctic, analyses the main elements of its economy, involved in the food supply of not only the Arctic regions but also the country, as well as in export-import operations. In the article [13, Zamyatina N.Yu., Pilyasov A.N.], the authors set themselves the task of developing a new comprehensive theory of exploration of the North and the Arctic, which would be a synthesis of the best achievements of the Soviet school, foreign studies in the field of innovative development. The article [14, Stepus I.S., Shabaeva S.V.] presents a characteristic of the present and future labor market of the Arctic regions, determined by the list of the most popular professions. It is shown that at present, the demand for professionals is due to the dominance of the extractive industries, development priorities of the regions of the Arctic zone of Russia.

The Russian Arctic is the primary source of oil and gas in our country. Therefore, the prospects for the availability of oil and gas deposits in the Arctic regions [15, Savchenko V.I., Stoupakova A.V.], as well as the problems and limitations that arise during the development of the main bowels of the Arctic [16, Ampilov Yu.P., Zhukov O.V.], are covered in many international and domestic publications. Realization of the oil and gas potential of the Arctic entails the need to develop the transport infrastructure of the Arctic territories [17, Tagiyeva N.K., Onegin V.E.] as a key link in the implementation of Russia's strategic plans to involve substantial natural resources and other economic Arctic resources [18, Golubeva E.A.].

The development of the Arctic territories is impossible without regulatory and legal regulation on the part of the state. The publications [19, Leksin V.N., Porfiriev B.N.] examined the fundamental changes in the organizational, managerial and legal support for the development of the Arctic zone of the Russian Federation in connection with the appearance of a new edition of the state program for the development of the Arctic [2] and the creation of eight key development zones in the Arctic zone of the Russian Federation. The approved innovations required a revision of views on the content of the draft Federal Law on the Development of the Arctic Zone of the Russian Federation [3] in the context of the foreign practice of implementing "Arctic law", incl. the development of oil and gas resources on the shelf of the Arctic [20, Todorov A.A.]. The implementation of large-scale investment projects envisaged by the development strategy of the Arctic zone of the Russian Federation on the development of the mineral resource base and the development of transport infrastructure (megaprojects), as well as long-term tasks of the socio-economic development of the Russian Arctic [21, Marfusalova V.P., Sakerdonova A.S.] is not possible without meeting the needs of enterprises of the Arctic zone of the Russian Federation in labor resources [22, Zaikov K.S., Kondratov N.A.].

The diversity, vast array and different level of publications on Arctic topics do not allow us to unambiguously link the authors of publications and the organizations in which these studies were carried out, to take into account all publications of the organization's employees on this topic, and thereby rank organizations according to the level of contribution to Arctic research. At the same time, the requirements for dissertation research are the same for applicants of a scientific degree, regardless of the branches of science and organizations. Thus, the organizations based on which full-time employees carry out and then defend their dissertations are the centers of competence for Arctic research.

[2] Postanovlenie Pravitel'stva RF ot 21 aprelya 2014 g. N 366 «Ob utverzhdenii gosudarstvennoy programmy Rossiyskoy Federatsii «Sotsial'no-ekonomicheskoe razvitie Arkticheskoy zony Rossiyskoy Federatsii». Sait Pravitel'stva Rossiyskoy Federatsii [Decree of the Government of the Russian Federation of April 21, 2014 No. 366 "On approval of the state program of the Russian Federation" Socio-economic development of the Arctic zone of the Russian Federation". Website of the Government of the Russian Federation]. URL: http://government.ru/docs/all/91474/ (accessed 25 November 2019).

[3] Proekt Federal'nogo zakona «O razvitii Arkticheskoy zony Rossiyskoy Federatsii» (podgotovlen Minekonomrazvitiya Rossii 08.11.2017 g.). Informatsionno-pravovoy portal «Garant» [Draft Federal Law "On the Development of the Arctic Zone of the Russian Federation" (prepared by the Ministry of Economic Development of Russia on 08/08/2017). Information and legal portal "Garant"]. URL: https://base.garant.ru/56733035/ (accessed 25 November 2019).

Research results and discussion

Fig. 1 shows the distribution of 1,466 dissertations for the degrees of Candidate of Science and Doctor of Science on the Arctic zone of the Russian Federation, defended in 1990 — 2018. It follows that the peak of dissertation research by applicants for a scientific degree of Candidate of Science falls on 2004-2007. For applicants of a scientific degree of Doctor of Science, the number of defended dissertations on this topic is approximately constant and is at the level of 8 theses per year.

The distribution of dissertations defended from 1990 to 2018 on the issues related to the Arctic zone of the Russian Federation generally corresponds to the distribution of all dissertations defended in Russia over the same period [23, Gurtov V.A., Shchegoleva L.V.].

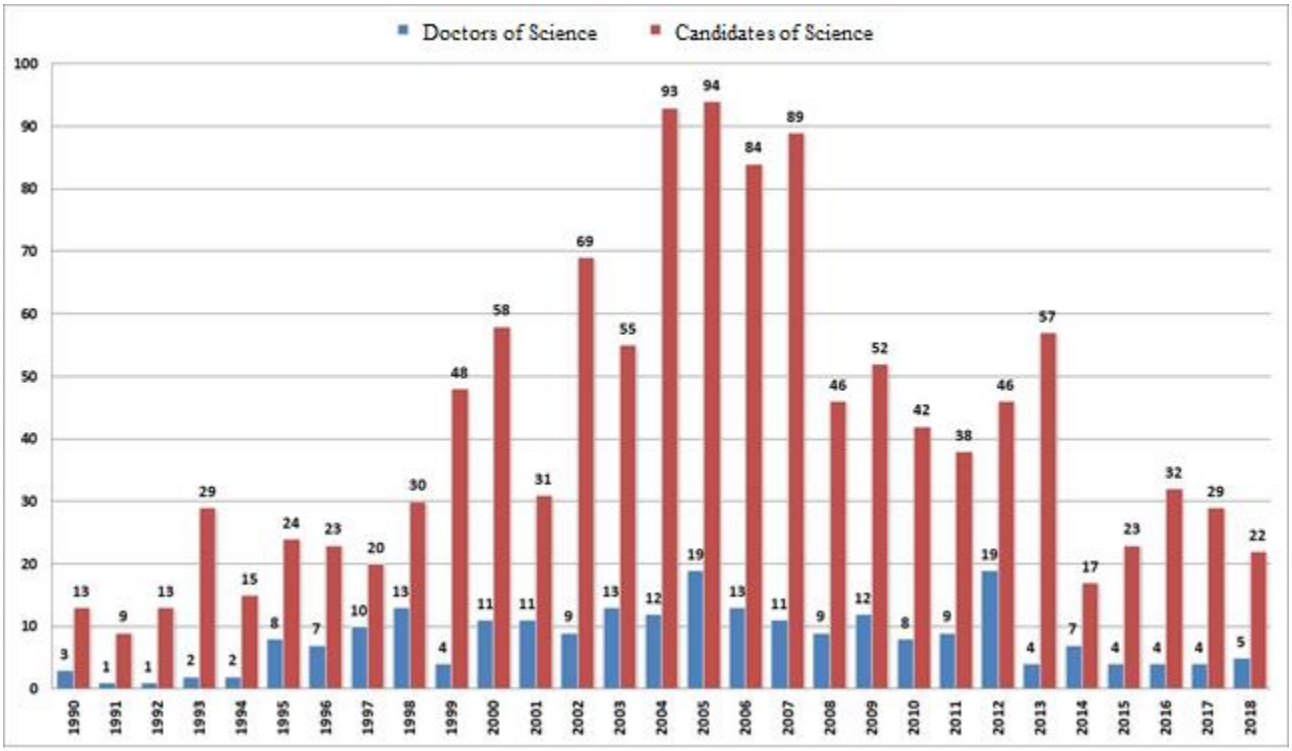

Fig. 1. Distribution of candidate and doctoral dissertations defended in 1990 – 2018 in the AZRF.

In the main thematic areas, dissertation research was distributed as follows: “water and biological resources” — 458 dis., “Ecology, climate and man” — 310 dis., “Geology and minerals” — 274 dis., “Medicine” — 208 dis., “economy” — 201 dis., “oil and gas” — 159 dis., “transport infrastructure and construction” — 117 dis., “law” — 76 dis., “pedagogy” — 74 dis.

At the same time, some of the dissertations are interdisciplinary studies, attributed to several areas of activity.

To identify organizations researching Arctic topics, the place of work of the applicant for a scientific degree at the time of the dissertation defense was considered (since 2011 — the area where the dissertation was completed). The place of work of applicants for a scientific degree (place of a dissertation) was universities — 171, academic institutes — 187 and other organizations — 145. The organizations of the place of work of applicants (places for dissertation) were in 51 different subjects of the Russian Federation (Fig. 2), incl.:

- in Moscow — 133 organizations and 357 theses defended,

- in the city of St. Petersburg — 61 organizations and 228 theses defended,
- in the Murmansk Oblast — 33 organizations and 225 dissertations defended,
- in the Yamalo-Nenets Autonomous Okrug — 31 organizations and 71 dissertations defended,
- in the Republic of Sakha (Yakutia) — 30 organizations and 74 dissertations defended.

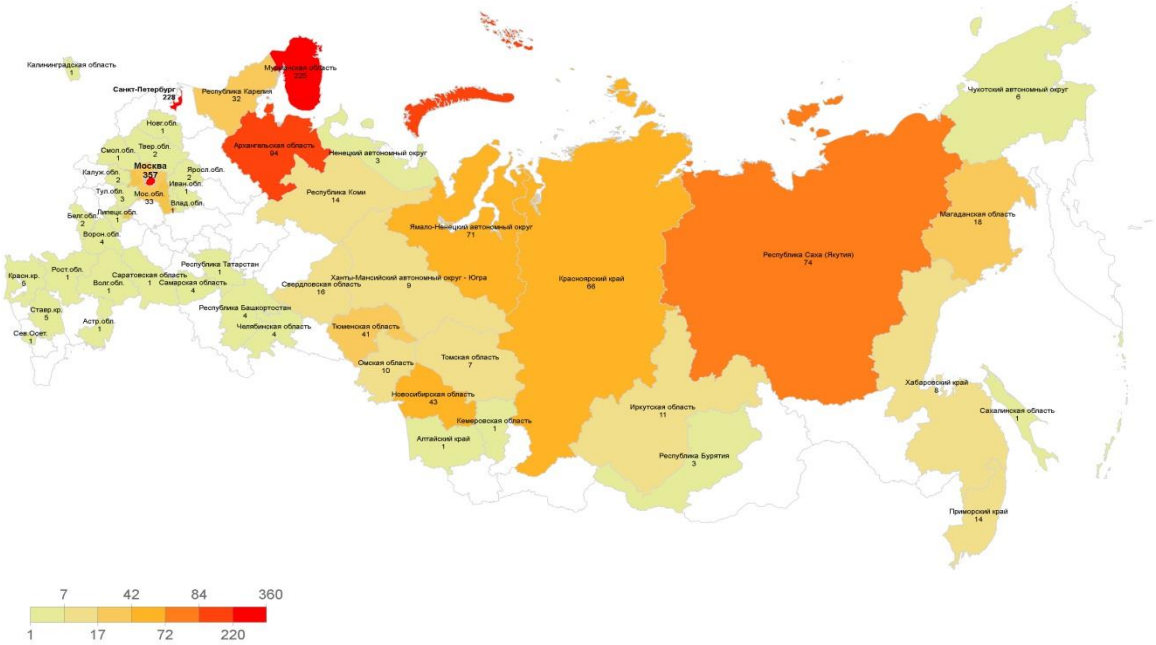

Fig. 2. Distribution of dissertational studies on the Arctic topic in the subjects of Russia.

Among the 503 organizations conducting Arctic research on the main topics, the leaders are Lomonosov Moscow State University, Murmansk Marine Biological Institute of the Kola Scientific Center RAS, Knipovich Polar Research Institute of Marine Fisheries and Oceanography. Table 1 presents a list of the top 10 scientific and educational organizations by the number of dissertations prepared on Arctic topics.

Table 1

Organizations most active in Arctic research

No	Organization	Number of dissertations
1	Lomonosov Moscow State University	72
2	Murmansk Marine Biological Institute Kola Science Center RAS	62
3	Knipovich Polar Research Institute of Marine Fisheries and Oceanography	43
4	Northern State Medical University	28
5	Institute of Economic Problems, Kola Science Center RAS	28
6	Saint Petersburg State University	27
7	Arctic and Antarctic Research Institute	26
8	Saint Petersburg Mining University	26
9	Northern (Arctic) Federal University named after M.V. Lomonosov	24

10	Shirshov Institute of Oceanology of Russian Academy of Sciences	24

Organizations — employers of applicants were in 50 different regions of the Russian Federation. The distribution of the number of dissertations in the main areas of socio-economic activity in the Arctic territories and regions of Russia — the places where the most significant number of studies completed — are presented in Fig. 3.

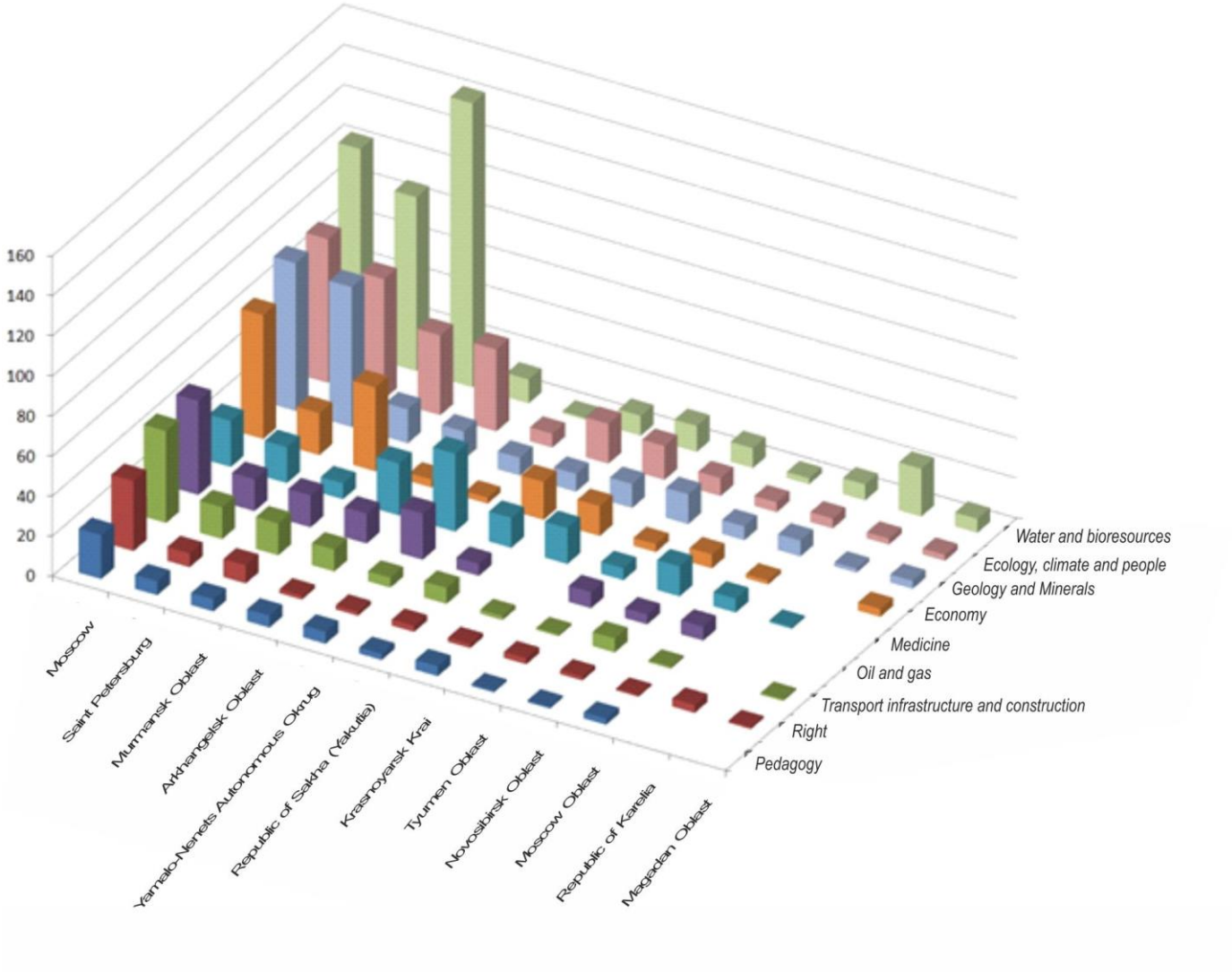

Fig. 3. The distribution of dissertations in the main areas of socio-economic activity in the Arctic territories and subjects of the Russian Federation.

Fig. 3 reveals that in addition to the first five subjects of the Russian Federation, i.e., Moscow, St. Petersburg, the Murmansk Oblast, the Arkhangelsk Oblast, and the Yamalo-Nenets Autonomous Okrug, organizations located in the Republic of Sakha (Yakutia), Krasnoyarsk Krai, Tyumen Oblast, Novosibirsk Oblast, Moscow Oblast, the Republic of Karelia and Magadan Oblast have high dissertation activity.

Table 2 presents a list of the top 20 scientific and educational organizations on the number of dissertations prepared on the Arctic topic in the main areas of socio-economic activity in the Arctic territories. Organizations are sorted in descending order of the total number of dissertations. The color in the table highlights the first three organizations with the maximum number of dissertations in each area of socio-economic activity in the Arctic territories. It should be noted that the Northern (Arctic)

Federal University named after M.V. Lomonosov is the only educational organization where dissertations were prepared in all nine areas of socio-economic activity in the Arctic territories.

Table 2

Organizations where employees defended the largest number of dissertations on Arctic topics in the main areas of socio-economic activity in the Arctic territories [4]

No	Organization	The number of dissertations on the areas of socio-economic activity in the Arctic territories								
		1	2	3	4	5	6	7	8	9
1	Lomonosov Moscow State University	40	11	24		1	12			
2	Murmansk Marine Biological Institute, Kola Science Center RAS	59	12	4			5	2		
3	Knipovich Polar Research Institute of Marine Fisheries and Oceanography	42	6			1	1	1		
4	Northern State Medical University		13		22	1	3	3	1	1
5	Institute of Economic Problems, Kola Science Center RAS	2	1		1	26	1	7	2	
6	Arctic and Antarctic Research Institute	21	13	3						
7	FSBI “VNIIOkeangeologia”	5	6	19			5	1		
8	Saint Petersburg Mining University	4	6	20		2	2	2		
9	Saint Petersburg State University	17	6	9			1		1	
10	National University of Oil and Gas, “Gubkin University”		7	4		1	9	7	2	
11	Saint Petersburg State University	4	9	2	1	1	6	1	1	5
12	Shirshov Institute of Oceanology RAS	21	3	5						
13	Russian Presidential Academy of National Economy and Public Administration (RANEPA)		2	1		15	2	2	6	
14	Research Institute of Medical Problems of the Far North RAMS		2		23		1	1		
15	Institute of Ecological Problems of the North, Ural Branch of RAS	7	10	8				1		

[4] 1 — water and biological resources; 2 — ecology, climate, and people; 3 — geology and minerals; 4 — medicine; 5 — economics; 6 — oil and gas; 7 — transport infrastructure and construction; 8 — law; 9 — pedagogy.

16	LLC Nadymgazprom OAO Gazprom		3	4		1	14	4		
17	Murmansk State Technical University	11	1	1		6	3	1	1	1
18	North-Eastern Federal University	2	6	3	4	6	2			2
19	Norilsk Industrial Institute		8	5		10			1	
20	Petrozavodsk State University	12	3		1				3	

More than 1,436 dissertations were defended in 242 specialties of the Nomenclature of specialties of scientists [5]. The following groups of scientific specialties are most popular: “25.00.00 Earth sciences” — 363 diss., “03.02.00 General Biology” — 263 diss., and “08.00.00 Economics” — 201 diss.

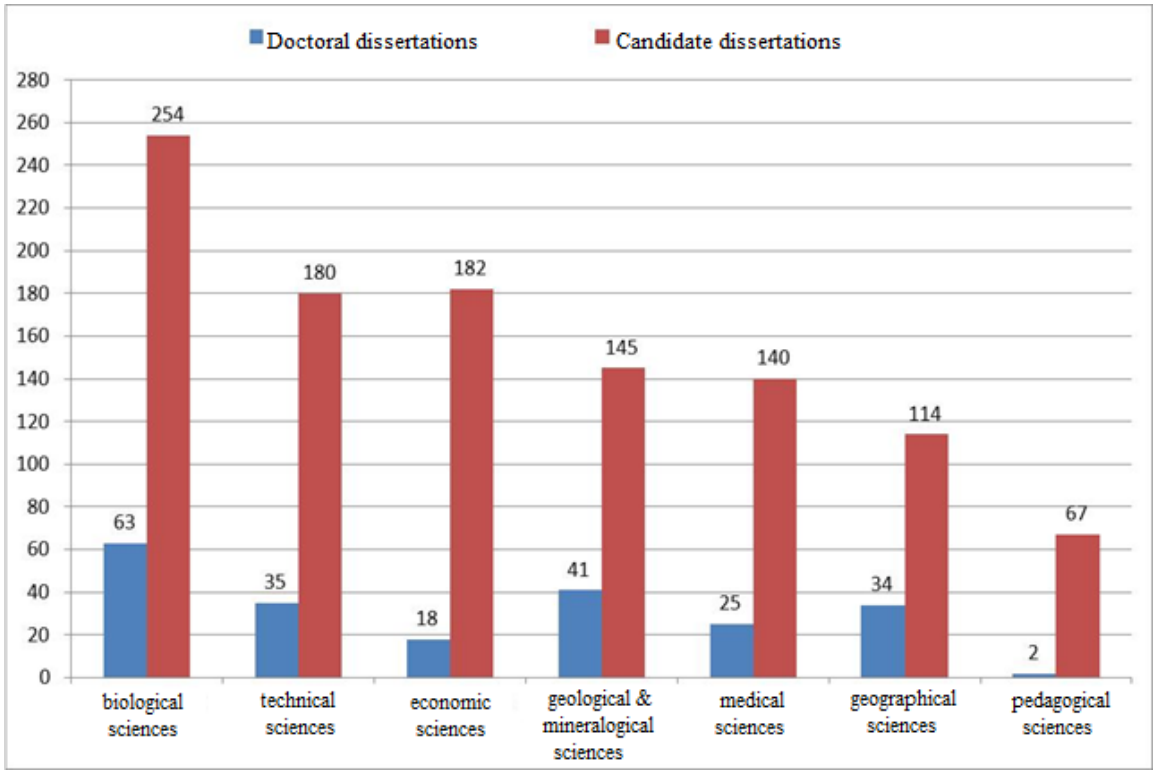

Fig. 4. Distribution of dissertation research on the Arctic zone of the Russian Federation by branches of science.

The distribution of dissertational research on Arctic topics by branches of science shows that most of the dissertations were defended in biological sciences — 254 dissertations for the

[5] Prikaz Ministerstva obrazovaniya i nauki Rossiyskoy Federatsii ot 23 oktyabrya 2017 g. № 1027 «Ob utverzhdenii nomenklatury nauchnykh spetsial'nostey, po kotorym prisuzhdayutsya uchenye stepeni (zaregistrirovan Ministerstvom yustitsii Rossiyskoy Federatsii 20 noyabrya 2017 g., № 48962) s izmeneniyami po prikazu ot 23 marta 2018 g. № 209)». Sait Ministerstva obrazovaniya i nauki Rossiyskoy Federatsii [Order of the Ministry of Education and Science of the Russian Federation of October 23, 2017 No. 1027 “On approval of the nomenclature of scientific specialties for which academic degrees are awarded (registered by the Ministry of Justice of the Russian Federation on November 20, 2017, registration No. 48962) as amended by order of March 23, 2018 No. 209)”. Website of the Ministry of Education and Science of the Russian Federation]. URL: http://vak.ed.gov.ru (accessed 25 November 2019).

degree of Candidate of Sciences and 63 for the degree of Doctor of Science.

Conclusion

An analysis of dissertation research on Arctic topics showed that the main Competence centers for Arctic research (90% of theses completed) are in 12 subjects of the Russian Federation, the leaders among which are Moscow, St. Petersburg, the Murmansk Oblast, and the Arkhangelsk Oblast. The leading scientific and educational organizations — Competence Centers in these 12 subjects include 8 academic institutes, 11 universities, and 1 industrial organization. Their employees defended 737 theses in the main areas of socio-economic activity in the Arctic, which is 40 % of the total number of dissertations in arctic subjects.

More than 50% of dissertations related to this theme were prepared in three areas of socio-economic activity in the Arctic territories: “water and biological resources”, “ecology, climate and human”, and “geology and minerals”. 827 dissertations were defended in Arctic subjects — 57% of the total number of dissertations (1436) were defended in three groups of scientific specialties: “25.00.00 Earth Sciences”, “03.02.00 General Biology”, “08.00.00 Economics”.

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New projects for the development of the Russian Arctic: space matters! *

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Abstract. The article summarizes the results of the analysis of 23 recent projects for the development of Russian Arctic resources in terms of the spatial effects they generate or rely on. It is proved to be the feature of the economic and geographical approach to the analysis of Arctic projects. The most critical change, compared with the realities of the late Soviet era, is the reliance on the sea logistics of most new projects for the development of Russian Arctic resources.

Three main spatial effects of development projects are described in detail: the localization effect, the regional effect, and the corporate effect. The first one reflects the desire of companies to the utmost compactness and a sparsely populated production site, platform solutions using artificial intelligence, remote control, robotic mining, and processing schemes. The second effect revives the Soviet district effect within the contour of the resource corporation as their desire to provide cost savings on the "soft" infrastructure pairing of neighboring production facilities. The third effect characterizes the cooperation of usually competing companies in severe natural and economic conditions for the development of Arctic projects. It is untypical but may occur in some cases.

The territorial structures of the new development space are also affected by the desire of companies to absolute control of the resource chain, to rely on previously created development bases, technological, organizational, and institutional innovations, which usually have a spatial "dimension".

An "ideal" corporate scheme for the modern development of Arctic resources — a separate autonomous production platform where production and processing are deployed, with uninhabited technologies and remote control of production, contradicts state interests and creates sharp spatial and social contrasts.

Keywords: *Arctic resource development project, spatial effect, marine logistics, platform solution and contradiction.*

Introduction: Arctic projects as a subject to economic-geographical research

In the past decade, under the influence of clearly articulated (by priority) Russian federal policy in the Arctic zone and the rapid intensification of economic activity there, the number of scientific papers devoted to the topic of Arctic projects, i.e., economic measures implemented here by state and corporate actors, has increased significantly. In the eLIBRARY database, the total number of works that include this word combination in the title or text amounted to 36,451 units as of December 19, 2019. An analysis of the names of the first five hundred articles allows us to identify about ten rubrics-directions for the study of Arctic projects.

It is an analysis of the historical aspects of the theme, i.e., a comparison of the current situation (not in separate areas, but the economic, political, and social complex) in the initiation and implementation of Arctic projects with the one existed in Soviet times [1]. It is the study of the eco-

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nomic aspects of the Arctic projects' implementation onshore and shelf understood from the perspective of increasing the national economic effects from them, incl. through import substitution (localization) for the production of equipment and materials, the development of the Russian technologies and technological solutions, from the perspective of the competitiveness of Arctic projects under fluctuations in world prices for natural resources, etc. [2–5]. It is a study of various financing schemes for investment-intensive Arctic projects [6–7]. It is a study of management and organization of Arctic projects, esp. the most difficult ones — the development of hydrocarbon resources on the shelf [8–9] and large infrastructure projects in the Arctic. These are technological issues that determine Russia's readiness to produce necessary equipment, offshore drilling platforms for the implementation of oil and gas projects on the Arctic shelf [10]. These are the issues of staffing for specific Arctic projects and the Russian project for the new development of the Arctic zone [11–12]: over the past 30 years, the country has experienced significant losses of technical specialists who can service complex engineering structures and equipment, and for new Arctic projects, it becomes a real challenge to simultaneously find hundreds of high-class builders for the production of LNG plant modules, drilling platforms, work on ships of reinforced ice-class (tankers, containers, ships, cargo ships, lighter carriers, etc.).

It is a study of the logistical, regional aspects, issues of state support for investment projects in the Arctic, the problematic characterization of individual landmark plans. The matters of logistic (transport) support for Arctic projects are dominated by the development of hydrocarbon resources on land, in the coastal zone, and on the shelf, since the most multimodal schemes with numerous transshipments are usually implemented here [13–14]. In regional issues, the roles of the Arctic regions of the Russian Federation typically prevail in the implementation of land and offshore projects, the coordination of interests of districts, corporations, the federation, the consideration of traditional environmental management of the indigenous peoples of the North and the activities of resource companies, their corporate social responsibility in the territory of the Arctic project [15–16]. The theme of state policy and state support for Arctic projects often has a narrow, specific meaning in the form of tax and licensing policies concerning a particular type or even clearly defined plans, e.g., mining, oil, and gas, offshore; and wide sounding — as state support, state-owned partnership in the implementation of Arctic investment and infrastructure (North Latitudinal Railway, Belkomur, etc.) projects [17–19].

It is extremely interesting to look through the complex research of specific projects, which often includes all previously identified aspects, but in reference to a project planned for implementation or already being implemented: questions of the financial and economic substantiation of its feasibility, technological and transport, and logistics issues, questions of its state support. E.g., articles on the “Prirazlomnoye” project, which is at the stage of “commissioning” a deposit, articles on a unique project for developing the Tomtor rare earth deposits, Popigaysky industrial diamond deposit, etc. [20–24].

Is there a niche for the economic and geographical approach? What exactly is in its content under such a detailed study of Arctic projects? The difference of our article from the ones of colleagues is primarily ideological and methodological, i.e., we proceed from the fact that the zonal geographical factor creates the conditions for significant differences in Arctic projects compared to those that are implemented, e.g., in the temperate zone. We mean the adaptation to climatic severity and instability, to degrading permafrost, very rapidly changing ice conditions of the Arctic seas, etc. Besides, it is imperative to consider the cross-border nature of the Arctic zone, the coexistence of civil and defense activities there, and the fact that any Arctic project there, in addition to a purely economic one, always has a geopolitical function of confirming the country's presence, which means its sovereignty in these remote and extreme spaces.

Individually, all these features are perceived as just features. Still, when they are understood holistically, systematically, comprehensively, they begin to sound like a completely separate subspecies of typical investment projects for developing natural resource deposits. What our fellow economists call “complexity and complex nature”, we understand as a distinct, separate nature of Arctic projects, which determines its multilateral and multi-country character, the complicity of dozens and even hundreds of suppliers and contractors, frequent delays and cancellations of even iconic investment and infrastructure projects.

In Canada, for many decades, a project to develop hydrocarbon deposits and lay a pipeline in the Mackenzie River Valley has been postponed. In Russia, the recently actively discussed Shtokman project has been shifted for decades. Many offshore projects previously announced by Russian companies, i.e., the additional exploration and development of the “Pobeda” and “Medynskoe-more” deposits of Rosneft, Leningradskoe, Ludlovskoe, Rusanovskoe and Ledovoe (Gazprom), and Dolginskoe (Gazprom Neft), under unfavorable world prices, are postponed to the period after 2030 [1].

In addition to the general methodological approach to the “Arctic exclusivity” of the projects being implemented there, what are the other specific differences that exist between our economic-geographical approach and those of our colleagues? First, we consider Arctic projects in the context of the exploited space of the Arctic. It means an organic, strong link with the theory of exploration of the Arctic and the North, to update which, based on Soviet heritage and advanced foreign theoretical experience, we began a few years ago [25–28] with an emphasis on the spatial effects of new projects. Secondly, we understand Arctic projects more broadly than some of our colleagues. In essence, it applies not only to the economy and new technologies but also to the new organization of the economic space of the Arctic and the further deployment of its productive forces. Thirdly, it is the desire to obtain broad geographical generalizations of new laws related to the deployment of projects in the Arctic, which leads to the analysis of not one, but dozens of new and modernization of old resource projects in the Arctic.

[1] Mechty ne sburilis'. Osvoenie arkticheskogo shel'fa otstaet ot planov goskompaniy [Dreams could not get drilled. The development of the Arctic shelf lags the plans of state-owned companies]. URL: https://www.kommersant.ru/doc/4033100 (accessed 01 February 2020).

Project selection criteria

The list of projects was compiled based on the analysis of key characteristics of new and already implemented resource development facilities in the Arctic. The authors focus on the large extractive projects that run since 2007 approximately. The list of projects includes both new production and mining assets of companies, as well as projects of companies to modernize and restructure the production of old facilities, relying on new technologies.

A distinctive feature of the selected projects is the distinctness of the spatial effects they generate or rely on (platform, district, inter-corporate, etc.). Another criterion for the selection of projects was the attraction of substantial investments (at least 500 million rubles) for their implementation. One more principle was their potential in terms of the cargo base formation of the Northern Sea Route, an actively used transport route for the development of the Russian Arctic. Priority in the selection was given to projects that use innovative technologies for extraction, processing, and transportation of resources. They are implemented not by a single development company but based on cooperation and partnership with both Russian and foreign companies, combining finances, competencies, technologies, and supply and sales chains of products.

As a result, 23 projects that have already been completed or planned in the Russian Arctic were selected for analysis. Many of them are in the list “Implementation of the Mineral Resources and Logistics Potential of the Arctic”, prepared by the Ministry of Natural Resources and Ecology of the Russian Federation in 2019.

Arctic projects effects: comparison with Soviet time

In the Soviet model of development of the North and the Arctic, the main economic effects were tied to the areal pioneer arrangement of new territories, when vast resource areas of unique world-class deposits are simultaneously involved in the national economic turnover; construction material factories, large state district power stations, and thermal power plants forming huge territorial production complexes appear; a rapid infrastructural arrangement of the territory with roads, pipelines was going on; a network of new single-industry villages and towns was emerging. The classic embodiment of this model is the oil exploration of Western Siberia in the 1970s. In this model, the main economic supply and sales relations were “land ones” turned to the south, incl. along the basins of Siberian rivers, and the west of the country. It was in these areas that the routes of oil and gas pipelines were laid.

It was uninteresting to work out the point, isolated resource objects-deposits, they did not provide the the economy of scale effect of the areal involvement of the new resource province in the economic turnover. Therefore, their turn came only today.

The previous development model was not able to obtain an economic effect on point, average in reserves, isolated objects of the mining industry. Justification of the costs of a planned, multi-year infrastructure field (transport and energy network with centralized energy systems) and the network of permanent industrial settlements requires unique and extra-large reserves in the territo-

ries of new development. There should be several to include regional combinatorial effects. None of them, e.g., the Mayskoye, Peschanka, and Tomtor deposits, could previously be provided. It is not surprising that their real economic development was postponed for many years until the advent of technologies and corporate owners capable of working out points, average reserves, separate objects of the Arctic mining industry.

The development of large resource pools was also delayed if their arrangement and marketing of finished products needed to be carried out through the Northern Sea Route. The only (partial) exception here was the Norilsk industrial region.

The designers' approach to the marine scheme in recent decades under the influence of climate change and increased technological capabilities and new technological solutions for the processes of extraction, processing, and transportation of Arctic natural raw materials has become more daring in the sense of willingness to use the marine scheme. The first large-scale experience in this regard was the construction by Lukoil in the zero years of the Varandey terminal, which turned out to be a breakthrough due to the abandonment of the long-existing southern scheme for transporting oil by pipeline and the transition to an entirely new scheme for the sea oil export by reinforced ice-class tankers with subsequent transshipment to conventional tankers in the Kola Bay.

The realities of the last three decades demonstrate the emergence of the phenomenon of the sea logistics complex of projects for the new development of the Russian Arctic. An integral part of this complex is offshore development bases — ports, terminals, docking centers of various types, and coastal support bases. Many of these structures are mobile (floating), which was unusual and untypical for the Soviet development bases for the resources of the North and the Arctic. The new climate dynamics in the marine Arctic, the rapid decrease in ice cover on the NSR route, strengthen the popularity and investment attractiveness of the Arctic marine supply and marketing schemes for new projects.

The key elements of Arctic marine logistics that ensure the activation of a project usually include: 1) a year-round berth, which often has a significant share in the cost of a project; 2) vessels of either reinforced ice-class, or ordinary, but then with the supposed obligatory expensive icebreaking escort (either owned by the mining structure to insure against the risks of the opportunism of the transport partner or their use for the project is guaranteed under a long-term contract); 3) mandatory trial shipments, experimental flights. These pilot flights are designed to adapt the logistics system to unexpected, but inevitable Arctic weather and ice surprises.

All the late Soviet development of the resources of the North and the Arctic was set up for year-round work of the mines and quarries created here. Seasonality was allowed when mining placer deposits. The modern scheme of seasonal (October – April) development of a field (e.g., Tomtor) for Soviet designers meant an absolute violation of all accepted canons of the technological process and the failure to obtain the main economic effects that the previous development system was tuned for. It means economies of scale due to the large volumes of production (production and processing), achieved mainly due to year-round loading and simultaneous commissioning of several

unique naturals. The object is a large area of a new industrial zone with simultaneous fast road pad channels, and energy facilities, repair, other industrial infrastructure. The same violation of the Soviet developmental canons is the planned "push-pull" winter and summer transport scheme for the Kekura gold-silver deposit in the Chukotka Autonomous Region. It is along the Pevek-Bilibino area, and further along, the production winter road owned by HGM, until the deposit; in summer, through the year-round dirt track Pevek-Ilirney, where cargo storage will take place for their subsequent delivery along the winter road to the production site [2].

Discussions about the specific logistics scheme of the project, as never before, are characteristic today for many new Arctic projects. A genuine innovative search is here and sometimes more intense than when choosing a specific mining scheme. And this is not surprising. The issues are not the point impact of the project on the home environment, but the essentially political and economic issues of transforming the areas of space on which various actors claim ownership. It is how to coordinate the interests of "transit countries", through the territory of which export routes are laid (the concerns of Yakutia in transit of rare-earth concentrate and Denmark under the Nord Stream-2 subsea gas pipeline are phenomena of the same genesis). And it is also how to establish common use of transport infrastructure facilities owned by the state or corporation (e.g., disputes between Lukoil and Rosneft regarding the conditions for using the Varandey terminal in the NAO). And how to enter multi-actor commercials without losing control of the entire project? Russian practice shows that companies are sometimes willing to spend billions of rubles on maintaining sole control over the project, even contrary to the economic logic of the rationality of cost-sharing and the economic feasibility of cooperative partnerships with another company.

It is through the logistics of the Arctic project, through the formation of the logistics complex that the local specificity of the specific properties of the natural asset of the field, its economic-geographical and transport-geographical position, the characteristics of the natural and climatic local environment are linked; and global issues of world markets, which need to orient the products of the new project, national interests, and sovereignty of the country, strengthening its Arctic facade. As soon as the marine logistic scheme of supply and output of final products is selected, the project acquires not purely economic, but geopolitical and geo-economic importance. There are no politically neutral sea traces in the Arctic: all sea routes, even in the zone of Russian jurisdiction, are geopolitically significant and are automatically "loaded" with sovereignty issues. It is the fundamental political and economic difference between the marine, northern, and southern land schemes for transporting household resource products.

In Soviet practice, there has never been strict isolation of the pioneer and subsequent stages of development. Yes, for the pioneer stage, mass innovation and search behavior were also characteristic, but only so that in the following steps, the finds of the pioneer stage would be fixed and legalized in real life of the project.

[2] Dostavim gruzy na mestorozhdenie Kekura [We deliver goods to the Kekura deposit]. URL: https://as-sib.com/napravleniya/chukotskiy-ao/kekura (accessed 01 February 2020).

Now, the findings of the experimental search stage may well be canceled at subsequent stages, and something wholly new or long-known, but waiting when starting experiments fail, e.g., in energy supply schemes or transport logistics, will be offered. Practice shows that the experimental period can last a long time. Moreover, sometimes it may even be beneficial for the company itself to delay it so as not to be bound by the state regulation of work, as in the case of the Varandey terminal of Lukoil, which has been operated under experimental conditions for years.

The Soviet effects of Arctic exploration are the ones on the formation of large regional territorial production complexes that linked production issues from unique large deposits, road facilities, energy supply, social facilities, and others into a single system on a vast newly developed area. What effects come to replace them?

The effects of spatial localization of exploratory "growth poles" (economic platforms and islands)

In recent years, a new scheme of the spatial organization of productive forces in pioneering development projects has emerged in the Russian Arctic — platforms and economic "islands": the Prirazlomnaya platform in the Nenets Autonomous Okrug, the port and the liquefied natural gas plant in Sabetta, the Varandey terminal in the Nenets Autonomous Okrug, the gold ore deposit Kupol in the Chukotka Autonomous Okrug and others. On the artificial islands in the Kola Bay, there is a Center for the construction of large-capacity marine structures — an analog of a marine shipyard, a factory of plants that will manufacture marine complexes for liquefying natural gas, storing and shipping LNG, repair and maintenance of marine equipment [3].

It is about applying technically revolutionary solutions, relying on artificial intelligence, to develop Arctic deposits that are radically different from those that we are used to in industrial times. Developers of platform solutions for the development of Arctic resource projects focus on the possibilities of low-occupancy schemes due to the use of robotic mining complexes, uncrewed trucks and other equipment, remote unified control from production to shipment through the use of intelligent telecommunication systems, and the use of a floating processing plant on a gravity platform and residential floating modules for placing shift workers [29]. Production facilities are also similarly located in the foreign North: e.g., the metallurgical plant of Alcoa Corporation in Iceland also represents an extremely isolated site — an "island" platform.

A key feature is an emphasis on the ultimate localization and compactness in the placement of industrial and social facilities: as if the unspoken imperative "Do not spread over the surface!" Platform solutions provide for a clear delineation of the economic space of the new development, with the frequent assignment of special legal status to it (e.g., the Beringovskaya advanced development area in Chukotka).

What is the essence of the resulting economic "platform" effect? Modern models of endogenous economic growth rely on marginal localization, compact placement of production factors at a

[3] Megaproekt strategicheskogo znacheniya v Belokamenke [Megaproject of strategic importance in Belokamenka]. URL: https://арктик-тв.рф/news/murmanskaya-oblast-arktika/megaproekt-strategicheskogo-znacheniya-v-belokamenke (accessed 01 February 2020).

minimum of space. It is no coincidence that by default, they assume the presence of an isolated enclave, an island, a separate localized area on which the main production effects unfold due to intensive communication and the conjugation of compactly located production forces.

The configuration of the Arctic project in the form of an offshore platform or an artificial island deliberately leads the development process to such a small spatial dimension: a shift camp, offshore platform or alluvial island, an independent source of energy supply, a boiler room, a quarry/drilling, an LNG plant or an enrichment plant — this is a gentleman's set of recent Arctic projects. At these new isolated developmental "poles of growth" as from textbooks, it is possible to obtain the effects of endogenous growth "from below" from the properties of space itself. In regional science, they are called externalities on localization, effects of localized collective learning (that is, savings on the total experience gained).

But not only new projects for the development of Arctic resources "include" the platform effects of marginal economic localization. It is also characteristic of modernization projects of old mining facilities. E.g., to extend the life cycle of the Norilsk industrial district, the Southern Cluster project is being implemented, which provides for the simultaneous modernization of closely located mining and processing facilities, and the abandonment of the use of "distant" ore supply schemes of the Talnakhsky unit to the Norilsk Concentrator.

The platform approach to the development of new resource projects in the Russian Arctic involves reliance on water transport: the Northern Sea Route and river transport. The project operators are trying to minimize the use of expensive icebreakers. They rely on their fleet of reinforced ice-class vessels and, as in the case of the Pavlovsk project, adapt the export scheme for seasonal transportation of mined ore.

Regional effects and new industrial districts with a reference project

The initial impression that, in the new development model, the previous regional effect, tied to large state territorial production complexes created on the territory of the new development, is replaced by the corporate effect of maximum localization on the compact site of the new economic cluster, with a detailed analysis of dozens of project deployment cases new development is not real. Indeed, state economic development is being replaced in breadth, with the creation of a network of permanent industrial settlements, permanent roads, power transmission lines, stationary mining and processing complexes, and construction materials factories are being provided with "facilitated" corporate or state-corporate development in-depth, without a constant full arrangement of the territory, with an extremely compact production site, a shift camp assembled from factory modules, the active use of seasonal water and land routes (winter roads).

However, a more substantive acquaintance with the spatial behavior of resource companies in the new territory of presence reveals their persistent desire to form a regional network here from several organizational, technological, and infrastructurally related enterprises located relatively close by Arctic standards (up to hundreds of kilometers from each other). At the same time, the start-up

project (s) begins to play a pilot role, and the subsequent ones play the role of "clones" that replicate (scale) the success of the first, considering the experience gained in overcoming climate, resource-operational / technological and organizational challenges.

Almost all large companies operating in the Arctic persistently seek to obtain this regional, synergistic effect on the general use of the pioneer development of corporate infrastructure created in the region, the general labor market of the corporation, the flow of knowledge, competencies, and technologies between the divisions created here. That is, there is a classic Marshallian industrial district, with all its external effects (externalities) well described [30].

E.g., the Kinross Gold Company constructively uses this regional effect. In 2007, it began to develop the Kupol gold ore deposit, and in 2010 it acquired the Dvoynoye deposit located 100 km to the north. The mined ore from the Dvoynoye deposit is processed at the Kupol mine's refining plant, where it is delivered daily on ore dump trucks via the specially constructed year-round Kupol-Dvoynoye road.

Gazpromneft hopes to actualize the district effect so that the flagship Novoportovskoye field in the future forms a single cluster around itself together with other company fields in the Yamal Peninsula. The next stage in the development of the field is the launch of the Yamal Gas project — the creation of infrastructure for the transportation of gas from the company's fields on the Yamal Peninsula. The gas infrastructure will make it possible to combine up to 15 Yamal fields and develop a new oil and gas province based on the Novoportovskoye field [4]. The new key object will be a 116 km subsea gas pipeline from the Novoportovskoye field to the Yamburgskaya compressor station, connected to the Yamburg-Tula gas pipeline. Commissioning of the project is scheduled for 2022 [5].

Rosneft plans to obtain a district effect in reducing current and capital costs, firstly, by turning the Vankor field into a base for the entire territory in terms of testing advanced technologies in the most traditionally problematic areas of oil production and their subsequent replication to other objects of the Vankor cluster. Secondly, since Rosneft organizationally and infrastructurally unites the Vankorskoe, Lodochnoe, Tagulskoe, and Suzunskoe fields in the Turukhansk and Taimyr Dolgan-Nenets municipal districts of the Krasnoyarsk Krai into a single cluster. The individual operator of all cluster deposits is RN-Vankor LLC, a subsidiary of Rosneft. The integration of the transport, production, and energy infrastructure of the fields is currently going on. The district effect may become even more powerful when the group of Payakh deposits of Neftegazholding JSC is joined to the Vankor cluster and the merger of the objects into the joint Vostok Oil project. The project involves the construction of an oil pipeline between the Vankor and Paiyakh group of fields, which allows the

[4] Proekt «Novyy port» ["New Port" Project]. URL: https://www.gazprom-neft.ru/company/major-projects/new-port/ (accessed 01 February 2020).

[5] Gazprom planiruet vvesti gazoprovod s Novoporta v 2022 godu [Gazprom plans to introduce a gas pipeline from Novoport in 2022]. URL: https://gasandmoney.ru/novosti/gazprom-neft-planiruet-vvesti-gazoprovod-s-novoporta-v-2022-godu/ (accessed 01 February 2020).

transportation of products of all fields of a single industrial region through the oil terminal via the NSR [6].

The main difference of the Arctic from the classic Marshall industrial districts is that the main actor of the district effect is not a small business, peeping at each other's innovations, creating a unique creative atmosphere of the industrial region, but a large anchor corporation, which locates its mining and processing units there. Self-sufficient and autonomous sites of the local production and transportation system of the company strive to integrate among themselves in the circuit of the pioneer development area. It causes a struggle for obtaining adjacent, closely spaced license areas. And this is demonstrated, e.g., by NovaTEK PJSC. The company created a corporate "empire" in the Gulf of Ob from autonomous, but relatively closely located production and license areas of the Yamal and Gydan peninsulas.

Compared to the Soviet era, these regional ties, of course, are more mobile, more temporary, they are not materialized by a network of permanent roads and constant energy infrastructure. Therefore, they are more difficult to detect! Companies seek to obtain a regional, synergistic effect on the territory of their presence. They try to link local and development platforms in a unified network of infrastructure, personnel, competencies, etc. And this district effect has geographical limits: hundreds, but not thousands of kilometers.

Sometimes the district effect extends to the interregional level: when raw materials from mining facilities of the Arctic territory are processed at southern factories within the same corporate owner to which all these facilities belong. E.g., Polymetal PC connects several deposits of the same ore genesis dispersed in different far-eastern regions to a single center for processing gold refractory ores, with a particular technological scheme configured for these ores, to its Amur hydrometallurgical plant.

Intercorporate spatial effect: where and when does it manifest?

The inter-corporate effect arises as a result of the cooperation of several corporations in the development of a new resource object. By no means always do corporations manage to agree on the distribution of responsibilities, powers, and terms of interaction in the territories of new development. There are examples of wasteful duplication for society in the creation of ultra-expensive objects of new infrastructure when it would be possible to limit the use of one if there was a mutually acceptable agreement on operating conditions between several companies. In the NAO, Lukoil and Rosneft failed to agree on the terms of the use of the Lukoil Varandey terminal [7]. As a result, the terminal remains underloaded. Rosneft does not use it and has to create its alternative logistics.

[6] Rosneft' i Neftegazolding narastyat gruzopotok SMP [Rosneft and Neftegazolding increase the NSR cargo flow]. URL: https://oilcapital.ru/news/markets/28-02-2019/rosneft-i-neftegazholding-narastyat-gruzopotok-smp-smi?ind=1892 (accessed 01 February 2020).

[7] Lukoyl gotov sporit' s Rosneft'yu po tarifam na Varandeyskom terminale do pobednogo [Lukoil is ready to argue with Rosneft on tariffs at the Varandey terminal until victory]. URL: https://neftegaz.ru/news/gosreg/195599-lukoyl-gotov-sporit-s-rosneftyu-po-tarifam-na-varandeyskom-terminale-do-pobednogo/mr/ (accessed 01 February 2020).

Gazprom and NovaTEK often fail to agree on the joint use of offshore development bases, terminals, and winter roads in Yamal [8].

A generalization of a dozen cases of conflict and cooperation allows us to conclude that the inter-corporate effect occurs when 1) companies specialize in their resource value chain, e.g., gas, oil, condensate. In this case, even an equal "weight category" of partners does not interfere; 2) in the case of one specialization, but with different statuses of partners included in the alliance, when there is a "senior" company and a "junior" company. The difference in status facilitates the achievement of partnership arrangements; 3) when it comes to a genuine technological challenge for both parties, and it helps to overcome the contemporary natural, technological, financial difficulties and risks, e.g., when operating offshore facilities, competing companies in other territories here are ready to cooperate.

The first case is the cooperation of Gazpromneft and Rosneft in a project to develop the Messoyakha fields. Here, Rosneft is responsible for the oil chain, and Gazpromneft is accountable for the gas chain. Cooperation is carried out within the framework of a general agreement between the companies of 2006, which touches on practically all aspects except for sales: production, transportation, processing of hydrocarbon raw materials, informational, scientific, technical, and personnel interaction [9].

The second case includes the logistic communication of Rosneft and Neftegaz-holding in integrating the development of the Vankor and Payakh group of fields into a single Vostok-Oil region[10]. The third case consists of the preliminary intention of Gazpromneft and NovaTEK to create a joint venture for the development of offshore projects [11].

The Vostochno-Messoyakhskoye field development project is the product of a successful intercorporate agreement. The license for field development is owned by Messoyakhaneftegas JSC, a joint venture of Gazprom Neft PJSC and Rosneft PJSC, with equal shares in the project. The operational management of the event is carried out by PJSC Gazprom Neft, which uses the East Messoyakhskoye field as a testing ground for testing new technologies.

The layout of the part of the analyzed Arctic development projects for the three spatial effects described is in Table 1.

[8] Gazprom i Novatek ne dogovorilis' o prodolzhenii sotrudnichestva [Gazprom and Novatek did not agree to continue cooperation]. URL: https://www.vedomosti.ru/business/articles/2013/06/06/gazprom_i_novatek_ne_dogovorilis (accessed 01 February 2020).

[9] Umenie dogovarivat'sya. Partnerstva «Gazprom nefti» kak strategicheskiy instrument [Ability to negotiate. Gazprom Neft partnerships as a strategic tool]. URL: https://www.gazprom-neft.ru/press-center/sibneft-online/archive/2019-september/3592575/ (accessed 01 February 2020).

[10] Neftyanye admiraly. «Rosneft'» namerena zagruzit' Sevmorput' syr'em so svoikh mestorozhdeniy [Oil admirals. Rosneft intends to load the Northern Sea Route with raw materials from its fields]. URL: https://www.kommersant.ru/doc/3896485 (accessed 01 February 2020).

[11]

Table 1

Spatial effects Arctic projects rely on

Project name (16)	Location	License holder	Project start	Effects		
				Localization	Re-gional	Intercorporate
Development of the Prirazlomnoye field	Nenets Autonomous Okrug	Gazpromneft	2013	+[12]	+	
Yamal LNG	Yamal-Nenets Autonomous Okrug	PJSC Novatek	2017	+	+	
Arctic LNG-2	Yamal-Nenets Autonomous Okrug	PJSC Novatek	2023	+	+	
Pavlovskoye Lead Zinc Ore Deposit	Arkhangelsk Oblast, Novaya Zemlya Archipelago	JSC First Mining Company (State Corporation Rosatom)	2023	+		
Kirov mine and processing plants (modernization of Apatit OJSC)	Murmansk Oblast	Apatit OJSC (PhosAgro PJSC)	2013	+		
Southern Cluster of the Norilsk Industrial Region	Krasnoyarsk Krai	PJSC MMC Norilsk Nickel	2021	+		
Development of the Novoportovskoye field	Yamal-Nenets Autonomous Okrug	PJSC Gazprom Neft	2006		+	
Vankorskoe field	Krasnoyarsk Krai	PJSC Rosneft Oil Company	2009		+	
Development of the Bovanenkovo 2012 field	Yamal-Nenets Autonomous Okrug	Gazprom			+	
Development of the Payahskoye field group	Krasnoyarsk Krai	JSC "Neftegazholding"	2023		+	+
Yaro-Yakhinskoye field	Yamal-Nenets Autonomous Okrug	Arktikgaz OJSC — (a joint venture of PJSC NOVATEK and PJSC Gazprom Neft)	2015		+	+
GOK “Nezhdaninsky”	The Republic of Sakha (Yakutia)	Polyus Zolot PJSC and Polymetal JSC	2021		+	+
“Kupol” deposit	Chukotka Autonomous Okrug	CJSC ChGGK (Kinross Gold group of companies)	2007		+	
“Kukura” deposit	Chukotka Autonomous Okrug	CJSC Bazovie metalli (holding Highland Gold Mining	2023		+	
Group of Messoyakha deposits	Yamal-Nenets Autonomous Okrug	Messoyakhaneftegas JSC (a joint venture of Gazprom Neft PJSC and Rosneft Oil Company PJSC)	2016			+
Development of the Vaneyvisskoe and Lavayozhskoe	Nenets Autonomous Okrug	Joint venture PJSC Gazprom and PJSC Lukoil	2023			+

[12] + means the presence of the effect.

deposits						

Other spatial effects

When understanding the emergence of other spatial effects, it is useful to refer to Dunning's concept of the multinational company [31]. According to it, any large corporation has three “pillars” — O — a system of control (property) over all its assets (natural, labor, intellectual, material) and financial resources); I — organizational structure (flat, vertically integrated, hybrid, the presence of individual target units outside the general hierarchy, etc.); L — territorial structure (location of the "productive forces" of the company). In the current activities of the corporation, all three components are usually linked to each other. Changes in the organizational structure or control system are noted in shifts in the spatial distribution of company assets.

E.g., many features of the spatial behavior of Arctic corporations can be understood as the desire for the sole complete control of the resource chain in all its transformations: for government agencies, control issues were less significant than for modern Russian resource companies. Often, companies go for the sake of creating new objects of the territorial development structure (new ports, terminals, temporary roads, etc.); that is, they change the initial properties of the Arctic space. The new logistics scheme may be more expensive than the existing one, but it provides the owner with sole full control in the resource project.

It is logical that changes, e.g., in the state of the company’s assets as a result of innovative transformations of the stages of extraction, processing, and transportation of the resource, characteristic of many of the projects we have analyzed, are necessarily accompanied by spatial effects in the form of a new arrangement of productive forces (material assets and labor resources) or rationalization of the previous scheme if we are talking about old mining projects of the industrial era.

As a rule, companies make efforts to actualize the effects of spatial localization, organize production space in such a new way as to provide a more in-depth and more complete extraction of minerals. E.g., it is assumed that the increased clarity of specialization as a result of the modernization of production facilities at the Kola MMC in the Murmansk Oblast will improve economic efficiency by streamlining the territorial structure of the company's facilities and reducing the volume of transport work.

In full accordance with the Dunning concept, not only innovative technological modernization of the company's material assets, but also internal organizational transformations, e.g., as a result of the merger of several nearby production facilities (while at the same time establishing intensive infrastructure, personnel, and telecommunications links between them) reflected in the territorial structure of the company. E.g., in 2015, Apatit JSC carried out an organizational merger of two mines, the Central and Rasvumchorr mines, into a single Rasvumchorr mine. A 3.5 km long road was built between the mines. Due to the new organizational structure, it was possible to reduce the costs of main-

taining buildings, facilities, and mine lifting, as well as transportation of necessary materials and to administrative staff [13].

In addition to the platform, regional, intercorporate, and other spatial effects, modern exploration projects in the Arctic actualize the Jack London effect described by Alaskan economist Lee Huskey — anchoring a new layer of development to the infrastructure of the previous development, previous development cycles [14, 15]. Thus, the owners of new resource facilities can significantly save on a new development of the production facility.

It is necessary to understand this effect very broadly: not only as a support for new projects on roads, power lines and other linear infrastructure facilities of the previous cycle of industrial development, laid 50–75 years ago, but also as the gravity of new projects that are being developed from scratch, to not far located river, seaports, airports, other point infrastructure facilities that can be effectively used for economical new development (e.g., the Vankor project to the airport of Igarka). The Tomtor project is naturally looking for such an anchor with the objects of previously created infrastructure. We are talking about using sections of the winter road of Almazy Anabara JSC for 80 km, strengthening port facilities in the village of Yuryung-Khaya, Khatanga port.

Conclusion

1. An economic-geographical study of the projects of the new economic development of the Arctic allows us to form new ideas about the features of spatial organization and spatial effects of both individual projects and the entire modern process of economic development of the Arctic as a whole. The projects selected for the analysis of the resource “greenfield” and “brownfield” indicate that technologically breakthrough solutions will necessarily entail a new spatial organization, a further distribution of productive forces, and new spatial effects.

2. The most important difference of modern development from a similar process of the Soviet era is the unprecedented role of corporate structures, which determines the generation of new effects, new opportunities, and limitations in the operation of resource resources in the Arctic. A radical change in the main development actor makes it possible to develop separate point objects that were unattractive for the previous state development model.

Extreme localization and compact packaging of all elements of the new project on a separate island platform become characteristic, which saves transport and production costs and receives positive externalities from localized integration of technologically related items.

[13] «Apatit» zavershil sliyanie Tsentral'nogo i Rasvumchorskogo rudnikov [“Apatit” completed the merger of the Tsentral'noe and Rasvumchorsky mines]. URL: https://regnum.ru/news/economy/1908461.html (accessed 01 February 2020).

[14] London Jack. The Economics of the Klondike. Review of Reviews. January 1900. URL: https://thegrandarchive.wordpress.com/the-economics-of-the-klondike/ (accessed 01 February 2020).

[15] Huskey L. Alaska’s Economy: The First World War, Frontier Fragility, and Jack London. Northern Review, [S.l.], 2017, no. 44, pp. 327–346. ISSN 1929-6657. URL: http://journals.sfu.ca/nr/index.php/nr/article/view/639 (accessed 01 February 2020).

The role of the regional effect, which was the main one in the development of new territories and resources in the Soviet era and was implemented as industrial Territorial production complexes, is changing. Now it is not the state that seeks to receive it, but the corporations due to the close location of several production facilities connected by each other with another, not expensive round-the-clock objects of physical infrastructure, but more economical, often seasonal, temporary objects of telecommunication and transport infrastructure. The district effect of the new intra-corporate pairing takes on either the centripetal form ("pilot clones") when the best practices of the first project are replicated for subsequent ones or a network form of parallel projects.

Very characteristic is the desire of the new main development actors — corporations — to obtain/maintain full control over the created resource chain at all stages of processing and transportation. It determines many decisions in the spatial distribution of development objects (e.g., development bases), in the entire organization of the productive forces of new development.

3. Climate mitigation and new technological opportunities determine a shift in the logistics of many Arctic projects: earlier they relied on the southern land transportation scheme by road, rail or pipeline, and now on the Northern sea transportation scheme by specialized ice-class vessels with or without partial icebreaking support her along the Northern Sea Route. This new logistic maritime scheme causes reconfiguration of the old bases and development routes, the creation of a network of new sea bases (transshipment points) and routes, and even more — changes the production schemes of resource extraction and processing. The new marine production and transport model for the development of Arctic resources is, as a rule, also the platform, island, that is, extraordinarily localized and combined in the mining and processing stages.

4. Dozens of new projects for the resource development of the Arctic turn out to be exceptionally geographically restricted: in terms of capital investments, a significant part of them is concentrated in the Ob Bay of the Yamal-Nenets Autonomous Okrug, in terms of quantity — in the Yamal-Nenets Autonomous Okrug and Taimyr. But this means that in the land spaces and the water areas of these places, there are powerful territorial (and often intercorporate) effects from interfacing projects on the same infrastructure, from the use of common ports, terminals, transshipment points, etc. Therefore, a separate study of the phenomenon of two Arctic regions of new development is needed, i.e., the water (marine) one in the Gulf of Ob and the land one on Taimyr. It will contribute to an objective understanding of the new effects that arise here with a new, corporate development of the resource s and spaces.

5. The ideal scheme for the modern development of the Arctic resources, as it is seen by corporations and to which they are striving, can be characterized in the ultimate setting as follows. It is an absolutely isolated autonomous production platform, where production and processing processes are developed, with unmanned technologies due to the remote control of all production processes (therefore, even shift camps are not required since everything happens according to space, moon-moving scheme).

In this case, no additional social obligations are required to be fulfilled due to the lack of permanent indigenous or alien residents and workers. The operator company has all the maximum possible tax benefits for the project and uses the production infrastructure created at the expense of the state for the project.

The corporation has absolute control and predictability in production and logistics processes because both the means of production and the means of sea and land transportation belong to it. It is for this reason that this scheme does not involve the use of atomic icebreakers because it always means weakening personal control over the space of movement of the resource chain.

The main goal of the corporation is for the field to be put into circulation as quickly as possible for the project to promptly reach the breakeven point and start generating profits and working to increase the company's stock indices. It is clear that the goals of the state in implementing a new project for the development of Arctic resources are different: maximum tax revenue for the company; not fast, but effective from the point of view of loading domestic enterprises, the development process; maximum use of the potential of domestic science; maximum economic and social return from the project for the country and territory of the company's presence. There is a definite contradiction of positions, which forms the dramaturgy of the modern process of Arctic exploration and provokes an increase in spatial and social contrasts.

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Transport and infrastructural basis of the tourism development strategy in the Arkhangelsk Oblast*

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Abstract. The article, devoted to the analysis of transport and geographical locations, describes possible strategies for the development of tourism in the Arkhangelsk Oblast. The main goal of the research was the development of logistic schemes of the transportation of tourists from the places of formation of tourist flows to the Arkhangelsk Oblast. The methodological basis of the article is to determine the economic distances between potential tourist distribution centers and their places of interest in the area. Moscow, St. Petersburg, and Arkhangelsk were considered as the main towns of departure. Kargopol, Solvychegodsk, Kholmogory and Lomonosovo, Solovki, Kenozersky National Park, and Pinega caves are regarded as the main sites of tourist interest in the Arkhangelsk Oblast. It was determined that Kargopol is the most accessible for tourists, and Kenozersky National Park is the most recognizable by tourists but the least accessible. The object of world cultural heritage, the Monastery of the Transfiguration of the Saviour on Solovki is the most accessible for tourists from the territory of Karelia. It is recommended to optimize the schedule and to synchronize the work of transport for tourists to improve the transport accessibility of recreational facilities in the area. Composed logistic transport schemes allow optimizing the planning of tourist routes in the Arkhangelsk Oblast.
Keywords: *transport and geographical location, destination, tourist flow, tourism development strategy.*

Introduction

The lack of roads and convenient transport links between tourist flow-forming centers and places of tourist interest reduces the possibilities of using recreational resources for the development of tourism. For many territories of the country with a specific recreational potential, only active and extreme types of tourism can develop regardless of the degree the local infrastructure development. It applies to the Arkhangelsk Oblast. But the development of the future regional tourism strategy should be based on the competitive advantages of the territory, strengths, and weaknesses, and consider all possible types of tourism to be developed due to available recreational resources [1, Tsvetkov A.Yu., p. 52; 2, Tsvetkov A.Yu., p. 282]. It is necessary, first, to consider the transport accessibility of places of tourist interest and develop appropriate logistic schemes that contribute to the competitiveness of the local tourist product due to cheaper tours and reduced travel time. The long-term effective recreational development of the territory must necessarily point to the improvement in the quality of life of the local population, which, in turn, depends on its investment attractiveness, impossible without good transport accessibility.

The study aims to develop logistics schemes for the recreational facilities of the Arkhangelsk Oblast.

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Materials and study methods

In work, we analyzed the current state of the transport system of the Arkhangelsk Oblast, assessed the transport accessibility of the most famous destinations, and developed the transport and infrastructure foundations of a tourism development strategy. As the most valuable objects for recreational development, we considered the Solovetsky Islands (1), Kargopol (2), Kenozersky National Park (3), the village of Lomonosovo (4), Pinega Karst Caves (5) and Solvychegodsk (6). These objects are among the "miracles" of the Arkhangelsk Oblast, according to the official tourist portal of the administration[1] (Fig. 1).

Under the transport and infrastructure fundamentals of the tourism development strategy, we mean the transport scheme for promoting tourists to their objects of interest fundamental for the development of tourist routes. It includes the most acceptable routes for various types of transport in terms of speed, cost, and convenience of travel from the places of the main tourist flows formation. We considered all possible logistic schemes, consisting of regular flights from large towns, which are the starting points of most tourists visiting the Arkhangelsk Oblast. We evaluated the transport and geographical position of the above destinations concerning the places of tourist flows formation using each logistics scheme. The most convenient logistics schemes for the delivery of tourists revealed. Besides, we examined the transport connectivity of the listed destinations with each other or with other recreational facilities located along the tourist routes for the possible creation of combined tours. The identification of the transport basis helps to identify the weak links in the transport system of the territory, the elimination of which will help to develop the tourism business more successfully.

The modern transport system of the Arkhangelsk Oblast is represented by railways and highways, inland waterways, and airlines. However, the overall level of the transport system development is low. The density of motor roads is 11.4 km per 1,000 km^2 territory, railways — 3 km per 1,000 km2, which is lower than the national average [3, Potapov I.A., p. 79]. The hard-surfaced road network does not cover the entire territory of the region; in some areas, it is possible to get only by the “winter road”. Ferries are often used as river crossings, so in the off-season, during leareach or ice drift, it is not always possible to cross, which makes many areas remote from the main routes challenging to access. The Arkhangelsk-Vologda railway, which crosses the region in the western part from north to south, has branches from Obozerskaya station to the west, to Belomorsk (Karelia), from the Konosha station in the south of the region, a branch runs east to Vorkuta (Komi Republic), and from Kotlas station — south to Kirov. Another railway line connects Arkhangelsk with the regional center of Karpogory. There is a project according to which this road should extend from the Karpogory station to the Vendinga station, which will provide access through the Komi Republic to the Urals (the Belko-Mur project). Most of the region is not covered by railways.

[1] Ofitsial'nyy turistskiy portal Arhangel'skoy oblasti [Official tourist portal of the Arkhangelsk Oblast]. URL: www.pomorland.travel.ru (accessed 30 April 2018).

The federal highway M8 crosses the region from north to south in the center and connects it with the Vologda region. Roads of regional and local significance depart from it, but not all of them are paved. The length of the M8 highway within the region is 535 km, and the range of local roads with improved coverage is 1,642 km. The territories adjacent to these roads are the most accessible. If we consider the gravity zones of all the roads listed above as territories that are 10 km away on both sides, then the most available ones include only 22% of the region's area. Most of the region's road network does not have improved coverage (4,540 km), and 49% of its mainland is difficult for tourists [3, Potapov I.A., p. 80].

Fig.1. Objects of tourist interest and transport network of the Arkhangelsk Oblast [2].

There are operating airports in Arkhangelsk (Talagi International Airport, and Vaskovo Airport serving local airlines), in Kotlas (accepts only flights from Arkhangelsk and Syktyvkar), as well as in remote places (Sovetsky Islands, Leshukonskoe, and Mezen).

Tourists, to get to the territory of the region, can take a train (regular connections with Moscow, St. Petersburg, Murmansk, Syktyvkar, Minsk, Adler), and an airplane (regular flights with Moscow, St. Petersburg, Murmansk, Naryan-Mar, Petrozavodsk, and Syktyvkar) or motor transport port on the federal highway M8.

All the key tourist destinations of the Arkhangelsk Oblast considered in our work are located away from the main transport routes. Solvychegodsk is located closest to the railway and the

[2] 1 — Solovetsky Islands, 2 — Kargopol, 3 — Kenozersky National Park, 4 — the village of Lomonosovo, 5 — Pinega caves, 6 — Solvychegodsk.

airport (17 km from the Kotlas station and airport). Still, it is separated from them by the Vychegda River, on which there is no bridge, which makes it difficult for the city to reach tourists (Fig. 1).

The geographical position of the M.V. Lomonosov's homeland could be the most advantageous of all the objects under consideration since it is 11 km from the M8 federal highway. However, the island position of the village, where the scientist's memorial museum, is located makes it difficult for tourists to reach. Tourists usually visit the village of Kholmogory, located 8 km from the M8 highway and 60 km straight from Arkhangelsk, and then cross the river channel on a ferry to Kurostrov, where the village of Lomonosovo is located. But in the offseason, it is problematic. In winter, there is an ice crossing.

Kargopol is 78 km from the nearest railway station of Nyandoma. They are connected by a regional highway, which then goes to the territory of Karelia.

The Solovetsky Islands, located in the White Sea, 240 km north-west of Arkhangelsk, are removed from the main transport routes, which makes their accessibility difficult, depending on the season of the year and weather. The Karelian town of Kem has a railway station and port and is the transport and distribution hub closest to the islands, through which the most of tourists arrive.

Kenozersky National Park is in the western part of the Arkhangelsk Oblast, 300 km southwest of Arkhangelsk. However, the difficulty of its accessibility is associated with a considerable distance from the main roads (120 km straight to the nearest railway station Plesetskaya). Kargopol and Kenozersky National Park are the most remote from the airports.

Pinezhsky karst caves (some of them are on the territory of the reserve and are unaccessible for tourists) are located 100 km east of Arkhangelsk and relate to it by a single road that mostly lacks a hard surface. The Arkhangelsk-Karpogory railway line is 85 km from the caves.

Studies on the transport and geographical location of recreational facilities of the Arkhangelsk Oblast were carried out by I.A. Potapov [4, 5, 6]. His methodology is based on a score of time and economic distances between recreational facilities and places of tourist flows formation. Factors affecting the transport accessibility of recreational facilities were used as criteria for the assessment. It is, first of all, the fare, travel time, the number of modes of transport, as well as the waiting time for their docking in the transport scheme, the regularity and seasonality of traffic, and the type of road coverage. Large cities (Moscow, St. Petersburg, and Arkhangelsk) were considered as places for the tourist flows formation. When delivering tourists, regular transport routes were considered. They would help tourists to achieve their destinations quickly and cost-effectively. All factors contributing to or obstructing the movement of tourists were rated in points. In this case, the score is higher, the stronger it impedes the achievement of tourist goals. The lower the total score, the more advantageous is the transport-geographical position of the object (Table 1) [6, Potapov I.A.].

We supplemented this methodology by studying the transport connectivity of the considered recreational facilities, which is vital for developing tourist logistics schemes and further plan-

ning routes in the region. To do so, we studied the transport map of the Arkhangelsk Oblast and determined the position of recreational facilities relative to roads and concerning each other. Objects that have a favorable transport and geographical location relative to each other, we recommended for inclusion in combined routes.

Table 1

Assessment of the transport-geographical position profitability of the main destinations in the Arkhangelsk Oblast regarding the places of tourist flows formation when using various transport schemes

Town/city	Score															
	Destination															
	Transport scheme number															
	Kargopol			Solvychegodsk		Kenozer'e		Lomonosovo			Pinega caves			Solovki		
	1 [3]	2	9	2	7	1	2	7	8	10	2	7	9	3	4	6
Arkhangelsk	-	7	11	13	10	-	11	-	-	4	-	-	5	-	9	22
Saint Petersburg	11	16	-	15	-	15	19	9	22	-	22	9	-	-	12	16
Moscow	13	11	-	12	-	17	18	10	17	-	18	9	-	24	13	22

Results and their discussion

As follows from the table, one mode of transport can be used only from Arkhangelsk and only to three of the considered recreational facilities (Kargopol and Pinega caves — by regular bus, and to Solovki — by plane). Moreover, the score for assessing the position of Kargopol relative to Arkhangelsk when using a bus is worse than when using the "train — bus" transport scheme because of the small frequency of flights. For the delivery of tourists from Arkhangelsk to Kargopol, it is more profitable to use the "train — bus" scheme (transit via the Nyandoma station), to Solvychegodsk — "airplane — bus" (transit via Kotlas), to Lomonosovo — "bus — ferry", to Pinega caves — a bus, to Solovki — a plane. All these destinations are more advantageously located relative to Arkhangelsk than to Moscow and St. Petersburg [4].

The position of the destinations relative to Moscow and St. Petersburg is about the same; for each of these centers of tourist flow formation, there are the most advantageous schemes. Thus, the position of Kargopol compare to Moscow is most beneficial when using the train-bus scheme (transit via Nyandoma station). However, the scheme "airplane — train — bus" (transit via Arkhangelsk airport and Nyandoma station) differ slightly in the assessment. From St. Petersburg, the most advantageous is the use of the "airplane – train – bus" scheme. The scheme has advantages over the train-bus scheme since the train from St. Petersburg runs less frequently (once a day in summer, four times a week in winter). Solvychegodsk is accessible from Moscow and St. Petersburg using the "train — bus" scheme (transit via Kotlas station), it is possible to use the "airplane — plane — bus" scheme (transit via the airports of Arkhangelsk or Syktyvkar and Kotlas). Still, the rarity of flights and the price of tickets reduce its profitability.

[3] The number of the transport scheme with a certain combination of modes of transport: 1 — plane — train — bus; 2- train — bus; 3 — train — plane; 4 — plane — plane; 5 — train — plane; 6 — train — ship; 7 — plane — bus; 8 — train — bus — ferry; 9 — bus; 10 — bus — ferry.

[4] Atlas avtomobil'nykh dorog Rossii. Arhangel'skaya oblast' [Atlas of highways of Russia]. Saint Petersburg, Karta, Roskartografiya, 2008. [In Russian]

The position of the Kenozero National Park relative to Moscow and St. Petersburg is awkward due to its remoteness from the main transport routes. At the same time, it is somewhat more advantageous to use the "airplane — train — bus" scheme with transit via Arkhangelsk airport and Plesetskaya station. Lomonosovo, like Pinega caves, is accessible for tourists only with transit via Arkhangelsk. At the same time, the most advantageous is the use of an "airplane – bus" scheme (compare to Lomonosovo, you still need a ferry). Caves are most accessible from Moscow and St. Petersburg when tourists use the "plane-plane" scheme with transit via Arkhangelsk.

But for tourists from St. Petersburg, it is also beneficial to use the "train — motor ship" route with transit through Kem. Of the three centers under consideration for the formation of tourist flows, it is for tourists from St. Petersburg that this scheme is most acceptable.

Of great importance in strategic planning are the fame and status ("recognition") of destinations. It gives recreational facilities advantages that contribute to the sustained interest of tourists in them. Therefore, such destinations should be in priority development.

In the Arkhangelsk Oblast, the Transfiguration Monastery on the Solovetsky Islands, which is included in the UNESCO World Heritage List, is the most "status", and therefore the most famous and visited tourist destination in the Oblast. In the historical town of Kargopol, founded in 1146, and its district, there are 28 monuments of urban planning and architecture of federal and 150 regional significance. It is also a popular destination for tourists in the area. Kenozero National Park is included in the UNESCO global network of biosphere reserves; this is a unique surviving example of the North European cultural landscape [7, Heldt Cassel S.; 8, Pashkevich A., p. 120].

Solvychegodsk is a historic town, founded in 1492, with monuments of architecture and urban planning (4 objects of federal and 33 of regional significance). But this destination has a significant additional advantage. Solvychegodsk is a balneological resort with unique mineral waters of the Matsesta type and mud. An adult and a children's sanatorium work in the town [9, Potapov I.A., p. 103].

These destinations attract tourists who stay for more than two days. These places can exist and develop as independent destinations and as part of prefabricated tourist routes. However, the distance from the main transport routes reduces their accessibility. Therefore, when working out a concept for tourism development in the Arkhangelsk Oblast, this problem should be considered as the major.

Among the places of tourist interest of the Arkhangelsk Oblast, as shown in the Table 1, Kargopol has the most favorable transport and geographical position concerning the areas of tourist flow formation. It should be considered when developing the concept for tourism development in the region since the attention of the regional administration to solving transport and infrastructure problems contributes to the investment attractiveness of the place and increase the tourist flow.

Kenozersky National Park can only be reached by bus from the railway (from Plesetskaya station, a 150 km terrible road). The advantage of the proximity of the park to Kargopo should be

used to attract tourists. Kargopolskiy sector of the park is located 50 km from the town on a regional asphalt road, which then goes to Karelia. The central part of the park and the largest lake, Kenozero lace, are in its Plesetsk sector. The way from the center of the park, the village of Vershinino, to Kargopol is 130 km. However, 50 of them (between the villages of Shiryaiha and Samkovo) are not covered. So, the use of the road is currently problematic. The combination of Kargopol and Kenozersky National Park in one cluster could make these destinations more attractive, expand the possibilities for developing tours, and increase the time tourists spend there. Kargopol can become the "gateway to the Kenozersky National Park", which is facilitated by the presence of a regional highway connecting it with Karelia. So, the town can become a transportation and distribution hub for a vast territory with attractive display facilities.

The Solovetsky Islands are accessible to tourists only in transit via Arkhangelsk or Kem. At the same time, the most budgetary route passes through Karelia; therefore it is advisable to make joint tours to Solovki with a visit to the destinations of Karelia during the navigation period on the White Sea. With the closure of navigation, islands become accessible only by air from Arkhangelsk. Consequently, winter programs begin in Arkhangelsk, which we need to use, combining them with a visit to the Arkhangelsk area.

Due to its isolated geographical location and limited attractiveness, the village of Lomonosovo cannot currently exist as an independent destination. In Lomonosov's homeland, the points of tourist interest can only be the memorial museum of the scientist and the bone carving of the local population. But these attractions will take tourists only a few hours. The proximity of Arkhangelsk allows organizing time-limited excursions and traveling on a sightseeing bus linked to the ferry timetable. Individual trips by regular bus, for this reason, are complicated. Attention should be paid to tourists traveling by personal transport. The proximity of the federal highway dictates the need to create conditions for cars in the village of Lomonosovo, which can increase the flow of individual tourists, not connected with tour operators and the schedule of organized excursions. But the flow of any tourists to the island is limited by the time of freezing.

There are two hotel complexes near the Pinega caves. Still, the set of elementary recreational activities there is limited to visiting the caves, the buffer zone of the Pinezhsky Reserve, and active recreation (a ski slope on Krasnaya Gorka). The availability of this destination is limited to the only road that connects it with Arkhangelsk and the village of Pinega. The caves are located 117 km from the village of Lomonosovo, and there is a ferry crossing between the right bank of the Northern Dvina and Kurostrov. Therefore, you can connect these destinations in one route, which, first, can be designed for caravans. It is 85 km from the caves to the nearest Palen'ga railway station. However, this railway is dead-end and currently does not matter for the delivery of tourists, but after the Belkomur project will be completed and its connection to the Komi Republic, it will be possible to invite tourists from this area.

Conclusion

Thus, the strategy for the recreational development of the Arkhangelsk Oblast should include measures aimed at improving the transport and geographical position of the main destinations, esp. those with high status. It is necessary to improve transport infrastructure and select priority logistics schemes for delivering tourists.

Among all the destinations considered in the study, the most advantageous transport and geographical location has Kargopol. Kenozersky National Park, on the contrary, occupies the least favorable transport and geographical position compare to the mentioned centers due to the most significant distance from the main transport routes. But the proximity of the park to Kargopol and the connectedness of these destinations by road make it possible to combine these tourist destinations into a single cluster. Thus, when planning tourism development in Kargopol, it should be considered as an attractive investment destination that promises to pay off the fastest with the least investment. It is facilitated by the most advantageous transport and geographical location. And the inclusion of a visit to the Kenozersky National Park in the program of stay in Kargopol will make this destination attractive for more categories of tourists. But without reconstruction of the road connecting the town and the park, the development of the direction is impossible.

The Solovetsky Islands have a difficult transport and geographical position, but its heritage has the highest status, recognition, and popularity among tourists. It is necessary to consider the seasonality of navigation on the White Sea to improve the logistics of tourist delivery to the islands. Therefore, in the summer, during navigation, for trips to Solovki, it is cheaper to use transit via the Karelian port of Kem according to the “train — motor ship” scheme. This route is especially beneficial for tourists traveling from St. Petersburg. One must use this advantage to organize budget tours to Solovki. When navigation is closed, only air traffic is possible. The plane is from Arkhangelsk, but not every day, which is an obstacle to organizing tours. Therefore, winter trips to the Solovetsky Islands entail high costs for tourists. One might reduce them when organizing charter flights. Programs of the visit should be attractive enough for different categories of tourists; otherwise, winter tourism on Solovki will be unprofitable. The proximity to Karelia and the best transport connection with it during the navigation period contribute to the creation of combined tours with a visit and its sights.

Solvychegodsk is a town with significant recreational potential, which is currently poorly used due to the absence of a bridge over the river and difficulty when reaching the airport and railway station (only a pontoon ferry available). Currently, tourism in the town is developing only at the expense of visitors to the sanatorium. Solving the river crossing issue would make this destination more accessible for both tourist groups and individual tourists. There is a project for a bridge over Vychegda, but it remains frozen for a long time. Another advantage of Solvychegodsk is its transport connection with Veliky Ustyug, “the birthplace of Father Frost”, one of the most popular tourist destinations located in the neighboring Vologda Oblast. It makes it possible to develop interesting combined routes there.

Pinega caves are currently available for tourists only in transit via Arkhangelsk. The transport-geographical situation will improve after the completion of the railway construction from the Karpogory station to the Vendinga station in the Komi Republic (Belkomur project) when there will be a transport connection with the Ural region. In this case, there will be new centers for the formation of tourist flows. The Palenga station closest to the caves will become a transportation and distribution center. But to attract tourists, it is necessary to increase the attractiveness of this tourist destination.

Among the destinations considered, M.V. Lomonosov's homeland is the closest to the main federal highway M8. Still, the island location of the village reduces the advantage of its transport and geographical location. Currently, the use of this destination as an independent one is not advisable, but its inclusion into combined routes looks promising. It is possible to develop a route connecting the village of Lomonosovo and Pinega caves, as there is a transport connection between these tourist destinations (a ferry from Kurostrov, a road from the village of Srednepogostskaya). It is especially true for car tourists. Therefore, when planning tourism development in the region, it is necessary to consider the possibilities for individual car tourists, esp. for places difficult to get on regular means of transport. It is required to create motels, campsites, and organize regular ferry crossings across rivers, improve the road surface.

The quality of roads in the Oblast is a serious obstacle to the development of tourism. If we eliminate the factors that impede the transport accessibility of destinations, then their transport and geographical position will improve. In addition to the repair and construction of roads, it is necessary to increase the regularity of transportation, synchronize and make connections to different types of transport more convenient for tourists.

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Tourism industry development issues in the Arctic zone of the Russian Federation*

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Abstract. The article summarizes the existing approaches to assessing the level of tourism at the local level. It allowed forming a system of key indicators and indicators of the tourism industry activity in the development of the hotel business; the development of tourism business; profitability of tourism and hospitality; the popularity of regional tourism products. Based on the formed system of indicators, the author's technique of a point estimation of development activity for the tourist branch was developed. As a result of testing of the proposed methodology in the Russian Arctic, we could reveal that the weaknesses of the Arctic territories was the low popularity of the local tourist products and low growth yield of the tourism industry, especially among the areas wholly included in the Russian Arctic. The conclusions are consistent with the results of an expert survey of participants of the tourism and recreational cluster of the Murmansk Oblast. A set of measures aimed at the development of the tourism industry of the Murmansk Oblast is proposed: the recognition of tourism as a subsidized industry at the level of the Oblast and its municipalities; consolidation in strategic and program documents of the territory on the formation of the local tourist brand, advertising, and information support of the local tourist product promotion on the internal and external markets; a campaign on the promotion of a positive tourist image of the Murmansk Oblast in mass media.

Keywords: *tourism, tourism industry, tourism policy, Arctic zone of the Russian Federation.*

Introduction

The problems of the tourism industry development in the Arctic zone of the Russian Federation (AZRF) are mainly due to the specifics of these regions, namely: harsh natural conditions and vulnerable ecosystems, a low level of infrastructure development, the geographical remoteness of economic activity from significant markets, isolation, as well as the small size of local markets [1, Serova N.A.]. In such conditions, it is necessary to compensate for these shortcomings due to the more efficient management of these specific territories [2, Skuf'ina T.P.]. The experience of foreign countries suggests the development of the tourism industry can contribute to the diversification of the economy of the Arctic and provide a significant multiplier effect that affects the development of other industries [3, Yakovchuk A.A.]. Despite the fact that in the world scientific research sphere the study of Arctic tourism has been involved for more than 30 years [4, Johnston M.; 5, Johnston M.; 6, Viken A., Jørgensen F.; 7, Milne S., Ward S., Wenzel G., et al.], in Russian studies this issue began to be studied relatively recently, which, in our opinion, is one of the reasons for the low efficiency of this industry, relative to other Arctic powers [8, Baranov S.V., Bazhutova E.A., Biev A.A., Emelyanova E.E., Serova V.A., Serova N.A., Skuf'ina T.P., Yakovchuk A.E.]. The real potential of Arctic tourism necessitates the search for effective mechanisms for assessing the effectiveness of the tourism industry and developing recommendations

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for its improvement. To solve this fundamental problem, we have studied the main issues of tourism development and the factors hindering its growth in the Arctic. The practical significance lies in the development of recommendations possible to be used to improve the tourism legislation of the Arctic regions of the Russian Federation.

Methodology for assessing the development activity of the tourism industry

Consideration of existing approaches to evaluate the level of development of the tourism sector [9, Yuvanen E.I.; 10, Murina S.G.; 11, Rubtsova N.V.; 12, Rubtsova N.V.; 13, Meleshenko N.A.; 14, Kumar M., Prashar S., Jana R.K.; 15, Javid E., Katircioglu S.] made it possible to formulate a system of key indicators and indicators of activity in the development of the tourism industry at the regional level (Table 1).

Table 1

Key indicators of tourism industry development activity

Indication	Indicator
Hotel business development	• The growth rate of collective accommodation facilities • The growth rate of places in collective accommodation facilities • The growth rate of people working in collective accommodation facilities
Tourism business development	• The growth rate of travel agencies • The growth rate of people working in travel agencies
Profitability of the tourism and hospitality industry	• The growth rate of collective accommodation services • The growth rate of tourist services provided to the population
The popularity of regional tourism products	• The rate of growth of nights in collective accommodation facilities • The growth rate of foreign citizens in collective accommodation facilities • The growth rate of citizens of the Russian Federation in collective accommodation facilities

Based on the formed system of indicators, the authors developed a method for scoring the activity of tourism industry development, according to which the growth rate of the all-Russian indicator is assigned — 1.00 points, and points for the studied regions are assigned according to the formula:

$$B_i = \frac{TR_i}{TRF} = \frac{\sqrt[n^{TR_i}]{x_1 * x_2 * \dots x_n}}{\sqrt[n^{TRF}]{x_1 * x_2 * \dots x_n}}$$

B_i — region ranking score “I”;

TR_i — the average annual growth rate of the region “I”;

TRF — a yearly average growth of the all-Russian indicator;

n — the number of periods with growth factors;

x — chain growth rate.

Further, the score for a specific indicator was calculated as the arithmetic average of its indicators.

Assessing the development activity of the tourism industry

The assessment of the development activity of the tourism industry based on the formed system of indicators was carried out considering open data from a single interdepartmental information-statistical system (SIISS)[1].

The first indicator of the active tourism industry development is the "development of the hotel business." A comprehensive assessment requires the following indicators to be considered: the growth rate of the number of collective accommodation facilities in the region (Fig. 1), the growth rate of the number of places in collective accommodation facilities in the region (Fig. 2), the growth rate of the number of people working in collective accommodation facilities (Fig. 3).

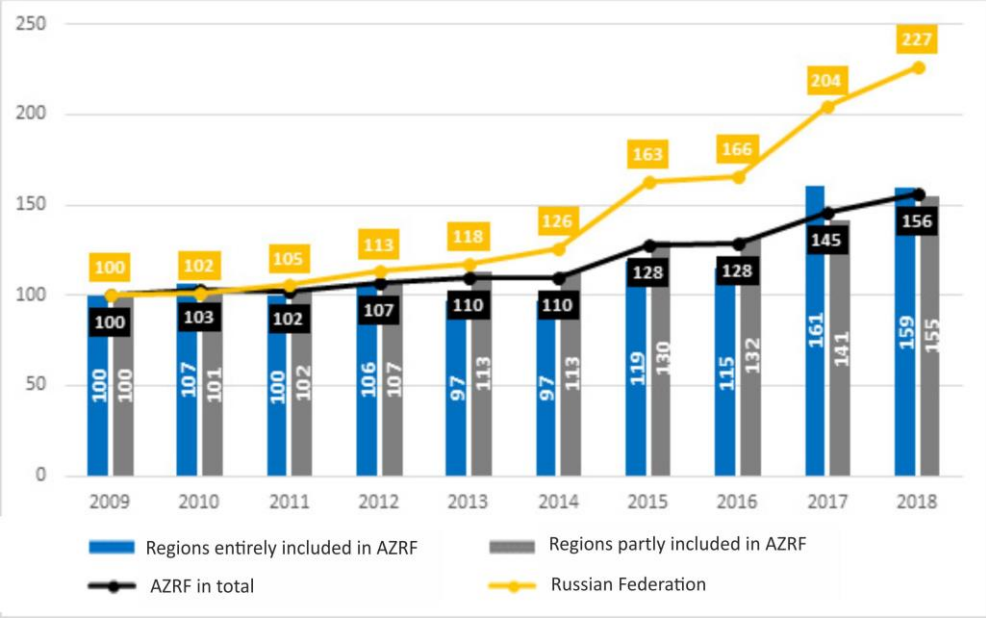

Fig. 1. The growth rate of collective accommodation facilities in the region (% compared to 2009).

This indicator reveals a stable growth both at the all-Russian level and in regions of the Russian Arctic. However, the growth rate of the number of collective accommodation facilities in Russia is much higher than the growth rate in the Arctic regions. In 2017 and 2018, growth rates for this indicator in regions that are entirely part of the Russian Arctic overtook the growth rates of partially arctic regions.

[1] Ofitsial'nye statisticheskie pokazateli [Official statistics]. URL: https://www.fedstat.ru/ (accessed 25 September 2019).

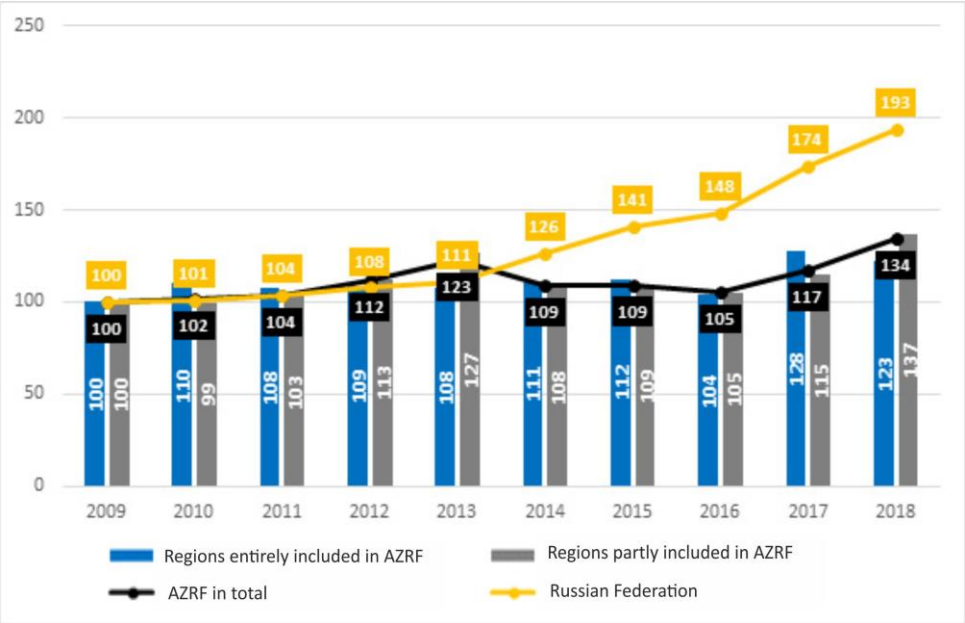

Fig. 2. The growth rate of the number of places in collective accommodation facilities in the region (% compared to 2009).

According to this indicator, stable growth is observed at the national level; however, at the level of the regions of the Russian Arctic, steady growth was kept until 2013, then there was a decline until 2016, and only since 2017, there has been a positive trend. It is worth noting that the growth rate of the number of places in collective accommodation facilities in Russia is much higher than the growth rate in the Arctic regions. In 2017, the growth rates for this indicator in regions that are entirely part of the Russian Arctic were ahead of the growth rates of partly Arctic regions.

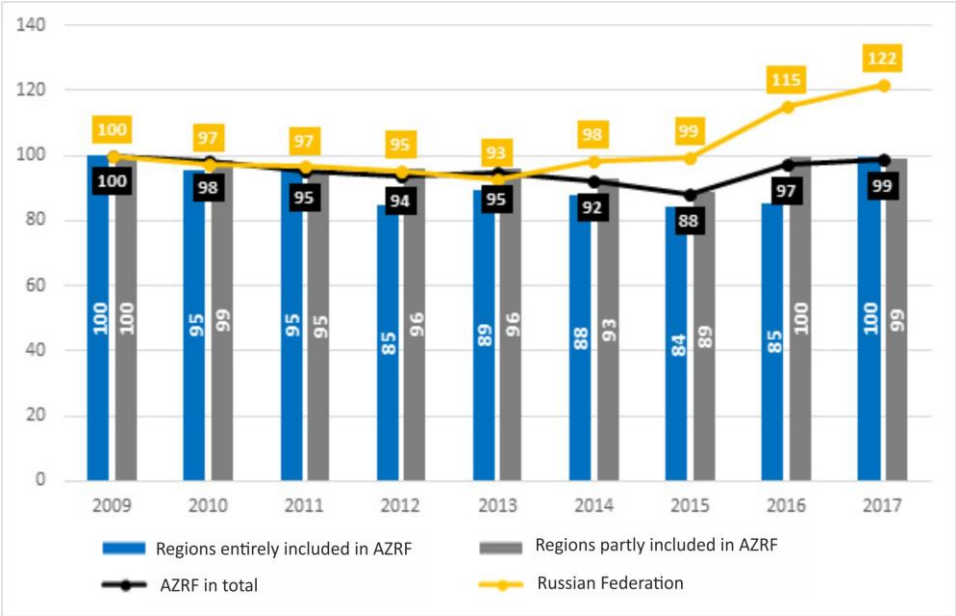

Fig. 3. The growth rate of people working in collective accommodation facilities (% compared to 2009).

According to this indicator, a stable decline is observed until 2013. At the all-Russian level, growth has been observed only since 2014, and at the level of the Russian Arctic regions, since 2016. It should be noted that the growth rate for this indicator in Russia is significantly higher than the growth rate in the Arctic regions. In 2017, the growth rates for this indicator in regions entirely included in the

Russian Arctic caught up with the growth rates of partially arctic regions. According to the activity of developing the indicator “hotel business development”, the regions were divided in 3 groups (Table 2).

Table 2

Classification of regions by the "hotel business development" indicator

Lagging development *(less than 0.80 points)*	**Moderate development** *(from 0.80 to 1.00 points)*	**Advanced development** *(more than 1.00 points)*
“Hotel business development”		
Nenets Autonomous Okrug (0.78)	Chukotka Autonomous Okrug (0.95) Krasnoyarsk Krai (0.88) Murmansk Oblast (0.88) Republic of Sakha (Yakutia) (0.86) Yamal-Nenets Autonomous Okrug (0.86) Komi Republic (0.84) Arkhangelsk Oblast (0.82)	Republic of Karelia (1,17)

Among the entire Arctic regions, only the Nenets Autonomous Okrug fell into the group of lagging development; the remaining regions are in the group with moderate development in this indicator. Among the partially arctic regions, only the Republic of Karelia fell into the group with the outstripping development; the remaining regions are also in the moderate development group.

The next indicator characterizing the active development of the tourism industry is the development of the tourism business. For a comprehensive assessment of this indicator, the following indicators were considered: the growth rate of travel agencies working in the region (Fig. 4), the growth rate of people working in travel agencies (Fig. 5).

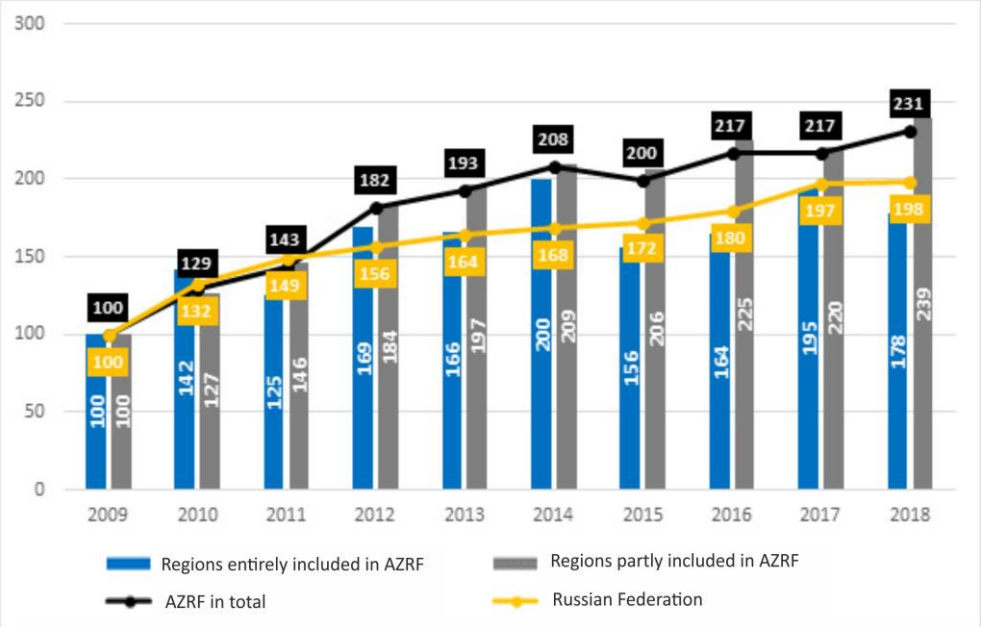

Fig. 4. The growth rate of travel agencies operating in the region (% compared to 2009).

According to this indicator, stable growth is observed at the national level and in regions partially included in the Russian Arctic. However, the growth rate of the number of travel agencies in Russia is much lower than the growth rates in partially arctic regions. As for the entire Russian Arctic regions, the peak value there was reached in 2014, followed by a significant decline, and as of 2018, this

value has not been reached. In general, the growth rate for this indicator for the entire Arctic regions corresponds to the all-Russian level.

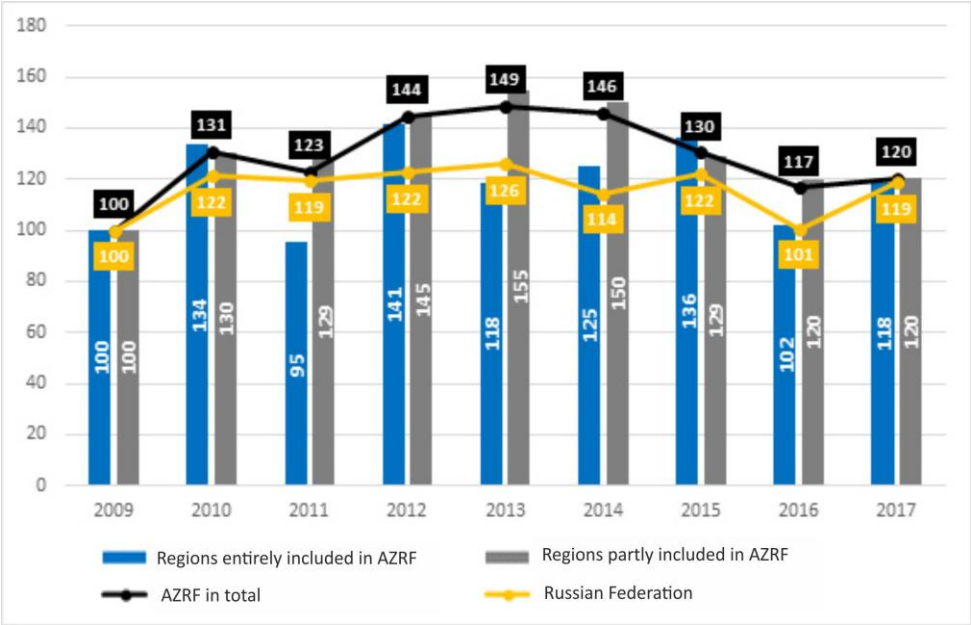

Fig. 5. The growth rate of people working in travel agencies (% compared to 2009).

The indicator reveals a stable growth in both at the national level and in regions partially included in the Russian Arctic, until 2013. Since 2014, a significant decline has been observed. It is worth noting that the growth rate of the number of people working in travel agencies in Russia is much lower than the growth rate in partially arctic regions. As for the regions that are entirely a part of the Russian Arctic, the peak value here was reached in 2012, after which there was a significant decline, and as of 2017, this value has not been reached. In general, the growth rates for this indicator of the entirely Arctic regions correspond to the all-Russian level. According to the activity of development of the indicator “development of tourism business”, the regions were divided into 3 groups (Table 3).

Table 3

Classification of regions according to the "development of tourism business" indicator

Lagging development *(less than 0.80 points)*	**Moderate development** *(from 0.80 to 1.00 points)*	**Advanced development** *(more than 1.00 points)*
Development of tourism		
	Nenets Autonomous Okrug (0,98) Murmansk Oblast (0,96) Arkhangelsk Oblast (0,95) Komi Republic (0,85)	Republic of Karelia (1,32) Krasnoyarsk Krai (1,31) Yamal-Nenets Autonomous Okrug (1,19) Republic of Sakha (Yakutia) (1,06) Chukotka Autonomous Okrug (1,02)

It is worth noting that not a single region fell into the group of lagging development for this indicator. Among the entirely Arctic regions, the Yamal-Nenets and Chukotka Autonomous Okrug were among the priority development groups. Among the partially arctic regions, the Arkhangelsk Oblast and the Komi Republic fell into the moderate development group. The remaining regions are in the group with advanced development.

The next indicator characterizing the active development of the tourism industry is the “profitability of the tourism and hospitality industry”. For a comprehensive assessment of this indicator, the

following indicators were considered: the growth rate of the volume of services of collective accommodation facilities (Fig. 6) and the growth rate of the number of tourist services provided to the population (Fig. 7).

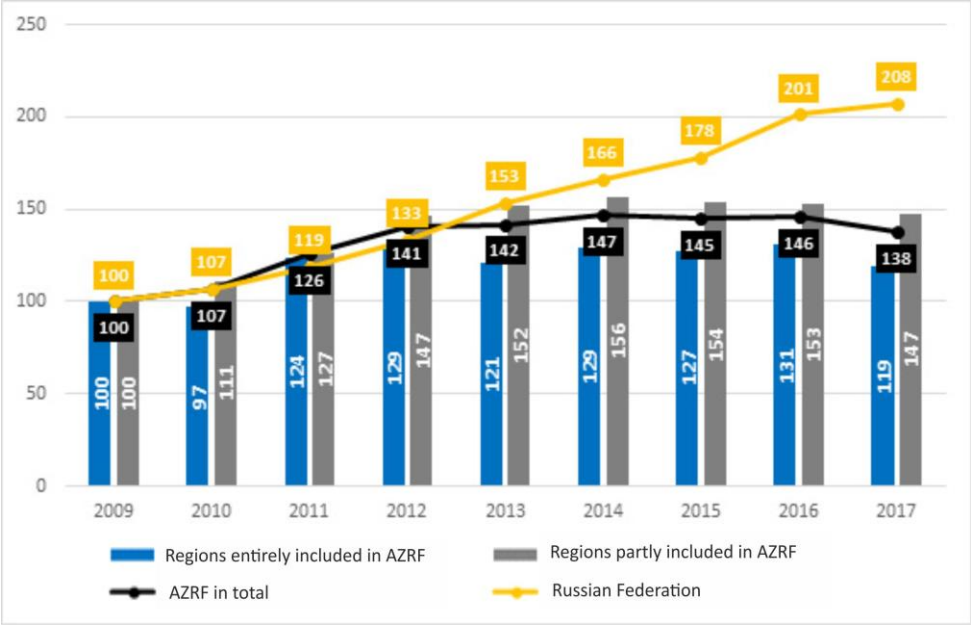

Fig. 6. The growth rate of collective accommodation facilities services (% compared to 2009).

According to this indicator, stable growth is observed only at the national level. As for the partially arctic regions, growth is observed only until 2014, after which this indicator stays at approximately the same level. It is also worth noting that, according to this indicator, entirely Arctic regions lag regions partially included in the Russian Arctic. In general, all-Russian growth rates significantly exceed the general Arctic level.

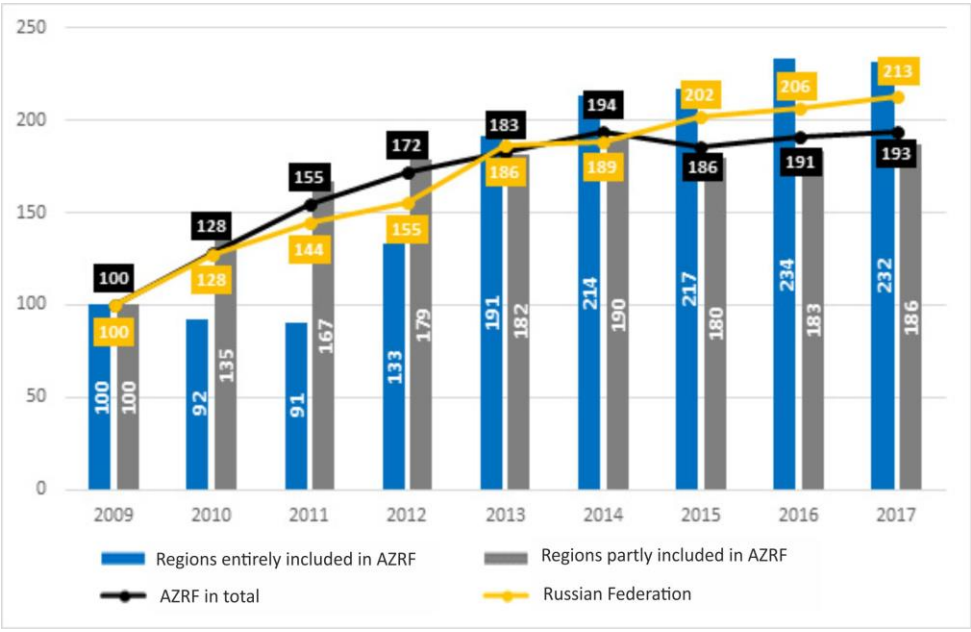

Fig. 7. The growth rate of tourist services provided to the population (% compared to 2009).

According to this indicator, stable growth is observed both at the all-Russian level and in regions of the Russian Arctic. It is worth noting that the growth rate of the volume of tourism services provided to the population of the entirely Arctic regions significantly exceeds the growth rate in the

regions partially part of the Russian Arctic. According to the activity of developing the indicator “profitability of the tourism and hospitality industry”, the regions were divided into 3 groups (Table 4).

Table 4

Classification of regions by the “profitability of the tourism and hospitality industry" indicator

Lagging development *(less than 0.80 points)*	**Moderate development** *(from 0.80 to 1.00 points)*	**Advanced development** *(more than 1.00 points)*
Profitability of the tourism and hospitality industry		
Murmansk Oblast (0,78)	Arkhangelsk Oblast (0,88) Republic of Karelia (0,83) Komi Republic (0,83)	Chukotka Autonomous Okrug (5,48) Yamal-Nenets Autonomous Okrug (1,24) Krasnoyarsk Krai (1,13) Republic of Sakha (Yakutia) (1,04) Nenets Autonomous Okrug (1,02)

Among the regions that are entirely part of the Russian Arctic, only the Murmansk Oblast fell into the group of lagging development, while the rest of the regions are in the group with advanced development. Among the partially arctic regions, the Arkhangelsk Oblast, the Republic of Karelia, and the Komi Republic fell into the group with moderate development. At the same time, the remaining regions also fell into a group of regions with advanced development.

The next indicator of the active tourism industry development is the “popularity of regional tourism products”. Its comprehensive assessment requires the following indicators: the growth rate of the number of nights in collective accommodation facilities (Fig. 8), the growth rate of foreign citizens in collective accommodation facilities (Fig. 9), and the growth rate of Russian citizens in collective accommodation facilities (Fig. 10).

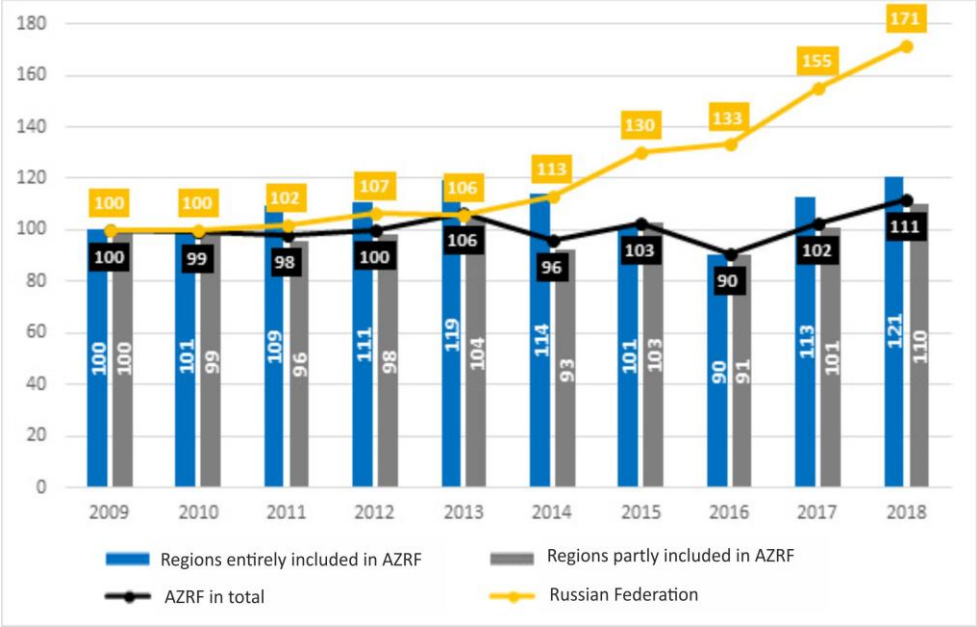

Fig. 8. The growth rate of the number of nights in collective accommodation facilities (% compared to 2009).

According to this indicator, stable growth is observed at the national level, but in the regions of the Russian Arctic, the growth is insignificant. The national growth rate for this indicator is higher than the overall arctic level. It is worth noting the indicators of entirely Arctic regions are slightly higher than the indicators of partially arctic regions.

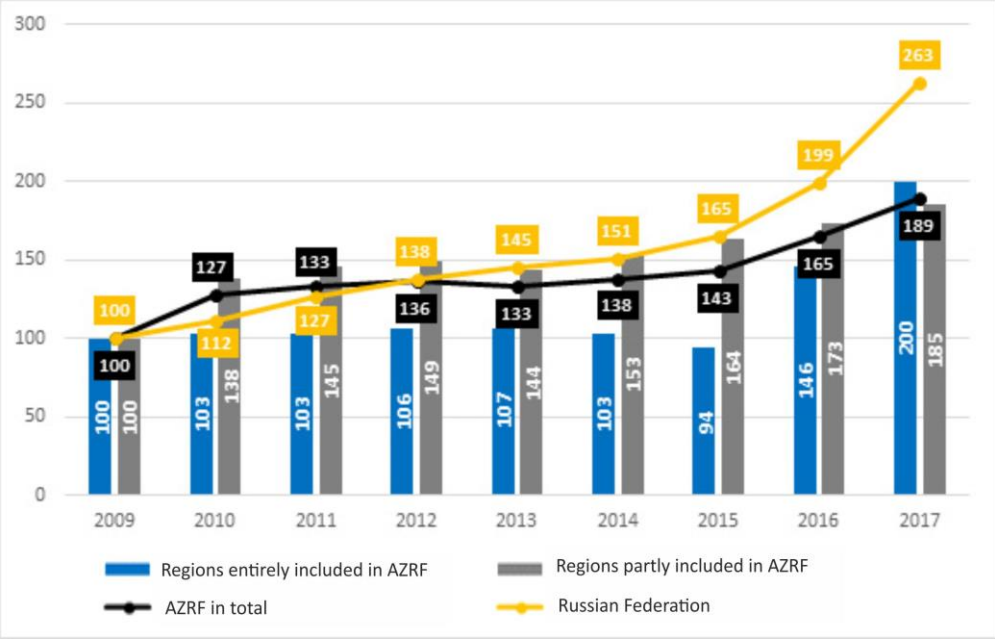

Fig. 9. The growth rate of foreign citizens in collective accommodation facilities (% compared to 2009).

According to this indicator, steady growth is observed both at the all-Russian level and in regions of the Russian Arctic. Still, the all-Russian growth rate of foreign citizens in collective accommodation facilities significantly exceeds the overall Arctic value. It is worth noting that the growth rate of tourism services provided to the population of partially arctic regions significantly exceeded the growth rates in the regions entirely included in the Russian Arctic until 2015, and only in 2016, the indicators reached relative parity.

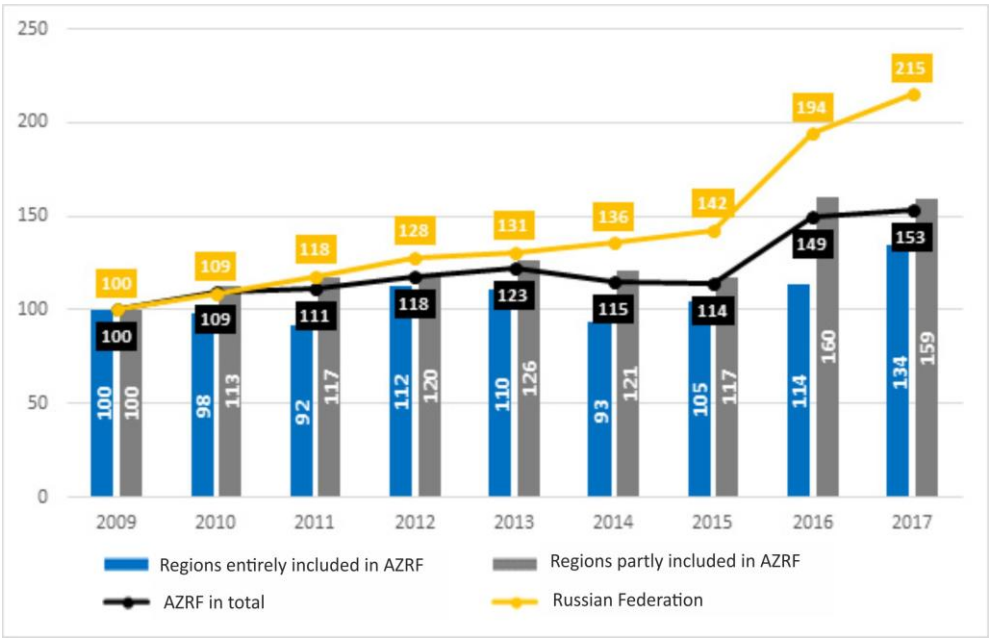

Fig. 10. The growth rate of the Russian Federation citizens in collective accommodation facilities (% compared to 2009).

According to this indicator, stable growth is observed at the all-Russian level. However, in 2014, in the Russian Arctic regions, a slight decline was observed. In 2016, a significant increase in indicators both at the level of the Russian Federation and the Arctic occurred. It is worth noting that the growth rate of tourism services provided to the population of partially Arctic regions exceeded the growth rate in the entirely arctic regions of Russia.

According to the development activity for the "popularity of regional tourism product" indicator, the regions were divided into 3 groups (Table 5).

Table 5

Classification of regions according to the "popularity of regional tourism products" indicator

Lagging development *(less than 0.80 points)*	**Moderate development** *(from 0.80 to 1.00 points)*	**Advanced development** *(more than 1.00 points)*
Popularity of regional tourism products		
Murmansk Oblast (0.79) Komi Republic (0.78) Arkhangelsk Oblast (0.69) Nenets Autonomous Okrug (0.48)	Krasnoyarsk Krai (0.95) Yamal-Nenets Autonomous Okrug (0.94) Chukotka Autonomous Okrug (0.83) Republic of Sakha (Yakutia) (0.82)	Republic of Karelia (1,19)

Among the regions that are entirely part of the Russian Arctic, the Murmansk Oblast, and the Nenets Autonomous Okrug fell into the group of lagging development. The remaining regions are in the moderate development group. Among partially arctic regions, the Arkhangelsk Oblast and the Komi Republic fell into the group of regions with lagging development. The Republic of Karelia is in a group with advanced development; other regions, partially arctic ones, are in the group of regions with moderate development.

Further, the scores of indicators of activity in the development of the tourism industry were summarized, and their arithmetic average was calculated. Following the assigned points, the regions were also divided in 3 groups (Table 6).

Table 6

Classification of regions according to indicators of activity in the tourism industry development

Lagging development *(less than 0.80 points)*	**Moderate development** *(from 0.80 to 1.00 points)*	**Advanced development** *(more than 1.00 points)*
General indicator for the tourism industry development		
	Republic of Sakha (Yakutia) (0.94) Murmansk Oblast (0.85) Arkhangelsk Oblast (0.84) Komi Republic (0.82) Nenets Autonomous Okrug (0.81)	Chukotka Autonomous Okrug (2.07) Republic of Karelia (1.13) Krasnoyarsk Krai (1.07) Yamal-Nenets Autonomous Okrug (1.06)

The Chukotka Autonomous Okrug, the Republic of Karelia, the Krasnoyarsk Krai and the Yamal-Nenets Autonomous Okrug were included in the group of regions with advanced development. The remaining regions of the Russian Arctic are in the moderate development group.

A comparison of indicators for tourism industry development activity (Fig. 11) showed no regions of the Russian Arctic in the lagging development group in terms of tourism industry development activity; the weaknesses are the low growth rates of the regional tourism product popularity and low growth rates profitability of the tourism industry, esp. among entirely arctic regions of Russia.

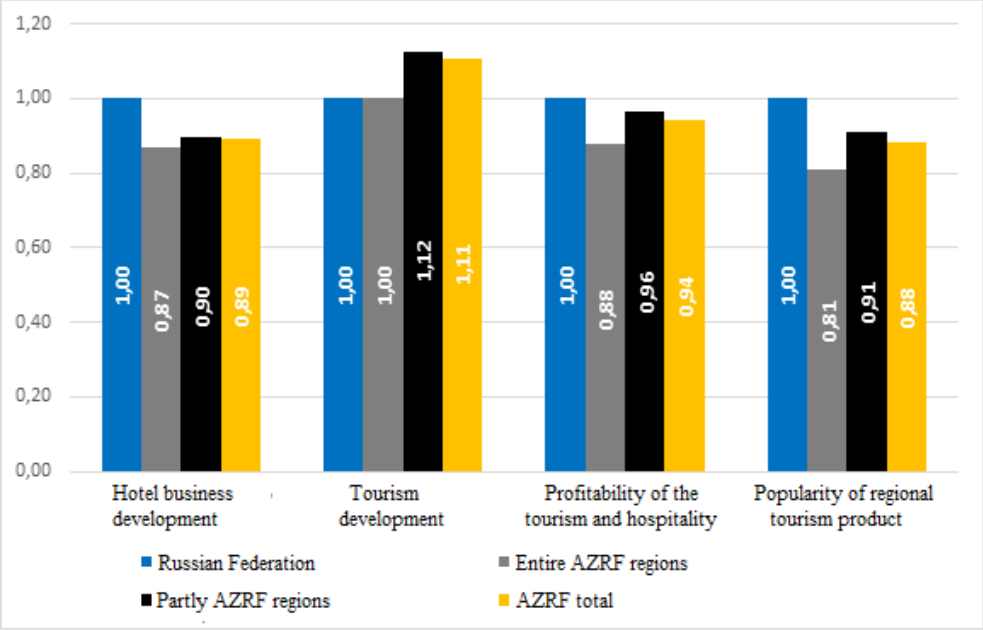

Fig. 11. Assessment of indicators of the tourism industry development activity.

Thus, testing the proposed methodology in the Russian Arctic revealed the weaknesses of the Arctic regions, i.e., the low popularity of the regional tourism product and the low growth rate of the tourism industry, esp. among the entirely arctic regions. The conclusions are consistent with the expert survey results of participants in the tourist and a recreational cluster of the Murmansk Oblast (Table 7).

An expert survey in the Arctic region — the Murmansk Oblast

The survey was attended by 15 experts, representatives of the tourist and recreational cluster of the Murmansk Oblast. It was an online survey with a predominance of open questions, distributed among participants through the cluster development center of the Murmansk Oblast.

Table 7

Expert survey results

Please rate the level of tourist potential of the Murmansk Oblast?	
Extremely high	7
High	6
Moderate	1
Low	1
Extremely low	0
In your opinion, how effective is the state policy in the field of tourism in your region?	
Politics is effective	0
Politics is more effective	6
Politics is rather ineffective	4
Policy is ineffective	5
What do you think is hindering the development of tourism in the Murmansk Oblast?	
Lack of offers that could be of interest for potential tourists	3
Poor awareness of tourism offers in the region	8
Low qualification level of tourism sector employees	3
The high cost of tourist services in the region	7
Lack of interest on the part of investors and management structures in the tourism development in the region	7
Low level of tourist infrastructure in the region	8

Severe weather conditions	2
Lack of support from the Ministry of Foreign Affairs on border issues	1
Lack of interest of tourists in a regional tourist product	1

Most experts (13 out of 15) rated the level of tourism potential of the region as high or very high; one expert rated it as average. Only one expert rated the level of tourism potential as low, motivating his answer with the lack of tourists' interest in the regional tourism product.

When asked about the effectiveness of regional tourism policy, most experts (9 out of 15) answered that the policy is ineffective/rather ineffective. One of the experts motivated his answer by the lack of support of the Ministry of Foreign Affairs in border territories issues.

As for the main factors hindering the development of tourism in the region, the most significant of them, according to experts, are: low awareness of the existing proposals in the field of tourism in the region; low level of tourist infrastructure in the region; high cost of tourist services in the region; lack of interest on the part of investors and management structures in the development of tourism in the region.

Conclusion

The result of testing the author's methodology in the Arctic regions revealed the weaknesses of the Russian Arctic regions: the low popularity of regional tourism products and low growth rates of the tourism industry, esp. among entirely Arctic regions, which is consistent with the expert survey results. The main factors preventing the development of tourism in the region are poor awareness of the available offers in the tourism sector; low level of tourist infrastructure; high cost of tourist services, lack of interest on the part of investors and management structures in the development of tourism. We have proposed a set of measures aimed at reducing the influence of these factors and increase the development activity of the tourism industry [16, Yakovchuk A.A.]. Firstly, it is necessary to recognize tourism as a subsidized industry at the level of the region and its municipalities; secondly, it is necessary to secure provisions in the strategic and program documents of the region on the formation of a regional tourist brand, advertising and informational support for promoting a regional tourist product on domestic and foreign markets, and a campaign to promote a positive tourist image of the Murmansk Oblast in mass media.

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POLITICAL PROCESSES AND INSTITUTIONS

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Russia and India in the Arctic: a case for greater synergy*

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Abstract. The article studies the cooperation between Russia and India with specific reference to the Arctic region. The melting of the Arctic sea ice has seen increasing investment by Russia in the Arctic. The Russian Federation has sought strategic partners for the development of the Arctic, with the primary focus being on the development of the oil and gas industry and the Northern Sea Route. Russia and India have had diplomatic relations in diverse spheres such as space, atomic energy, defense, oil and gas, diamond industry, steel industry among other areas. Russia's focus on the Arctic ushers in many more opportunities for Russia and India to cooperate. India is one of the few countries to which Russia has accorded many investment opportunities in oil and gas and the diamond industry. India has made some investments in the oil and gas industry of the Russian Arctic. However, the article highlights that the energy deficit in India is critical, and it affects the development of the country. The article suggests more increased Indian investment in the Arctic, including phase II of the Yamal LNG project. The article brings out a need for greater cooperation in scientific research, specifically climate change and hydrography, and possible utilization of the enormous technically qualified human resource that India has in diverse areas of the Arctic. The article is relevant for diplomats, civil servants, oil and gas companies, strategic mineral companies, hydrographic authorities, and researchers in both countries engaged in developing the Arctic and the Northern Sea Route. The article may be of interest for relevant courses and programs at universities.
Keywords: *Russia, India, Arctic, natural resources, energy, Northern Sea Route, trade, scientific research, climate change.*

"We the leaders of India and Russia, in the year that marks the 70th anniversary of the establishment of diplomatic relations between our countries note that the Indian-Russian special and privileged strategic partnership is a unique relationship of mutual trust between two great powers." [1]

- Declaration by the Russian Federation and the Republic of India

Introduction

Improved access to natural resources, new trade routes and growing human activity has increased the global importance of the Arctic. The effects of climate change are more evident in the Arctic than anywhere else in the world, with major consequences for the environment and society. For the countries that border the Arctic Ocean, Russia, the United States, Canada, Norway, and Denmark (through Greenland), an accessible ocean means new opportunities. The Arctic region has abundant natural resources, such as minerals, fish, oil, and gas. Prospects of Arctic energy

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[1] Press Information Bureau. "Declaration by the Russian Federation and the Republic of India: A vision for the 21st century", 01 June 2017. URL: https://www.rt.com/news/420987-russia-arctic-development-putin (accessed 10 June 2018).

have been one of the key drivers behind increased Arctic attention from polar and non-polar states [2]. India is no exception.

Russia and the Arctic

In recent decades, Russia has stepped up its earlier nascent efforts to develop the Arctic. Russian leaders see the Arctic as a potential source of economic growth for the country, both as a strategic resource base for the future and a potential maritime trade route [3]. The region which has seen melting ice for part of the year may also witness opening of potential shipping lanes and real estate with an estimated $1 trillion in hydrocarbons [4]. Undeterred by the extreme environment and remote location, which makes it difficult to produce energy quickly and efficiently [5], the Russian Federation is focused on developing hydrocarbon areas that it claims are part of the country's continental shelf [6].

Russia's geographical location and its vast coastline bordering the Arctic make it synonymous with the Arctic and gives it a strategic advantage. Far more Russians live in the Arctic Circle than do Canadians, who share its second-largest border. Russia's long search for a warm-water port assisted the exploration of its immediate north after World War II. Geopolitical tensions with the United States led to the creation of several Arctic bases on both sides [7].

According to Jorgen Staun, "*Russia's strategy in the Arctic is dominated by two overriding discourses which at first glance may look like opposites. On the one hand, an IR [international relations] realism has a clear patriotic character with winning the Arctic…"* [1, Staun J., p. 4]. Staun argues that *"Opposed to this is the IR liberalism, international law-inspired …., which is characterised by words such as "negotiation", "cooperation," and "joint ventures". It means that all benefit if they cooperate peacefully. So far, the IR liberalism discourse has been dominating Russian policy in the Arctic* [2, Staun J., p. 314]."

Hydrocarbons. The Arctic is believed to hold 13% of the world's undiscovered oil and up to 30% of the world's undiscovered natural gas supplies.[8] In other figures from the United States Geological Survey, it was estimated that 33 geologic provinces have prospects for petroleum reserves. The sum of the mean estimates for each area suggests that 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids may be lying in wait in

[2] Weir F. As Icecap melts Russia Races for Arctic resources, *The Christian Science Monitor*. URL: https://www.csmonitor.com/2007/0731/p01s01-woeu.html (accessed 23 March 2019).
[3] Gorenburg D. How to Understand Russia's Arctic Strategy, The Washington Post. February 2014. URL: https://www.washingtonpost.com/news/monkey-cage/wp/2014/02/12/how-to-understand-russias-arctic-strategy/?noredirect=on&utm_term=.8d092036982c (accessed 23 March 2019).
[4] Ibid.
[5] Ibid.
[6] Ibid.
[7] Loy J. Russia in the Arctic: Friend or Foe. URL: https://www.geopoliticalmonitor.com/russia-in-the-arctic-friend-or-foe (accessed 23 March 2019).
[8] USGS Factsheet 2008-2049, US Geological Survey Fact Sheet. URL: https://https://pubs.gov/usgs-factsheet/2008-2049 (accessed 11 March 2019).

the Arctic, of which approximately 84% is expected to occur in offshore areas [9]. Russia, having the largest coastline in the Arctic, will, therefore, have a direct claim on many of these energy resources [10].

As with Russia's involvement in the NSR, its energy interests are also multi-faceted. The Kremlin has put forth several government papers stressing the significance of hydrocarbons in the Arctic [11]. The annual development strategies of the Russian Arctic are evidence of this focus. By exploiting Arctic resources which are expected to have 90% of the hydrocarbon reserves located on the entire Russian continental shelf (66.5% located in its Western part: the Barents and Kara seas), Moscow will lessen its reliance on diminishing supplies in Western Siberia [3, Zysk K., p.105]. In 2012, the Arctic shelf was established as a new territory for exploration by state-owned energy giants Rosneft and Gazprom [12]. The Yamal region contains nearly 22 % of the global proven gas reserves and 70% of all Russian crude reserves [13]. Nearly 85 % of the natural gas production in Russia comes from the Yamal-Nenets Autonomous Okrug. The South Tambeiskoye field is estimated to contain proven reserves of 907 billion m^3 of natural gas [14]. Further, by 2020, the investment potential of Yamal energy projects could be about 8 trillion roubles. Several major Russian companies are engaged in the development of oil and gas fields in Yamal.

For Russia, the year 2015 began on an anxious note with western sanctions looming large on the Arctic energy projects and the profits of Gazprom, a major Russian energy giant engaged in the Arctic, plummeting by nearly 62%. However, by 2018, the Yamal project was on track, clearly suggesting that the effects of the western sanctions have not deterred Russia from continuing its Arctic energy ambitions in the High North. Moscow is aggressively wooing Asian energy companies to invest in Yamal phase 2 after western companies have decided to withdraw from some of the projects [15]. According to a study by French political scientist Marlene Laruelle based on data from the International Energy Agency, the majority of the offshore deposits are not worthy of exploitation as long as the oil price is under 120 dollars per barrel [4, Laruelle M., p. 254]. It is fair to argue that sanctions have taken a toll on the rapidity with which Russia's Arctic plans can be executed. However, Russia has developed significant national resilience to thwart the impact of sanctions and respond in its way. Russia has invested in indigenous technology development and raised funds through local institutions to keep the Arctic energy projects alive [16]. Western countries are

[9] Salvatore Babones. India is poised to become the World's Fifth Largest Economy, op.cit.
[10] Ibid.
[11] Loy J. Russia in the Arctic: Friend or Foe, op.cit.
[12] Ibid.
[13] Ibid.
[14] Ibid.
[15] International Export Council on Cooperation in the Arctic. Yamal: Centrepiece of Russia's Arctic Development Strategy, 09 February 2015. URL: http://www.iecca.ru/en/the-arctic-explorations/general-questions/item/361-yamal-centerpiece-of-russia-s-arctic-resource-development-strategy (accessed 13 March 2019).
[16] Cohen A. Russia's Sets Sights on Energy Resources under the Arctic Circle. URL: https://www.forbes.com/sites/arielcohen/2019/04/17/russia-sets-sights-on-energy-resources-under-arctic-circle/#3568df5a6eea (accessed 18 April 2019).

exploring ways to skirt sanctions and resume business with Russia, while others have decided not to impose fresh or additional sanctions.

Fig. 1. Rosneft CEO and Chairman Igor Sechin meets President Vladimir Putin to discuss plans for Arctic oil development [17].

In April 2019, a meeting was held between Rosneft Chairman, CEO Igor Sechin, and President Vladimir Putin. Following that, the state-owned Russian oil giant announced plans to actively pursue the development of a vast production and transportation network throughout the Arctic [18]. The plan from Rosneft's perspective is simple: unlock the 1.5 billion tons of oil in Russia's Far North by developing an "Arctic Cluster" of oil and gas fields [19]. Rosneft's prospective projects will also help Russia establish a long-sought-after North Sea Route (NSR), which would cut the distance of shipping lanes between key ports in Europe and the Far East by as much as 40% [20]. Rosneft already operates several promising sites in Russia's Arctic region, incl. the Vankor field (together with Bharat PetroResources Ltd) and Suzunskoe field. The latter reached its 70-millionth barrel of oil produced since 2016 [21]. In essence, the Russian resilience in coping with political, fiscal, and technological challenges is unquestionable, and Moscow now has taken upon itself to reengineer its Arctic resource development strategy [22]. But Western experts are of the view that the plan is not economically viable at present oil prices and without foreign partnership [23].

[17] Igor Sechin tells President Putin how Rosneft plans to Master the Arctic. Oil Capital News, 01 April 2019. URL: https://oilcapital.ru/news/companies/01-04-2019/igor-sechin-rasskazal-vladimiru-putinu-kak-rosneft-budet-osvaivat-arktiku?id=igor-sechin-rasskazal-vladimiru-putinu-kak-rosneft-budet-osvaivat-arktiku&published_date=01-04-2019&rubric=companies&type=NewsItem&utm_campaign=communities_1mi&utm_medium=social&utm_source=telegram (accessed 18 April 2019).

[18] Ibid.

[19] Oil Capital New. Igor Sechin tells President Putin how Rosneft plans to Master the Arctic, op.cit.

[20] Devyatkin P. Russia's Arctic Strategy; Maritime Shipping (Part IV). URL: https://www.thearcticinstitute.org/russias-arctic-strategy-maritime-shipping-part-iv (accessed 01 January 2019).

[21] Cohen A. Russia's Sets Sights on Energy Resources under the Arctic Circle, *op*.cit.

[22] Ibid.

[23] Ibid.

India and the Energy Conundrum

Some experts have argued that in recent years energy is a vital part of the motive for India's actions in the Arctic. India's energy situation has been perilous for decades, with an increasing need for importing energy from abroad. According to the International Energy Agency, in 2012, India had the third-largest energy demand globally after China and the USA, and the need for energy is expected to increase rapidly in the years to come [24]. While coal and biomass constitute most of India's primary energy source for industrialization and households, opening up of the markets in India from the 1990s and onwards has caused a growing demand for hydrocarbon-related energy sources. The country is dependent on imports for about 82.1% of its crude oil requirement and to the extent of about 44.4% in the case of natural gas [5, Ministry of Petroleum and Natural Gas, India, p. 26]. To have a gas-based economy and enhance the share of gas in the energy basket, the Government has envisaged 15,000 km of gas pipeline network [5, Ministry of Petroleum and Natural Gas, India, p. 6].

India's crude oil production for the year 2016–17 was 36.01 Million Metric Tonnes (MMT) as against the production of 36.94 MMT in 2015–16, showing a decrease of about 2.53% [5, Ministry of Petroleum and Natural Gas, India, p. 8.]. India's crude oil production continued to decline, and for the year 2017–18 was 35.68 Million Metric Tonnes (MMT) as against the production of 36.01 MMT in 2016–17, showing a decrease of about 0.9% [6, Ministry of Petroleum and Natural Gas, India, p. 12]. Import of crude oil during 2016–17 was 213.93 MMT valued at 470,159 crores as against import of 202.85 MMT valued at 416,579 crores in 2015–16 which marked an increase of 5.46% in quantity terms and 12.86% in value terms as compared to the import of crude oil during 2015–16 [5, Ministry of Petroleum and Natural Gas, India, p. 12]. This rising trend continued in FY 2017–18 with the import of crude oil during was 220.43 MMT valued at 566,450 crore as against import of 213.93 MMT valued at 470,159 crore in 2016–17 which marked an increase of 3.04% in quantity terms and 20.48% in value terms as compared to the import of crude oil during FY 2016-17 [6, Ministry of Petroleum and Natural Gas, India, p. 16]. The increase in value is attributed to the upward trend in oil prices during FY 2018–19, coupled with the depreciation of the rupee concerning the dollar. Natural Gas production during the year 2016–17 was 31.90 billion m^3 (BCM), which was 1.09% lower than the production of 32.25 BCM in 2015–16 [5, Ministry of Petroleum and Natural Gas, India, p. 8]. Import of LNG during 2016–17 was 18.63 MMT valued at 49,941 crore (provisional figures) as against import of 18.63 MMT valued at 40,804 crore in 2015–16 which marked an increase of 6.65% in quantity terms and 22.39% in value terms as compared to the import of crude oil during 2015–16 [6, Ministry of Petroleum and Natural Gas, India, p. 18]. Consequently, to provide safe access to energy is a high priority issue in Indian foreign policy. India relies heavily on varied energy suppliers, with most of its imports coming from West Asia and Afri-

[24] Ahn S-J., Graczyk D. Understanding Energy Challenges in India: Policies, Players and Issues. International Energy Agency, 2012. URL: https://www.iea.org/publications/freepublications/publication/India_study_FINAL_WEB.pdf (accessed 30 May 2018).

ca. According to the International Energy Agency, India's oil and gas demand is expected to continue its upward trend and expected to double by the year 2040 [5, Ministry of Petroleum and Natural Gas, India, p. 82] as depicted in Figures 2 and 3, in comparison with other regions of the world.

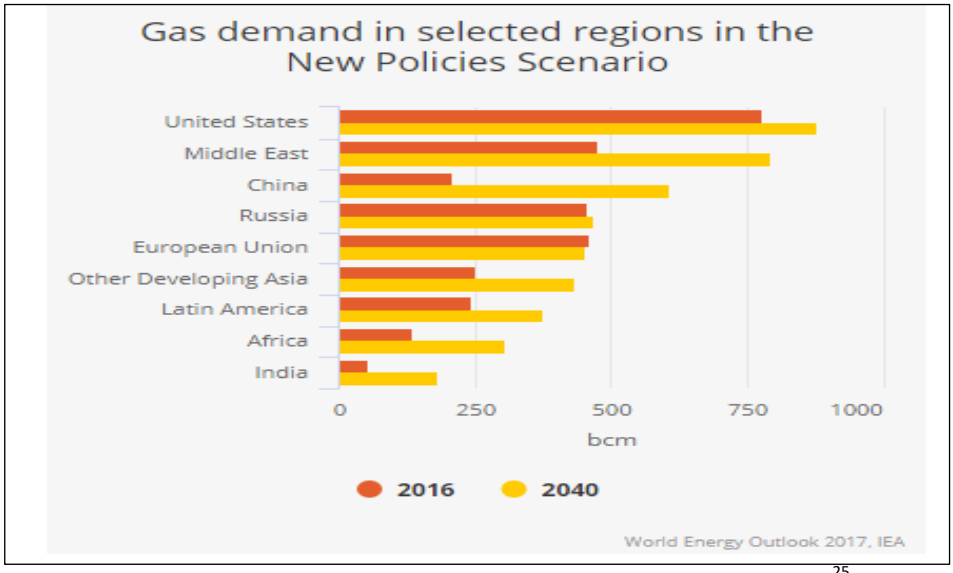

Fig. 2. Gas demand in selected regions as per World Energy Outlook [25].

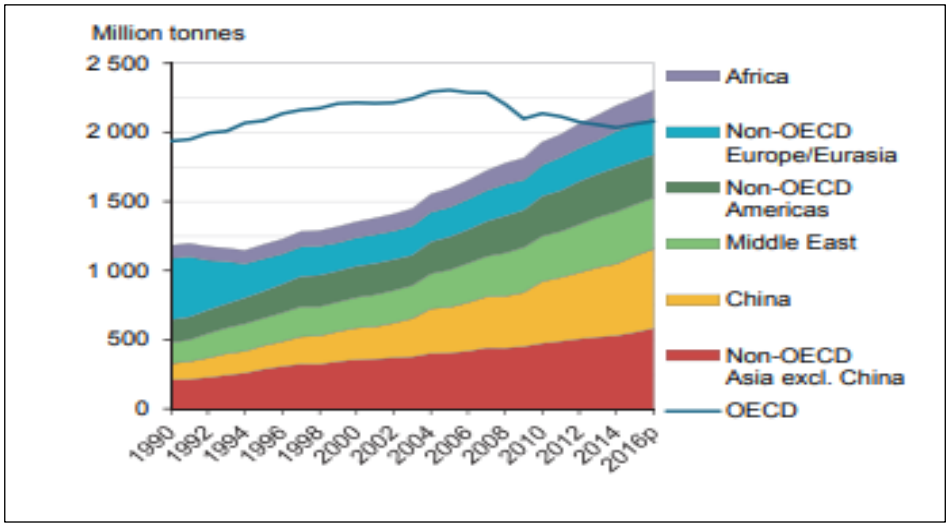

Fig. 3. Oil product demand by geographical regions [26].

This diverse web of energy suppliers is, of course, vulnerable to breakages in the supply lines due to political instabilities and other security concerns, and India has tried to meet these challenges by building up a reserve stock of oil in case of disruptions. Keeping this in mind, India set up a long-overdue Strategic Petroleum Reserve at Visakhapatnam catering for ten days requirement of crude oil [5, Ministry of Petroleum and Natural Gas, India, p. 17]. Further, oil is geopolitically a sensitive commodity. The Middle East and North Africa, which supply 60% of India's oil

[25] International Energy Agency. Gas Demand in Selected Regions. World Energy Outlook, 2017. URL: http://www.iea.org/publications/freepublications/publication/OilInformation2017Overview.pdf (accessed 11 June 2018).
[26] Ibid.

requirements, have witnessed a high degree of geopolitical uncertainty in the recent past. Therefore, India has to remain prepared and diversify its energy sourcing. India has made a determined effort to diversify its energy suppliers and sought partnership, incl. from countries in Latin America, in addition to expanding its energy ties with Russia [5, Ministry of Petroleum and Natural Gas, India, p. 82]. Therefore, India needs to seek a long-term agreement with Russia for an increased supply of LNG and possibly crude oil on similar lines to the Russia-China agreement for the supply of gas. Russia and China agreed on gas supplies via the Power of Siberia 3000 km pipeline in 2014, when Gazprom and the China National Petroleum Corporation (CNPC) signed a 30-year contract to deliver 38 billion tons of gas per year by 2025 from Irkutsk and Yakutia [27]. The pipeline called "the world's biggest construction project" was launched on December 02, 2019, by the Russian President Vladimir Putin and Chinese President Xi Jinping. China is expected to become Russia's second-largest gas customer after Germany, which bought 58.5 billion m^3 of gas from Russia in 2018 after this pipeline becomes fully operational in 2025 [28]. India would need to study the German and Chinese procurement strategies for optimizing its long-term requirements for LNG. India's push towards renewable energy sources is advancing slowly, indicating that for the foreseeable future, India is dependent on importing much of its energy [29].

Energy Bridge – Russia and India

Since the Arctic holds the potential of vast reserves of oil and gas, there have been discussions on the possibilities of India's participation in the utilization of Arctic energy. Despite the difficulties of extracting energy from the harsh climate in the Arctic region, nothing suggests that this is not on the future of either Russian or any of the Arctic rim states. According to Stokke, for India to be able to benefit from these Arctic resources, they would need partners [7, Stokke O.S., pp. 770–783]. In this regard, Russia has played an essential role in enabling joint Indo-Russian cooperation in energy projects. Russia is India's largest oil and gas investment destination with over US $ 15 billion investments so far [6, Ministry of Petroleum and Natural Gas, India, p. 76]. India's state-owned oil company Oil and Natural Gas Corporation Limited's [ONGC] international branch ONGC Videsh Limited [OVL] has invested in Russian energy projects, such as the Sakhalin 1-project in 2002 [30]. In 2015, OVL signed an agreement with the Russian state-owned oil company Rosneft, for investment in the Vankor field in Siberia. As reported in the Indian newspaper *Daily News and Analysis,* both Russia's President Vladimir Putin and Prime Minister Narendra Modi were present at the signing, and the two oil giants signed a Memorandum of Understanding which emphasized *"cooperation for geologic survey, exploration, and production of hydrocarbons onshore and on the*

[27] Putin and Xi to launch strategic natural gas pipeline from Russia to China in December. Russia Today, 12 November 2019. URL: http://www.rt.com/business/473218-putin-xi-power-of-siberia (accessed 03 December 2019).
[28] Russia, China launch gas pipeline 'Power of Siberia. Deutsche Welle (DW), 02 December 2019. URL: http://m.dw.com/en/russia-china-launch-gas-pipeline-power-of-siberia/a-51500187 (accessed 03 December 2019).
[29] Ibid.
[30] Taneja K. China and India Go Arctic, 14 August 2015. URL:http://www.politico.eu/article/china-and-india-go-arctic-sanctions-gas-oil-explorationlng (accessed 30 March 2018).

continental shelf of the Russian Federation [31]. A new subsidiary company, viz., IOC Singapore Private Ltd. was formed as an investment company in Singapore to enable acquisition of a stake in E&P assets from Rosneft of Russia as well as to set up trading operations for procurement of crude oil and import/export of petroleum products. In 2016, Indian public sector companies invested over US $ 4 billion in the acquisition of oil and gas production assets in Russia [6, Ministry of Petroleum and Natural Gas, India, p. 76]. In 2017, Rosneft bought a 49% share of India's Essar Oil Ltd., and Russia is reportedly already supplying India with Arctic LNG. Rosneft's investment of nearly $ 13 billion in the Vadinar refinery is the most significant FDI investment in India in the oil and gas sector [6, Ministry of Petroleum and Natural Gas, India, p. 76]. In October 2018, Russia offered Indian companies a share in the second phase of Yamal, the most significant project to produce liquefied natural gas in the Arctic. It has also provided access to the NSR, which connects Europe to the Pacific and Asia. There was a specific reference to Indian-Russian participation in the Arctic [32]. The various Russian hydrocarbon projects where India has a stake are as tabulated below:

Table 1

India's involvement in Russian hydrocarbon projects
[6, Ministry of Petroleum and Natural Gas, India, p. 78]

Name of the Project in Russia	Participating companies and their share
Sakhalin-1, Offshore	ONGC Videsh – 20% Exxon Mobil – 30% (Operator) Sodeco – 30% SMNG – 11.5% RN Astra – 8.5%
Imperial Energy, Russia	ONGC Videsh – 100%
Vankorneft	ONGC Videsh – 26% OIL, IOCL, BPRL – 23.9% each
Tass-Yuryakh	OIL, IOCL, BPRL – 29.9% each
License 61	OIL: 50% Petroneft: 50%

Arctic energy could be an important part of India's necessary diversification of energy supply sources. The Arctic is a region where conflict and political instability do not threaten secure and reliable delivery; this is the advantage of Arctic resource exploitation, especially for the Asian giants Japan, China, South Korea, and India. India needs to participate actively in this resource exploration, as the Arctic energy reserves have the potential for a substantial impact on India's energy dynamics. Currently, the world's 11th largest economy (fifth in terms of purchasing power parity as per forecast for 2015 according to the IMF), India could occupy the third slot after the United States and China in 25–30 years, if India manages to sustain her economic growth rate [33]. As per the World Economic Outlook by the International Monetary Fund, India's growth rate in 2018 was

[31] Blank S. India's Arctic energy partnership with Russia. 24 October 2018. URL: http://www.lowyinstitute.org/the-interpreter/indias-arctic-energy-partnership-russia (accessed 30 October 2018).
[32] Ibid.
[33] Babones S. India is poised to become the World's Fifth Largest Economy, 27 December 2017. URL: https://www.forbes.com/sites/salvatorebabones/2017/12/27/india-is-poised-to-become-the-worlds-fifth-largest-economy-but-it-cant-stop-there/#6bf578213ff1 (accessed 11 June 2018).

7.1 %, whereas overall world economies grew at an average rate of 3.3–3.6% [8, Ministry of Commerce, India, p. 18].

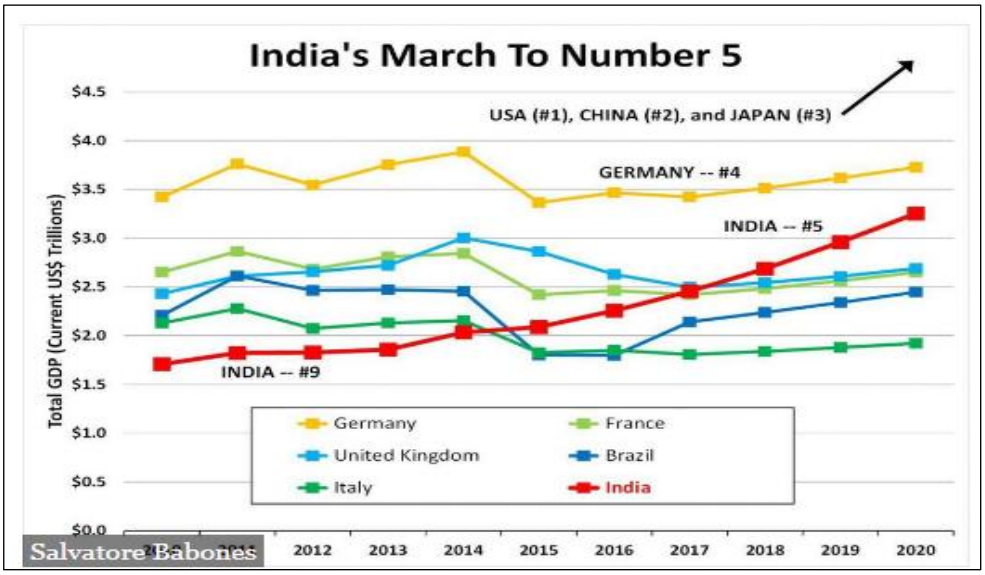

Fig. 4. Growth rate of the World's largest economies (source: IMF) [34].

Russia and India Strategic partnership

Russia has historically been an important partner for India in terms of atomic energy, space, military equipment, and technology. Despite India being one of the leaders of the non-alignment movement, ties between the then Soviet Union and India progressed through extensive bilateral engagements. Prime Minister Nehru himself visited the Soviet Union in June 1955, the same year as the eventful Bandung Conference, where the Non-Aligned Movement (NAM) saw its inception [9, Sen R., pp. 6–7]. Two generations of Soviet citizens cherished the close affinity and affection for India, politically represented by Jawaharlal Nehru and Indira Gandhi. Indian culture, incl. Indian films had a wide popular appeal all over the Soviet Union. This friendship between the two nations flourished. At a crucial juncture on the eve of the 1971 war and the formation of Bangladesh, a treaty was signed with the Soviet Union in 1971 by then Prime Minister Indira Gandhi, who was the chief architect of India's strategy [9, Sen R., pp. 6–7]. Russia has also been India's time-tested partner in the oil and gas sector. Our historic hydrocarbon relationship with Russia goes back to the 1970s when a team of Soviet oil and gas experts helped ONGC to explore and strike oil in Indian waters. Their joint efforts led to the discovery of Bombay High, which even today remains India's biggest oil and gas field [6, Ministry of Petroleum and Natural Gas, India, p. 76]. During the period of the political capitulation of the Soviet Union following the end of the Cold War in 1991, ties between India and (now) Russia were slightly less prioritized from Russia's side due to internal and external political challenges [9, Sen R., p. 7]. Following the collapse of the Soviet Union, a noticeable change in Russian attitude towards Indians became evident. There were two clear trends in changing attitudes [9, Sen R., p. 7]. Gradually, there emerged a clear genera-

[34] Ibid.

tional divide between the continued goodwill of the older Russians and the lack of interest in Asia of culturally and politically westernized generation of Russians. It was evident within the Russian governments as well. In India too, there began an unstated 'Look West' policy later balanced by a 'Look East' policy as well, which impacted the earlier close friendship.

However, this altered with the appointment of Prime Minister Yevgeny Primakov and a couple of years later when Mr. Vladimir Putin was elected as President of Russia. Both these leaders sought to re-establish the earlier historical ties with India as a strategic partner. After the signing of "*Declaration on the India-Russia Strategic Partnership*" in October 2000 (during the visit of Russian President Vladimir Putin to India), India-Russia ties acquired qualitatively a new character with enhanced levels of cooperation in almost all areas of the bilateral relationship including diplomatic, security, trade, economy, defense, science and technology, and culture [35]. Under the Strategic Partnership, several institutionalized dialogue mechanisms operate at both political and official levels to ensure regular interaction and follow up on cooperation activities. During the visit of the Russian President to India in December 2010, this Strategic Partnership was elevated to the level of a "Special and Privileged Strategic Partnership" [36]. From 2007 to 2012, India was Russia's largest arms import partner, surpassing even China. In 2010, the then Indian Prime Minister Manmohan Singh explained this 'special' relationship, by saying that *"Relations with Russia are a key pillar of our foreign policy, and we regard Russia as a trusted and reliable strategic partner. Ours is a relationship that not only stands independent of any other but whose significance has grown over time. Our partnership covers areas such as defense, civil nuclear energy, space, science and technology, hydrocarbons, and trade and investment"* [37]. Bilateral trade showed a growth of more than 21% in 2017–18 over 2016–17. In 2017–18, bilateral trade was the US $ 10.69 billion. Both sides have taken significant initiatives to achieve the ambitious trade target of US $ 25 billion set for 2025 [10, Ministry of External Affairs, India, p. 100]. However, this target is an order of magnitude smaller than the India-China or India-US trade figures. Russia's share in India's exports was only 0.73% (the US $ 2.4 billion) for the period 2018–19 as compared to 15.91% for the United States (the US $ 52.4 billion) and 5.09% (the US $ 16.8 billion) for China [8, Ministry of Commerce, India, pp. 59–62]. Concerning imports, Russia's share was only 1.14% (the US $ 5.8 billion) for the period 2018–19 showing a decline of 31.88% from 2017-18 figures (the US $ 8.5 billion) as compared to 6.88% (the US $ 35.3 billion) for the United States and 13.7% (the US $ 70.3 billion) for China [8, Ministry of Commerce, India, pp. 68–74]. Katherine Foshko succinctly stated, *"As is increasingly recognized, the deficiencies of Indo-Russian trade, as well as most of the other pillars of the relationship are linked to the heavy involvement of the state – and the absence of energetic engagement from the private sector, which accounts for 70% of the economy in both countries. The state sector alone cannot influence the development of trade and defense, energy, science,*

[35] Ministry of External Affairs, India. India's Relations with Russia, 2018. URL: https://www.mea.gov.in/Portal/CountryQuickLink/597_India-Russia_Relations_2018.pdf (accessed 31 December 2018).
[36] Ibid.
[37] Ministry of External Affairs, India. India's Relations with Russia, op.cit.

and technology, or soft power in a globalizing increasingly competitive market" [11, Tsan K.F., India, p. 144]. There is much potential for the exchange of high technology for peaceful purposes.

The major geopolitical and geo-economics partnership for India in the region needs to be Russia as the majority of the natural resources of the Arctic are with Russia. There has been a historical relationship, and there is a strategic partnership. When developing thorough scientific and related knowledge of the area, it is important to have strong links with Russia in the context of Russia's plan to develop the Arctic region. The offer made by Russia to India to develop oil and gas fields in the Arctic is significant and needs progress to cater to our ever-expanding energy requirements [38]. As stated in the Saint Petersburg declaration, "*The economies of India and Russia complement each other in the energy sector. We will strive to build an "Energy Bridge" between our States and expand bilateral relations in all areas of energy cooperation, including nuclear, hydrocarbon, hydel, and renewable energy sources, and in improving energy efficiency…We are interested in launching joint projects on exploration and exploitation of hydrocarbons in the Arctic shelf of the Russian Federation*." [39.] Russia, on its part, could treat the Arctic as an exclusive economic zone for Indian investors and lower import / export tariffs. India can and should provide the necessary structure for bilateral interaction. Both countries need to encourage greater vitality and cooperation in the corporate sphere [11, Tsan K.F, India, p. 144].

Russian President Vladimir Putin, Indian Prime Minister Narendra Modi, and Rosneft CEO and Chairman Igor Sechin at the Zvezda Shipyard in Bolshoi Kamen, Russia (Press Release: President of Russia, Kremlin).

Fig. 5. President Vladimir Putin, Indian Prime Minister Narendra Modi and Rosneft CEO and Chairman Igor Sechin at the Zvezda shipyard in Bolshoi Kamen [40].

Russia invited the Indian Prime Minister Narendra Modi at the Eastern Economic Forum at Vladivostok in September 2019 as the chief guest. Post talks with the Indian Prime Minister, the Russian President stated at a press conference, *"Indian energy concerns are invited to participate*

[38] Blank S. India's Arctic energy partnership with Russia, op.cit.

[39] Press Information Bureau, "Declaration by the Russian Federation and the Republic of India: A vision for the 21st century", op.cit.

[40] Devyatkin P. Russia and India set to deepen Trade and Investment in Arctic Energy. 05 September 2019. URL: https://www.highnorthnews.com/en/russia-and-india-set-deepen-trade-and-investment-arctic-energy (accessed 06 September 2019).

in projects such as Far Eastern LNG and Arctic LNG 2." [41]. The two leaders also proposed to develop a full-fledged maritime route between Vladivostok and Chennai. India needs to invest in the Russian Arctic and the Far East for its growing requirement for natural resources and minerals. In 2012, GAIL had already signed a 20-year contract with Gazprom for the supply of 2.5 million tons of LNG per year, which is worth about nearly US $ 2 billion per year. The first cargo of Russian LNG was received on June 04, 2018, at Dahej [6, Ministry of Petroleum and Natural Gas, India, p. 76]. However, unlike France, China, Japan, and Saudi Arabia, India has so far not invested in the Arctic LNG 2 project. The Indian Minister of Oil, Gas, and Metallurgy, in a statement, said that GAIL is looking at acquiring a minor stake in Arctic LNG 2. The Indian Minister of Commerce and Industry significantly stated that "India is ready to conduct exploration work in the Arctic."[42]. He further expressed the hope that Russia and India could jointly develop the Northern Sea Route [43]. It is also evident that relations with Russia are closer in the energy sphere due to India's commitment to diversify its energy imports in the context of US sanctions on the Iranian energy industry.

Gas Wars?

The Indian government and GAIL need to study the examples of Japan [44] (world's largest LNG buyer) and Germany, who though close security partners of the United States, have continued their energy links with Russia despite the threat of US sanctions. In response to President Trump's remark in July 2018, *"Germany, as far as I am concerned, is captive to Russia because it's getting so much of its energy from Russia"*, Chancellor Angela Merkel retorted diplomatically, *"we can make our policies and our own decisions."* [45] It is well known that these sanctions are due to competing for commercial interests [46] as the United States is the world's largest natural gas producer, and Russia is the second world's largest natural gas producer but holds the world's largest gas reserves [47]. U.S. LNG reportedly has the lowest cost of production in the world, but transportation (vis-à-vis pipeline supplies or from Iran / Qatar / Australia), and infrastructure costs at the recipient country means that gas supplies from other countries are more attractive, particularly to Asian customers such as China [48].

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[41] Devyatkin P. Russia and India set to deepen Trade and Investment in Arctic Energy, op.cit.
[42] Quoted in Ibid.
[43] Quoted in Ibid.
[44] Ryosuke Hanafusa. Japan and Russia set to launch $9bn LNG project in Far East. Nikkei Asian Review, December 20, 2019. URL: https://www.asia.nikkei.com/Business/Energy/Japan-and-Russia-set-to-launch-9bn-LNG-project-html (accessed 06 January 2020).
[45] Karasz P. Germany Imports gas From Russia. But Is It a 'Captive'. July 11, 2018. URL: https://www.nytimes.com/2018/07/11/world/europe/trump-germany-russia-gas-html (accessed 12 July 2018).
[46] Salamah M. Gas Wars? June 29, 2017. URL: https://www. globalresearch.ca /gas-wars/559672-html (accessed 06 February 2020).
[47] Mikovic N. Energy-poor Europe torn between Russian and American gas. February 04, 2020. URL: https://www. globalcomment.com /energy-poor-europe-torn-between-russian-and-american-gas-html (accessed 06 February 2020).
[48] Rapoza K. Russia, China and the U.S. Are Forever Changing the Global Gas Market. January 29, 2020. URL: https://www.forbes.com/sites/kenrapoza/2020/01/29/Russia-china-and-the-us-are-forever-changing-the-gloabal-gas-market-html (accessed 06 February 2020).

India has developed some expertise in the exploitation of offshore hydrocarbons though it must be admitted in far more benign geographical and geological conditions. Russia has had to rely on foreign companies to carry out some geological work in the Arctic [12, Voronkov L., pp. 115–124]. Other than investments, it may be worthwhile to have our petroleum engineers assist Russia in offshore exploration and extraction if the possibility exists. The reality is that Arctic energy forms a vital key component to propel India's economic growth further since consumption itself is linked with growth. Besides, the Arctic is a rich source of strategic minerals and diamonds which are essential for the rapidly growing Indian economy. There is a need for India to invest in such projects and cooperate actively in project materialization.

Climate change is another area of concern for India. Researcher UK Sinha aptly stated that "The contemporary Arctic expresses an "antithetical situation" [13, Sinha U.K., pp. 38–39] with economic and commercial interests on the one end and a need for mitigating climate risks and resource governance at the other [14, Sinha U.K., p. 126]." As brought out in the Saint Petersburg declaration, "*India and Russia note the wider use of natural gas, an economically efficient and environmentally friendly fuel, which has become an integral part of the global energy market is highly significant for reducing greenhouse gas emissions and will assist in fulfilling the provisions of the Paris agreement on Climate Change, as well as achieving sustainable economic growth.*" [49] There is a, therefore, a need for both countries to transit from fossil fuels to LNG and renewable energy at a more rapid rate. In Arkhangelsk Oblast, e.g., the possibility of utilization of wind and solar energy to a lesser extent exists. India has developed a reasonable amount of expertise in renewable energy, which could be utilized by Russia.

Other Areas of Cooperation in the Arctic. India has substantial experience in research in Antarctica. In the Arctic, its research efforts began only in 2007. Since then it has been cooperating mainly with Norway though it is also part of India is also a part of the International Arctic Science Committee [IASC], which is a non-governmental organization that facilitates and advocates cooperative research between all countries active in Arctic research [50] and also of the Asian Forum for Polar Sciences [AFOPS] which was established in 2004 in order to facilitate better cooperation between Asian countries in polar sciences [51]. India's scientific interaction with Russia has been limited despite the Saint Petersburg declaration that "*We will develop joint strategies to harness for mutually beneficial cooperation in the field of deep-sea exploration and development of hydrocarbon resources, polymetallic nodules, and other marine resources utilizing strengths in the fields of maritime research and training to develop mutually beneficial cooperation.*" Presently there is no cooperation either at the level of the National Centre for Polar and Ocean Research [NCPOR] or

[49] Press Information Bureau. Declaration by the Russian Federation and the Republic of India: A vision for the 21st century, op.cit.

[50] International Arctic Science Committee. About the International Arctic Science Committee. June 2018. URL: https://iasc.info (accessed 01 June 2018).

[51] Asian Forum for Polar Sciences. About the Asian Forum for Polar Sciences. June 2018. URL: http://www.afops.org/m11.php (accessed 01 June 2018).

any other university. The Ministry of Earth Sciences listed the significant objectives of the Indian Research in Arctic Region as follows, which may also be areas of cooperation between Russian and Indian researchers:

- *"To study the hypothesized teleconnection between the Arctic climate and the Indian monsoon by analyzing the sediment and ice core records from the Arctic glaciers and the Arctic Ocean.*
- *To characterize sea ice in the Arctic using satellite data to estimate the effect of global warming in the northern polar region.*
- *To research the dynamics and mass budget of Arctic glaciers focusing on the effect of glaciers on sea-level change.*
- *To carry out a comprehensive assessment of flora and fauna of the Arctic vis-à-vis their response to anthropogenic activities. Also, it is proposed to undertake a comparative study of the life forms from both the Polar Regions."* [52]

As the Navigation Area-VII coordinator, India has substantial expertise in carrying out hydrographic surveys and the preparation of electronic charts for nations of the IOR. Though hydrography is generally a restricted area in which countries may not want to open for joint surveys if Russia is so inclined, India could assist in the preparation of electronic charts for the Northern Sea Route, which are presently not available, thus increasing the risks of transiting along this route.

It would in the interests of the Russian Federation and all countries interested in the Northern Sea Route to establish two transshipment hubs at Murmansk and Petropavlovsk Kamchatskiy and obviate the necessity for ice-class ships which are expensive to build and operate to be used other than in actual sea-ice conditions such as the Northern Sea Route [53]. Russia may consider a joint venture with Asian Arctic Council observer states such as China, Japan, the Republic of Korea, India, and Singapore to set up such a transshipment hub at Petropavlovsk Kamchatskiy.

Conclusion

Recommendations for Russia-India Cooperation in the Arctic. In view of the above, other than the so-called "energy bridge", India needs to deepen the collaborative relationship with Russia with specific reference to the Arctic region. Salient recommendations concerning a framework for India – Russia cooperation in the Arctic region are as follows:

(a) Make sure that India's strategic energy policy factors in the energy resources of the region, which are presently mainly with Russia. There is, therefore, a need for ONGC or GAIL to invest in projects such as the Arctic LNG 2 project as specific offers have been made to India in this regard by the Russian Federation.

(b) To meet India's burgeoning energy requirements as one of the world's fastest-growing economies, formulate long-term contracts for greater quantities of petroleum products with the Russian Federation.

(c) Russia and India may consider signing a Comprehensive Economic Cooperation Agreement at least for the Arctic and the Far East to lower import/export tariffs and facilitate both public and private sector investment.

[52] Ministry of Earth Sciences, India, Scientific Endeavours in the Arctic. June 2018. URL: http://www.moes.gov.in/programmes/indian-scientific-endeavors-arctic (accessed 01 August 2018).

[53] Gunnarsson B. Ship Traffic Analysis on the Northern Sea Route and Development of an Arctic Transportation and Logistics. Lecture to the International Ph.D. School, Northern Arctic Federal University, Arkhangelsk, 05 April 2019.

(d) The Indian government has given the in-principle approval for the procurement of a polar research vessel, and the Ministry of Earth Sciences and National Centre for Polar and Ocean research could examine cooperating with Russia in the acquisition of this vessel.

(e) Acquisition of at least one Arc 7 ice-class LNG tanker by the Shipping Corporation of India [SCI], which will enable LNG to be transported throughout the year without the assistance of icebreakers. It needs to be combined with the training of human resources critical for navigation and ship-handling in the polar Arctic region for the arduous transit from Russia's Far North to India, for which India will need the assistance of Russia.

(f) India has a highly qualified human resource, which has the potential to contribute to the building of various infrastructure projects in the Arctic region, resource exploitation, scientific research, and shipping activities in the region, which in turn could benefit the overall development of the country and generate employment opportunities for different sectors in our economy.

(g) A collaborative relationship with Russia in terms of scientific research is at a nascent stage, and this could be strengthened. According to the NCPOR Polar university status and then having a partnership with the Northern Arctic Federal University at Arkhangelsk would be a welcome step forward. Organizing a joint seminar to examine areas of cooperation would be another step in the right direction. Sending of a research scholar to the Northern Arctic Federal floating university ship also could be an essential component of the cooperation in scientific research.

(h) India needs to be actively concerned that the possibility of the melting icecap may affect us as a peninsular coastal nation, both due to the rising sea level and the possible collateral effects of global climate change. A joint research project with Russia on climate change could be initiated.

(i) India and Russia can contribute to Russia's development of the Arctic by its experience and expertise in renewable energy.

(j) Though the hydrographic survey is a sensitive area not usually shared by nations, India has substantial knowledge in carrying out hydrographic surveys, which may be of interest to the Russian side.

(k) India may consider a joint venture with other Asian Arctic Council observer states such as China, Japan, the Republic of Korea, and Singapore, as and when offered by Russia, to set up a transshipment hub at Petropavlovsk Kamchatskiy for shipment of energy resources.

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Swedish Chairmanship of the Barents Euro-Arctic Council 2017–2019: Key Results and Achievements*

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Abstract. The Barents Euro-Arctic Region is an integration of states and their administrative divisions, markedly different in terms of population living standards, but with a particular affinity that affords firm ground to consider the region as a separate geopolitical, economic, social and cultural macroregion. The article concentrates on the analysis of key results and achievements of Swedish chairmanship of the Barents Euro-Arctic Council (October 19, 2017 — October 3, 2019), evaluating the current status and prospects for further international cooperation within the framework of the BEAR.
Keywords: Barents Euro-Arctic Region, Arctic, globalization, regionalization, integration, national chairmanship, regional chairmanship, international relations, foreign policy, subjects of the Russian Federation.

Introduction

International cooperation in the Barents Euro-Arctic Region (BEAR) has traditionally been of interest to experts, political scientists, and journalists. The mechanism of cross-border interaction that has developed in the Region is an example, within the framework of which the current trends in the development of international relations of the subjects of the Russian Federation and the foreign policy of our country are investigated.

Furthermore, the two-level nature of integration within the BEAR is of great interest: multilateral cooperation at the level of the BEAC — the Barents Euro-Arctic Council ("ministerial" level) and at the level of the BRC — Barents Regional Council ("provincial" level). Such interaction, based on the principle of rotation and continuity, is a vital system factor, a key characteristic that ensures the goals and objectives of BEAR, its participants.

An analysis of the current experience of the national/regional chairmanship of a particular member country/region of the Barents cooperation allows us to assess the prospects for further cooperation within the framework of the BEAR, to develop the necessary recommendations for government bodies of the constituent entities of the Russian Federation on the effective implementation of international and foreign economic ties.

Sweden is a BEAC Chair Country

The Barents Euro-Arctic region is an essential two-tier segment of international relations in the Arctic. In 1993, the main idea of the Barents cooperation was the development of an original form of ties in the European North. The end of the Cold War in the Arctic region created the pre-

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requisites for opening new ways for productive and mutually beneficial cooperation between Northern Europe and Russia [1, Heininen, p. 216].

However, as the researchers rightly note, the mechanisms of functioning of the BEAR are significantly more politicized than cooperation through traditional levers of socio-economic development, which are based on the equilibrium of the objective national interests of states and the need for business and personal communication of the population, as well as human interaction [2, Lukin Yu.F., p. 76].

Moreover, after the fall of the Iron Curtain and in connection with the intensification of globalization and regionalization processes, the geopolitics of the Arctic began to significantly influence the modern system of international relations and the foreign policy of key actors, thus becoming world geopolitics [3, Heininen, p. 171].

On October 19, 2017, in Arkhangelsk, the Kingdom of Sweden took on the chairmanship of the BEAC from the Russian Federation as part of the 16th ministerial session of the Barents Euro-Arctic Council.

When assessing the Russian chairmanship, it should be noted that in 2015–2017, our country focused on important areas of cooperation, such as transport, the environment, climate, culture, and tourism. The Russian Chairmanship of the BEAC coincided with the controversial situation in the international relations. The Ukrainian crisis and continued sanction pressure on our country, incl. the Arctic region, largely determined the conditions for cross-border cooperation.

The main practical achievements of the national chairmanship of the Russian Federation of the Barents Euro-Arctic Council were the introduction of a visa-free regime for residents of border areas for up to 90 days within the 30 km zone on both sides; the establishment in 2016 of a 72-hour visa-free regime for passengers of cruise liners arriving at the ports of Arkhangelsk and Murmansk; the launch of direct railway communication on the route Petrozavodsk (Republic of Karelia) — Kuopio (Finland).

One of the key promising areas of cooperation completing the Russian chairmanship was and remained the construction of the Arkhangelsk-Syktyvkar-Perm railway line under the Belkomur project. The start of the project, according to the author, should be a visible tool for the comprehensive development of the Russian territories of the BEAR. The Belkomur project stays in line with the economic interests of our country, will contribute to the logistical integration of the Arkhangelsk and Murmansk Oblasts, the Komi Republic with the regions of the Urals and Siberia, as well as the use of rational routes of cross-border railway arteries, the revival of the Northern Sea Route, and the implementation of the construction project the deep-water region of the seaport of Arkhangelsk and, ultimately, the commercial and industrial integration of the Russian Federation and the countries of Northern Europe.

The implementation of the Belkomur project will be a decisive impetus for social development for the Russian North, Urals, and Siberia. It will provide a quicker and less costly delivery of

resources from remote areas of the country to the markets. Also, it will create conditions for opening industrial production attractive to Scandinavian investors along the transport arteries.

When speaking on the chairmanship, the Minister of Foreign Affairs of Sweden Margot Wallström noted that during the two-year leadership of the BEAC, official Stockholm would be guided along with the principles of sustainable development and respect for human rights. It was planned to pay special attention to expanding contacts between residents of the macroregion, esp. to youth cooperation[1].

In the official addresses of the Swedish Foreign Ministry, theses related to gender equality for residents and the creation of equal conditions for both sexes in the work of BEAR structures were also mentioned [2].

During a press conference of the Ministers of Foreign Affairs of Russia, Norway, Finland, and Sweden in Arkhangelsk, completing the Council's leadership, Sergey Lavrov, emphasized the importance of practical work, calling the BEAC the primary integration mechanism in the northern part of Europe. He supported his Swedish colleague on the need for developing contacts between youth representatives, emphasizing the interest of our country in creating the BEAR youth forum. The Russian minister also noted foreign partners responded positively to Moscow's initiative to create the Barents Davos to exchange views and develop a meaningful position on BEAC activities.

The participants of the XVI ministerial session praised the positive changes in the development of contacts at various levels of the Barents cooperation. They confirmed their interest in maintaining their intensity in the future. The key issues on the agenda of the BEAC session were the development of transport and logistics infrastructure, environmental protection, support for indigenous peoples, drawing attention to BEAR as an attractive center of international tourism.

The Governor of the Arkhangelsk Oblast Igor Orlov, as the head of the host region, addressed a welcoming speech to the foreign ministers. The Governor noted the foundation for the further development of multilateral cooperation in the BEAR could be the transition to a common scientific space and partnership in higher education issues and Arctic research. He emphasized that the Government of the Arkhangelsk Oblast was convinced to see the key reference points in the Barents cooperation in business contacts and unlocking investment potential. Igor Orlov said that the Barents regional cooperation was harmoniously combined with the entire multifaceted system of international cooperation in the Arctic. He reminded these topics discussed at the 4th

[1] Sergey Lavrov: «Arkhangel'sk — horoshaya ploshhadka dlya mezhdunarodnogo sotrudnichestva». Press-tsentr Pravitel'stva Arhangel'skoy oblasti [Sergey Lavrov: "Arkhangelsk is a good platform for international cooperation." Press Center of the Government of the Arkhangelsk Oblast]. URL: http://dvinanews.ru/-7rp4d2yz (accessed 08 November 2019).

[2] Swedish Chairmanship of the Barents Euro-Arctic Council 2017-2019: Regional Sustainable Development for the Future. Swedish Foreign Policy Stories. Ministry for Foreign Affairs. URL: http://www.swemfa.se/2017/10/20/swedish-chairmanship-of-the-barents-euro-arctic-council-2017-2019-regional-sustainable-development-for-the-future(accessed 08 November 2019).

International Arctic Forum "Arctic: Territory of Dialogue" held in Arkhangelsk on March 29–30, 2017 [3].

"Barents cooperation is on the rise. Its history is a success story. The main thing is the political climate determined not by the polar breathing of relapses of suspicion and fear of the Cold War, but by the warm Gulf Stream of the Barents Process, which, along with state interests, is primarily focused on the interests of ordinary northerners: and Russians, and Norwegians, and Sami, and Finns, and Swedes, and many other ethnic groups" [4, Fokin Yu.E., Smirnov A.I., p. 72].

However, on some issues, suspicion between countries remains. A particular resonance at a press conference of foreign ministers on October 19, 2017, was caused by questions from Norwegian journalists about the growing strife between Russia and Norway because of the Svalbard; the residents of the region are concerned about the "growth of the military activity of the Russian Federation in the Arctic" [4].

Sergey Lavrov replied that the Russian Foreign Ministry had questions for the Norwegian side regarding Svalbard. He drew attention to the fact that the diplomatic notes of the Russian Federation were ignored by the Oslo officials and noted that such rhetoric did not correspond to the spirit of northern cooperation. Regarding the "growth in military activity," Minister Lavrov proposed comparing the military budgets of Russia and the European countries participating in the North Atlantic Alliance before accusing Moscow of militarizing the Arctic. The Minister also mentioned the recent NATO exercises Aurora-2017, which were held jointly with Sweden, a military-neutral state, but actively cooperating with Brussels. From the Minister's point of view, the above indicates the implementation of the planned foreign policy line aimed at containing Russia.

The outgoing Norwegian Foreign Minister Børge Brende stated that his country "adhered to every point" of the Svalbard Treaty (1920), emphasized the Scandinavian partners' desire to make Svalbard the most managed archipelago in the Arctic. Minister Lavrov, in turn, expressed the hope that the successor of Mr. Brende would find the opportunity to observe diplomatic rules and send Moscow an official answer to concrete questions.

Margot Wallström emphasized the Aurora-2017 joint exercises with NATO related to strengthening the defense capability of Sweden. She assured in Stockholm's interest in maintaining peace and stability in the BEAR and maintaining the non-aligned status of her country.

The Swedish chairmanship of the BEAC ended on October 3, 2019, in Umeå (Westerbotten County, Sweden) at the 17th BEAC Ministerial Session.

[3] Vystuplenie Gubernatora Arhangel'skoy oblasti I.A. Orlova na Plenarnom zasedanii XVI Ministerskoy sessii SBER. Ofitsial'nyy sayt Pravitel'stva Arhangel'skoy oblasti [Speech of the Governor of the Arkhangelsk Oblast Orlov I.A. at the Plenary Session of the 16th Ministerial Session of BEAC. Official website of the Government of the Arkhangelsk Oblast]. URL: https://dvinaland.ru/news/578690 (accessed 08 November 2019).

[4] The author was involved in the information-analytical and organizational and protocol support of the official events on October 16–19, 2017 in Arkhangelsk.

That day, summing up the two-year Swedish chairmanship, the Council declaratively noted the following points [5]:

- the important role of the Barents cooperation as a platform for strengthening mutual trust and stability, respect for human rights, democratic values and gender equality, promoting sustainable development following the 2030 Agenda for Sustainable Development [6];
- effective interaction at the national, regional and local levels, including contacts between people in which indigenous peoples play an important role as a key element of the Barents cooperation;
- significant development of the region since the foundation of cooperation in 1993;
- the need to continue working together to improve the well-being of BEAR residents;
- the decisive role of the Barents Regional Council and its regional program for 2019–2023;
- the significance of the parliamentary dimension took note of the decision of the IX Parliamentary Conference of the Barents Region, held in 2019 in Haparanda (Sweden);
- the importance of supporting indigenous peoples reaffirmed its commitment to respect for their rights outlined in the UN Declaration on the Rights of Indigenous Peoples (2007) [7], and also noted the results of the IV Congress of the Indigenous Peoples of the Barents Region and the 2nd Summit of the Indigenous Peoples of the Barents Region, held in 2019 in the town of Lycksele (Sweden) [8];
- significant achievements in the fields of trade and economic cooperation, environmental protection, civil defense, and emergencies, health care, tourism, the timber industry, science, and education, as well as cultural exchange;
- the importance of the Barents region scholarship for the development of cultural cooperation;
- development of a permanent effective international transport connection supported the final draft of the Joint Barents Transport Plan;
- the importance of work to expand youth participation in all areas of cooperation, and also approved recommendations on youth policy; supported further monitoring of the implementation of activities in all areas of multilateral cooperation;
- the need to take urgent measures to combat the negative effects of climate change, reaffirmed its commitment to the implementation of the Paris Agreement (2015) and emphasized the need for active concerted action in this direction, based on the latest scientific research; the Council noted with concern that warming in the Barents region is more than double the average in the world, which could seriously affect indigenous eco-

[5] Barents Euro-Arctic Council Umeå Declaration, 3 October 2019, Umeå, Sweden. General Information Portal to the Barents Region. URL: https://www.barentsinfo.fi/beac/docs/UmeoDeclaration.pdf (accessed 09 November 2019).

[6] The 2030 Agenda for Sustainable Development. Text in Russian United Nations System Staff College. URL: https://www.unssc.org/sites/unssc.org/files/2030_agenda_for_sustainable_development_-_primer_russian.pdf (accessed 09 November 2019).

[7] United Nations Declaration on the Rights of Indigenous Peoples. Adopted by resolution 61/295 of the UN General Assembly of 13 September 2007. Text in Russian. UN official website. URL: https://www.un.org/ru/documents/decl_conv/declarations/indigenous_rights.shtml (accessed 09 November 2019).

[8] Barents Indigenous Peoples Congress and Summit. Norwegian Barents Secretariat Official Website. URL: https://barents.no/en/news/2019/barents-indigenous-peoples-congress-and-summit (accessed 09 November 2019).

systems and livelihoods; the Council emphasized the need for continued active work by the BEAR working groups to implement the Climate Change Action Plan [9];

- progress in reducing the number of environmental "hot spots" in the Barents region and encouraged participants to continue to work to improve environmental performance and intensify efforts to eliminate remaining ones;
- the importance of raising awareness of the Barents cooperation;
- its support for a political dialogue based on practical cooperation and contacts between people, which should remain a key factor in the development of cooperation within the BEAR framework, emphasized the importance of BEAC remaining a means of strengthening mutual trust, mutual understanding, and good neighborly relations.

The participants of the 17th Ministerial session of the BEAC expressed their gratitude to the Chair Country of the BEAC – Sweden and the Chair Territory of the BRS – the Norwegian province of Finnmark. National Chairmanship for the period 2019–2021 passed to Norway, regional — to the Swedish region of Westerbotten. The main event of the humanitarian sphere was the presentation of the Barents scholarship. The representative of the Arkhangelsk Oblast, Ilya Kuzubov, the inspirer and creator of the Taibola annual open-air cultural and environmental attracting thousands of participants, became the laureate from the Russian Federation.

Commenting on the results of the Swedish Chairmanship of the BEAC, the recently assumed office of Swedish Foreign Minister Anne Linde noted that the Stockholm officials were particularly pleased with the work on environmental issues and climate change. The Minister also drew the attention of the session participants to the fact that Sweden, was taking a leading role in promoting feminism in the international arena, sought to apply a feminist approach in foreign policy and during its chairmanship in the BEAC: "The development of feminism helps to strengthen certain structures, allows rethinking how these structures work, who they represent, and who will represent who in the future. It is imperative that women have the same opportunities as men"[10].

One of the main priorities of the Swedish Chairmanship was to draw attention to the problems of youth and to enhance the participation of youth in the Barents cooperation. Anne Linde emphasized that in 2017–2019, young people were involved in ongoing work with ministers: they prepared a declaration supported by the BEAC.

The 17th Ministerial Session of the Barents Euro-Arctic Council did not include two key representatives — Sergey Lavrov and Pekka Haavisto. The Minister of Foreign Affairs of the Russian Federation and his Finnish colleague did not participate in the BEAC session (unlike the previous meeting in Arkhangelsk in 2017), which was a noticeable loss and made this important event less representative.

[9] Action Plan on Climate Change for the Barents Co-operation. Barents Euro-Arctic Council official website. URL: https://www.barentscooperation.org/en/About/Learn-More/Climate-Change-and-the-Barents-region/Barents-Action-Plan (accessed 09 November 2019).

[10] Acting Barents, Thinking Arctic: Maximizing Attention to the North through Regional Cooperation. High North News. URL:https://www.highnorthnews.com/en/acting-barents-thinking-arctic-maximizing-attention-north-through-regional-cooperation (accessed 09 November 2019).

Global Agenda

The well-known expression “Think globally, act locally” can be applied to the Barents cooperation. An iconic feature that completed the Swedish chairmanship at the 17th BEAC Ministerial Session – it was organized on the sidelines of the European Union's Arctic Forum. And thus, the BEAC Ministerial Meeting was only an addition to the much larger event of the EU.

On October 3–4, 2019, a special EU Arctic Forum was organized by the European Commission, the European Foreign Service, and the Government of Sweden. The panel discussions of the forum brought together about five hundred people, incl. the Foreign Ministers of Italy, India, Finland, Latvia, Norway, Malta, and European Commissioners (Federica Mogherini and Karmenu Vella). One of the meetings of the forum was visited by the heiress of the Swedish throne, Crown Princess Victoria.

The purpose of the EU forum in 2019 was to discuss international relations in the Arctic, ecology and climate change, investment cooperation, the Internet and communications. According to the organizers, the forum was supposed to form a common political position, a strategic view of the EU countries on cooperation in the Arctic after 2020. At the same time, the Swedish Government emphasized Stockholm's long-standing commitment to the EU Arctic policy.

As a result of the work of the EU Arctic Forum in Umeå, high representatives of the European Union and the Swedish Foreign Ministry issued a joint statement (declaration). The main theses were the following [11].

To protect the environment and support sustainable economic development, the EU will help the region in three key areas:

- investing in research and development;
- protection of local ecosystems and biodiversity;
- creation of developed infrastructure for connecting the region with the rest of Europe, incl. high-speed access to the Internet.

The declaration also noted that on these issues, the European Union would maintain active interaction with central, regional and municipal authorities in the European part of the Arctic.

Three countries participating in the EU (Denmark, Finland and Sweden) and two countries participating in the European Economic Area (Iceland and Norway) are Arctic states. Therefore, the decisive role of the EU in the Arctic is proclaimed in the joint statement: interest in keeping the region as a zone of “low tension” but “high cooperation”. That is, the document is about promoting the constant commercial, industrial, and investment development of the Arctic region, based on relevant scientific research. The emphasis in this case, according to the authors of the statement, will be on preserving fragile ecosystems, as well as considering the living conditions of local communities, esp. indigenous peoples.

[11] Sovmestnoe zayavlenie: davnyaya priverzhennost' ES ukrepleniyu ustoychivogo mezhdunarodnogo sotrudnichestva v Arktike [Joint statement: the EU long-standing commitment to strengthen sustainable international cooperation in the Arctic.]. European Union External Action: Official Website. URL: https://eeas.europa.eu/ru/eu-information-russian/68417/совместное-заявление-давняя-приверженность-ес-укреплению-устойчивого-международного_ru (accessed 15 November 2019).

According to the joint declaration, the EU sets itself specific tasks to protect the environment: to limit global warming to 1.5 degrees Celsius, reduce global greenhouse gas emissions, and by 2050 become a carbon-neutral economy.

It is noteworthy that representatives of the Russian Federation were not invited to the Arctic Forum of the EU. Our country was not mentioned in the final declaration approved by the European Commission and the Swedish Foreign Ministry — a joint statement.

We regret to note that the growing interest of Brussels in the polar macroregion leaves BEAR on the second place. Nordic countries are becoming increasingly involved in the EU Arctic policy. BEAC today is an interstate platform with a routine work agenda, and the EU Arctic Forum is a major event with a large number of participants, in which real prospects for the development of the northern territories on a global scale are discussed (serious competition to the forum, the author's opinion is only the Arctic Council).

At the same time, the term "Arctic Europe" defended by the European Union includes only administrative-territorial units of the north of Norway, Finland, and Sweden, as well as Iceland and Danish autonomy — Greenland. Thus, the Brussels officials ignore the need to reckon with the national interests of our country in northern Europe, retains anti-Russian sanctions, which leads to an increase in political contradictions in world geopolitics. It is also noteworthy that the EU's entry into the Arctic Council as an observer will become possible only after the rescinding of financial and economic restrictions directed against Russia, which, in turn, will continue to veto the application of the European Union for permanent status in the Arctic Council.

According to the level and number of participants in the EU Arctic Forum, its agenda, we can conclude that the key official event of the leading subregional organization in the European North (BEAC) [5, p. 112] remained in the shadow of this larger international event.

Regional Agenda

In October 2017, in parallel with the acquisition of Sweden's National Chairmanship, the Norwegian province of Finnmark took over the leadership of the Finnish region as part of the rotation procedures at the regional level. The meeting of the Barents Regional Council also took place in Arkhangelsk [12].

The province of Finnmark, for the first time, assumed the chairmanship of the BRS. Governor Ragnhild Wasswick then presented priority directions for the upcoming biennial chairmanship: continuity, economic development, environmental protection, development of transport infrastructure, cooperation between people, and lowering border barriers [13].

[12] Barentsevo sotrudnichestvo: konsolidatsiya znaniy, resursov i vozmozhnostey. V pravitel'stve oblasti sostoyalos' zasedanie Barentseva Regional'nogo Soveta. Press-tsentr Pravitel'stva Arkhangel'skoy oblasti [Barents cooperation: consolidation of knowledge, resources, and opportunities. The Government of the Oblast held a meeting of the Barents Regional Council. Press center of the Government of the Arkhangelsk Oblast]. URL: http://dvinanews.ru/-c6freewu (accessed 09 November 2019).

[13] Møte i Barents regionråd og ministerråd. Finnmark fylkeskommune. URL: https://www.ffk.no/aktuelt/mote-i-barents-regionrad-og-ministerrad.590687.aspx (accessed 09 November 2019).

Between October 2017 and October 2019, the following documents were adopted [14]:

- Joint statement of the BRS members of May 24, 2018 (Rovaniemi, Finland);
- Joint statement of the BRS members of September 27, 2018 (Syktyvkar, Russia);
- Protocol of the BRS meeting of April 3, 2019 (Tromsø, Norway);
- Joint Statement of the BRS Members of October 2, 2019 (Umeå, Sweden).

On October 2, 2019, on the eve of the 17th Ministerial Session of BEAC opening, the main BEAR event at the "provincial" level was held, i.e., the BRC meeting, dedicated to summing up the chairmanship of the Finnmark and the transition of the leadership to the Swedish province of Westerbotten. The focus was on the proposals of the BRS to the ministers of foreign affairs related to the creation of a financial support mechanism for working groups. Among other issues, visa facilitation, environmental protection, and climate change, youth cooperation, and the activities of the Barents Regional Youth Council, development of transport infrastructure, support for indigenous peoples, and a regional outlook on the Arctic agenda were also discussed [15].

One of the notable at the BRC meeting was the appeal of the First Deputy Governor – Chair of the Government of the Arkhangelsk Oblast Alexey Alsufyev to the participants, who confirmed that the Arkhangelsk Oblast considered scientific cooperation as a key issue of work within the BEAR framework [16].

The representative of the Arkhangelsk Oblast also noted that following the decision of President Vladimir Putin, a world-class scientific and educational center would be created in the Arctic zone of the Russian Federation. Its goal should be to support the comprehensive development of the Russian Arctic. It is planned that the center will solve the problems of studying and promoting innovative technologies, developing human resources for the research, commercial, industrial, and investment development of the Arctic. Alexey Alsufyev invited BEAR partners to work together in the scientific and educational center to search for constructive solutions to pressing problems in the Russian Arctic that could become mutually beneficial.

Of course, the creation of such a scientific and educational center with the involvement of foreign partners in the BEAR could create real prerequisites for meaningful cooperation between industrial enterprises and higher educational institutions of the Arctic states.

Conclusion

At the initial stage of the development of the Barents cooperation, the ambassador of the Russian Federation to the Kingdom of Norway (1995–1997) Yuriy Fokin briefly described the main

[14] Meeting Protocols and Joint Statements of the Barents Regional Council. Finnmark Chairmanship 2017-2019. Barents Euro-Arctic Council official website. URL: https://www.barentscooperation.org/en/Barents-Regional-Council/Regional-Council-documents/Regional-Council-documents (accessed 09 November 2019).

[15] Joint Statement of the Barents Regional Council on the Occasion of the BEAC Ministerial Meeting and the EU Arctic Forum. 3 October 2019, Umeå, Sweden. General Information Portal to the Barents Region. URL: https://www.barentsinfo.fi/beac/docs/JointStatementofBRC_02102019.pdf (accessed 09 November 2019).

[16] V Umeo prokhodit zasedanie Barentseva regional'nogo soveta. Press-tsentr Pravitel'stva Arkhangel'skoy oblasti [Umeå hosts a meeting of the Barents Regional Council. Press center of the Government of the Arkhangelsk Oblast]. URL: http://dvinanews.ru/-5uaes8br (accessed 09 November 2019).

obstacle to the successful development of Russian-Norwegian relations — this is the legacy inherited from the Cold War: fear, mistrust, suspicion [6, Smirnov A.I., p. 268].

And it is regrettable to note that the anti-Russian sanctions introduced after the events of the Ukrainian crisis return the rhetoric of some participants of the Barents cooperation to the period of history before the "Murmansk Initiatives" of the General Secretary of the Communist Party of the Soviet Union Mikhail Gorbachev, negatively affect the development of cooperation within the framework of the BEAR. An example here is the peculiar "diplomatic demarche" of the head of the foreign ministry of one of the BEAC member countries, who on March 30, 2017, demonstratively left the plenary session of the IV International Arctic Forum "Arctic — Territory of Dialogue", when President of the Russian Federation started his speech [17].

More than a quarter of a century, along with the positive nature of investments in small and medium projects, we observed a tendency for foreign partners in the Barents cooperation to move away from investing in large-scale projects, the implementation of which could enrich international cooperation in the region, raising the status of BEAC on the world stage. What is more important for the subjects of the Russian Federation, this would significantly increase the level of socio-economic development of the Russian territories of the BEAR. Undoubtedly, this seems to be beneficial for foreign colleagues as well. E.g., as the head of the Norwegian Barents Secretariat Lars Georg Fordal points out, already now in the border town of Kirkenes (Finnmark, Norway), 30% of goods have been purchased by citizens of the Russian Federation. According to the secretariat's report for 2018, the municipality of Sør-Varanger "earns billions" on trade and economic cooperation with Russia [18].

The Swedish government builds its foreign policy in the Arctic macro-region on the country's membership in the Arctic Council, BEAC, the Northern Dimension, the Nordic Council of Ministers, and other international forums. Sweden is focusing on active participation in their events [7]. At the same time, Stockholm officials point country's long-standing commitment to the EU Arctic policy proved by the EU Special Arctic Forum (Umeå October 3–4, 2019), which overshadowed the 17th Ministerial session of the BEAC.

Thus, the two-year Swedish Chairmanship of the BEAC was not marked by a transition to the harmonious development of Barents cooperation. In essence, the humanitarian sphere still "overshadows" economics, some political contradictions have not been overcome (e.g., the positions of Norway and the USA on Russian presence on Svalbard [8, Pedersen T.]).

The relatively low commodity turnover between the Russian and foreign parts of the BEAR also speaks in favor of the latter arguments. E.g., the Arkhangelsk Oblast is the largest administrative-territorial entity in the BEAR, and the town of Arkhangelsk, with a population of 350 thousand

[17] The author was involved in the information-analytical, organizational and protocol support of the official events held in Arkhangelsk on 29-31 March 2017.

[18] Lars Georg Fordal. Felles historie, felles framtid. Vi trenger en åpnere grense mot Russland. Det vil begge land tjene på. Norsk Rikskringkasting (NRK). URL: https://www.nrk.no/ytring/felles-historie_-felles-framtid-1.14753633(accessed 09 November 2019) (дата обращения: 21.11.2019).

people, is the largest in the Barents region. Moreover, according to the official data of the key state institution for supporting non-primary exports — the Russian Export Center Joint-Stock Company for 2018, neither Norway, Finland nor Sweden were among the top ten countries for exporting goods from the Arkhangelsk Oblast [9].

From the author's point of view, the decisive factor in the Barents cooperation today should remain trade and economic interaction and the BEAR investment potential: an increase in the number of Kolarctic projects and their financing, expansion of scientific and technical cooperation in the Arctic, creation of joint industrial production, more efficient development of transport and logistics infrastructure and cross-border economic ties.

Open borders strengthen the economy and foster business contacts. Therefore, the creation of a simplified visa regime and customs procedures between the foreign part of the BEAR and the North-West Federal District of the Russian Federation should become an obvious priority. It is so, first, for the Barents Regional Council and the Regional Committee members, who could subsequently convince central governments of their countries.

And only through the joint efforts of the BEAC and BRS members and the political will of the leaders it could be possible to implement a large number of specific large-scale projects of scientific, technical, trade, economic and investment cooperation that are in demand in the BEAR territories. The result of joint work will be meeting the public needs of the population, improving the quality of life in the constituent entities of the Russian Federation, which are participants in the Barents cooperation (the Republic of Karelia, the Komi Republic, the Arkhangelsk Oblast, the Murmansk Oblast, and the Nenets Autonomous Okrug).

Moreover, in the current conditions of market relations, the Barents cooperation cannot develop on a directive policy. Of course, the political elites and residents of the northern territories should be clear on the feasibility of such integration.

Only when implementing an optimistic scenario and overcoming political prejudices and mistrust in the medium and long term, the central task of international cooperation in the Barents region could and should be the formation of a free trade zone and a common market for goods, creation of joint industries, and an increase in mutual investments. With the development of favorable conditions, it will even become possible to speak about the development of elements of the BEAR customs union.

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The Arctic in 2019: international and national aspects (issues of international cooperation and security) *

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Abstract. The article represents a review of the leading international and Russian conferences that took place in 2019 and played an essential role in the study and development of the Arctic. The author paid attention to the analysis of their features from the standpoint of strengthening Arctic international cooperation. It is noted that the Fifth International Forum "The Arctic — Territory of Dialogue" (St. Petersburg) made a significant contribution to the development of Arctic solidarity and partnership. The author commended a proposal of creating a separate state company in Russia that would operate on the Arctic shelf, have the appropriate personnel, equipment and would not be related to business interests. It is noted that in Russia, it is necessary to organize more events and conferences on the Arctic topic in the Arctic territories. The publication concerns the measures taken by the country's leadership to manage the Arctic zone of the Russian Federation. Particular attention is paid to the further development of the Northern Sea Route, a new approach to its functioning, which consists of a significant increase in its cargo transportation along with the parallel development of the Russian Arctic territories within the framework of development support zones. The article presents an analysis of the State Commission for the Development of the Arctic meetings on research and national projects. The author also focuses on the current problems of defense and security in the Arctic region. It is noted that Russia is taking adequate measures to strengthen its national security in the Arctic region in response to the NATO states' military buildup in the Arctic.
Keywords: *Arctic, Russia, Arctic Council, Northern Sea Route, conference.*

Introduction

In the Arctic, a long-term trend of climate change persists [1, Matishov G.G., Dzhenyuk S.L., Moiseev D.V.; 2, Morozov A.]. In this regard, new lands are appearing in the Arctic region, favorable conditions for the exploration and extraction of mineral resources and the intensification of shipping in the Arctic are being created. In 2019, the volume of cargo through the NSR reached 30 million tons [1].

On the other hand, competition among states in the Arctic region was intensifying. It led to the World Economic Forum in the Global Risk Report prepared for the Davos Forum to suggest that "there is a growing cold war for the Arctic in the world, in which Russia, the USA, China, and Norway are the countries fighting for resources, fish, trade routes and strategic presence" [2]. With-

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[1] Ob"em perevozok gruzov po Sevmorputi dostig 30 mln ton [The volume of cargo transportation along the Northern Sea Route reached 30 million tons]. 13 January 2020. URL: https://sudostroenie.info/novosti/29125.html (accessed 15 January 2020).

[2] Tairov R. Davosskiy forum nazval glavnye riski 2020 goda [The Davos Forum identified the main risks 2020]. 15 January 2020. URL: https://www.forbes.ru/newsroom/obshchestvo/391219-davosskiy-forum-nazval-glavnye-riski-2020-goda (accessed 16 January 2020).

out rejecting the possibility of these events, it should be noted that, at present, no real reasons that could lead to armed conflict between states exists. Answering this question at a press conference on Russian diplomacy results in 2019, S.V. Lavrov noted: "There is no reason to bring military methods of work to the Arctic. In this regard, we consider it incorrect to try to draw NATO into this region in high latitudes. Still, we are in favor of resuming the previous practice when the chiefs of general staffs of the armed forces of the Arctic Council met solely to ensure the proper level of confidence" [3].

The current situation requires a new system of global and regional security, ensuring effective and sustainable integrated socio-economic development of the Arctic as a macro-region, and establishing new, more effective approaches to organizing international cooperation.

Important meetings, forums, conferences on the Arctic held in 2019. They made a positive contribution to maintaining an atmosphere of peace and constructive cooperation in the Arctic and played an essential role in this.

International Arctic forums, conferences, and meetings in 2019

On February 21–22, the IV international conference "The Arctic: Offshore Projects and Sustainable Development of Regions" was held in Moscow. 400 people took part in its work, including specialists from different regions of Russia, as well as from Poland, Turkey, China, South Korea, Japan, Denmark, Azerbaijan, and Austria. The conference is devoted to topical issues in the development of the mineral resource potential of the Arctic zone, the role of the Arctic in meeting global demand for energy resources. It was noted that the states are not yet ready to solve this problem in full. When we speak about offshore production, several factors must be considered: a significant drop in world hydrocarbon prices; the discovery of new oil and gas fields in different parts of the world in more favorable climatic conditions and with low production costs; recognition of Russia's technological lag, also the one due to the US and EU sanctions; rather high ecological vulnerability of the arctic nature. It is important to note that for most of the vast Arctic waters, incl. Kara, Laptev, East Siberian, and Chukchi seas have no proven technological solutions for offshore production.

The 5th International Forum "Arctic — Territory of Dialogue" was held on April 9–10 in St. Petersburg» [4]. The event gathered on its site more than 3600 Russian and international political, scientific, and business circles, the public, leading media outlets from 52 countries. The event was attended by the President of the Russian Federation, Vladimir Putin, the President of Finland Sauli Niinistö, the President of Iceland Houdni Torlatius Johannesson, the Prime Minister of Norway Erna Solberg and the Prime Minister of Sweden Kjell Stefan Löfven, the Foreign Ministers of Den-

[3] Sergey Lavrov. Vystuplenie i otvety na voprosy v khode press-konferentsii po itogam deyatel'nosti rossiyskoy diplomatii v 2019 godu [Speech and answers to questions during a press conference on the results of Russian diplomacy in 2019]. 20 January 2020. URL: https://russiancouncil.ru/analytics-and-comments/comments/vystuplenie-i-otvety-na-voprosy-v-khode-press-konferentsii-po-itogam-deyatelnosti-rossiyskoy-diploma/ (accessed 25 January 2020).

[4] Plenarnoe zasedanie Mezhdunarodnogo arkticheskogo foruma [Plenary meeting of the International Arctic Forum]. 09 April 2019. URL: http://www.kremlin.ru/events/president/news/60250 (accessed 15 April 2019).

mark and Norway Anders Samuelsen and Ine Marie Eriksen Søreide, representatives on Arctic issues from the ministries of foreign affairs of the 8 states and the EU. Russia was represented by 7 federal ministers, 10 heads of federal agencies and services, and 15 heads of subjects of the Russian Federation. 33 sessions were held on three main themes: "Coastal Territories", "Open Ocean" and "Sustainable Development", and 11 events within the framework of Youth Day. In two days in St. Petersburg, 30 agreements were concluded for a total amount of about 70 billion rub. [5].

When analyzing the results of the forum, it should be noted that among the leaders of the Arctic states, along with the unity of assessments and approaches to the development of the Arctic, some differences also emerged, especially regarding security in the region [3, Zhuravel V.P.]. At the same time, the forum made a significant contribution to the development of Arctic solidarity and partnership.

At the end of the forum, a meeting of the State Commission for the Development of the Arctic was held [6], where issues of the implementation of national projects were considered. It was noted that the situation in the social sphere of the Arctic zone of Russia was significantly worse than the average in the Russian Federation. So, in 16 out of 23 territories, life expectancy is lower than the average Russian value; in 15 out of 23 territories, the share of dilapidated and emergency housing stock is higher than the average Russian value. The largest share is in the Turukhansky district of the Krasnoyarsk Krai (this is 28.7%). The region got a low volume of new housing construction and a low density of roads.

The continuation of this work was a two-day strategic session with the regional management teams of the Arctic zone of Russia at the Moscow School of Management Skolkovo, which addressed issues of development of the Russian Arctic [7]. There the regional teams got acquainted with the side of the Ministry for the Development of the Far East and the Far East Development Institutions in connection with the decision of the President of the Russian Federation on extending their activities to the Arctic. They discussed proposals for a new system of preferences for investment projects in the Arctic and residents of the Arctic zone of Russia so that their quality of life is brought up to the average Russian level. It is doubtful the thesis of the session participants that private investors can become the main driving force of the economic development of the Arctic. In our opinion, they can still be an addition to government funding.

On May 6–7, the 11th Ministerial meeting of the Arctic Council took place in the Finnish town of Rovaniemi, where the chairmanship in the AC of Finland (2017–2019) passed to Iceland.

[5] V Sankt-Peterburge podvedeny itogi Mezhdunarodnogo arkticheskogo foruma 2019 [The International Arctic Forum 2019 results have been summed up in St. Petersburg]. 10 April 2019. URL: https://forumarctica.ru/news/results-of-the-arctic-territory-of-dialogue-5th-international-arcticforum-summed-up-in-st-petersburg/ (accessed 12 April 2019).

[6] Yuriy Trutnev provel zasedanie prezidiuma Gosudarstvennoy komissii po voprosam razvitiya Arktiki [Yuri Trutnev held a meeting of the Presidium of the State Commission for Arctic Development]. 10 April 2019. http://government.ru/news/36350 (accessed 12 April 2019).

[7] V Moskovskoy shkole upravleniya «Skolkovo» obsudili voprosy razvitiya rossiyskoy Arktiki [The Moscow School of Management Skolkovo discussed the development of the Russian Arctic]. 13 April 2019. URL: http://government.ru/news/36395 (accessed 20 May 2019).

The meeting participants positively evaluated the results of the Finnish presidency of the Council in 2017–2019. At the May meeting, the International Maritime Organization became an observer to the Council. The Arctic Council and the Arctic Economic Council signed a memorandum of understanding also there. Along with this, the final joint Declaration was not adopted, which happened for the first time for the entire period of the existence of the Arctic Council. The US blocked the draft document because of the mention in its text of the need to work together on climate issues, limiting itself to a very concise joint statement. The Strategic Plan for Cooperation in the Arctic until 2025 was not agreed for the same reason. The Plan supposed to be the first long-term planning document in the history of the Council. All the above can be considered a manifestation of the early signs of contradictions in the AC. Suomi also failed to organize and hold an Arctic summit at the level of state leaders due to the complexity of the international situation, including due to the position of the United States and several other countries to resolve conflicts in Syria and Ukraine.

Reykjavik plans during its chairmanship in 2019–2021 to focus on the protection of the marine Arctic environment, the fight against ocean acidification; sustainable development of the fishing sector; reducing ocean pollution, combating marine debris, developing a Regional Action Plan to reduce marine debris and plastic microparticles in it; combating climate change and introducing green energy, continuing to work to improve the quality of weather forecasts in the Arctic region, further exploring ways to improve the efficiency of use of marine resources; preparing for the ministerial meeting in Reykjavik in 2021 an updated report on climate change in the Arctic; creating a prosperous and sustainable community of indigenous peoples living in the Arctic through their social well-being, quality of life and the development of cultural and academic exchanges, and facilitating dialogue on gender equality issues in the Arctic; continuing to strengthen and increase the role of the Arctic Council as an effective platform for dialogue, strengthening cooperation with the Arctic Economic Council and observer countries [4, Zhuravel V.P.].

May 22–30 at the Northern (Arctic) Federal University named after M.V. Lomonosov (Arkhangelsk) hosted the international week of Arctic science, in which about 450 people from 29 countries took part. This summit presented to the international community dozens of projects of the National Arctic Scientific and Educational Consortium and the results of ten expeditions of the Arctic Floating University project, in which young scientists and students from several countries took part. It is necessary to ensure that these events take place regularly, and their composition is expanded.

The Northern Forum on Sustainable Development was held in Yakutsk on September 24-28. Representatives of 14 regions of the Russian Federation and 13 countries, incl. 7 subpolar countries (Russia, Canada, the USA, Iceland, Finland, Norway, and Sweden), 3 Asian (China, Republic of Korea and Japan), and scientists from Great Britain, Germany, and France participated. In to-

tal — more than 300 people [8]. Within the framework of the forum, more than 30 events were held at which the issues of participation of Russian Arctic entities in international Arctic interaction and their cooperation with foreign regions in the Far North, prospects for developing relations with the Association of World Reindeer Herders, and further promotion of the project "Children of the Arctic. Preschool education". The main idea of the program for holding this forum in Yakutsk, in our opinion, was an attempt to bring the countries of Southeast Asia closer to the Arctic, to respond to their interest in the Arctic problems, by attracting them to projects for the development of the Arctic territories and the NSR.

September 30 — October 2, under the auspices of the Security Council of Russia, the 8th international meeting of representatives of the Arctic Council member states, AC observer countries, and the foreign scientific community was held [9]. Head of the Russian delegation, Secretary of the Security Council of the Russian Federation N.P. Patrushev, stressed the importance of jointly counteracting attempts to create artificial lines and escalate tensions around issues that the Arctic powers want and can solve within the framework of existing international platforms — the UN, the Arctic Council, the Barents Euro-Arctic Council, the Northern Dimension, the Arctic Economic Council. Representatives of 15 states spoke in favor of strengthening cooperation with Russia, and for further multilateral formats meetings to solve the most important tasks regarding the development of the Arctic. According to the assessment of the First Deputy Secretary of the Security Council of the Russian Federation, Yu.T. Averyanova, these meetings are important multilateral platforms dedicated to the problems of the region, where politicians, public and world-class scientific experts participate [10]. It should be noted that these international meetings have been held since 2011 and have become an important factor in ensuring stability in the Arctic zone.

On October 10–13, the international Arctic forum was held in Reykjavik (Iceland). The central place in discussions has traditionally been occupied by global climate change, considering its local and global manifestations, and international cooperation issues. It is the largest and most representative event of all regularly held conferences on the Arctic region development. It was attended by more than 2 thousand people from 60 countries, incl. the prime ministers of Finland, Iceland and Greenland, Princess of Sweden Victoria, former US Secretary of State John Kerry, two governors of the Russian regions (Chibisa A.V., Murmansk Oblast and Artyukhov D.A., Yamal-

[8] V Yakutske proshlo mezhdunarodnoe meropriyatie «Severnyy forum po ustoychivomu razvitiyu» [International event "Northern Forum on Sustainable Development" was held in Yakutsk]. URL: https://yakutsk.mid.ru/ru/press-centre/news/_v_yakutske_proshlo_mezhdunarodnoe_meropriyatie_severnyy_forum_po_ustoychivomu_razvitiyu/ (accessed 20 November 2019).

[9] Sostoyalas' VIII Mezhdunarodnaya vstrecha predstaviteley gosudarstv-chlenov Arkticheskogo soveta i stran-nablyudateley v Arkticheskom sovete, a takzhe predstaviteley zarubezhnoy nauchnoy obshchestvennosti. Sayt Soveta Bezopasnosti Rossiyskoy Federatsii [The 8th International meeting of representatives of the Arctic Council Member States and observer countries in the Arctic Council, as well as representatives of the foreign scientific community, took place. Website of the Security Council of the Russian Federation]. 02 October 2017. URL: http://www.scrf.gov.ru/news/allnews/2655/ (accessed 15 October 2019).

[10] Egorov I. Kogo sogreet Arktika [Whom Arctic will warm]. Rossiyskaya gazeta [Russian newpaper]. 30 September 2019 (An interview with the first deputy metropolitan Sekrat-ry Sovet Security of the Russian Federation Yuri Averyanova).

Nenets Autonomous Okrug), etc [11]. At this forum, as analysis shows, at the expert level, Arctic issues are being worked out, the solution of which is then proposed or rejected at the state level. In our opinion, Russia needs to more actively use such a platform to present its regional projects and promote its ideas for the development of the Arctic.

The 7th annual meeting of the International Expert Council for Cooperation in the Arctic was held on November 7 at the Gubkin University with grant support from the Gorchakov Foundation. This time it was dedicated to information technology. Each meeting is accompanied by the publication of the issue of the journal Arctic Review. Representatives of the AC founding countries, Great Britain, India, and Australia, took with interest the announcement about the creation of the first Russian Center for Combating Hybrid Threats, including in the Arctic.

On December 5–7, the 8th International Forum "Arctic: Present and Future" was held in St. Petersburg. The discussion covered all areas and relevant aspects of Russian Arctic development. The discussion went through the prism of adopting a law on the development of the Arctic zone of the Russian Federation, mentoring and educating the young generation, the development of volunteering and volunteering, as well as international non-governmental interaction. The forum was attended by over 2 thousand people, including all governors of the Arctic regions of the Russian Federation. According to the results of the discussion, the draft resolution included over 300 proposals, which for the most part related to improving the quality of life of the population, the development of human capital and environmental protection [5, Volgin N.A., Shirokova L.N., Mosina L.L.; 6, Korchak E.A.]. In our opinion, it is vital that they are considered and evaluated in the framework of fulfilling the requirements of the national projects "Health Care", "Education", "Housing and Urban Environment", "Ecology", "Labor Productivity and Employment Support".

In 2019, at Arctic conferences, round tables, and expert meetings the Russian Federation actively discussed the goals and main areas of activity of the authorities and the development management of the Russian Arctic, which, according to their participants, should be reflected in the new Fundamentals of State Policy Russia in the Arctic until 2035.

The trend remains shelf development, environmental issues, safety, and international cooperation. Participants pay attention to the slow implementation of national projects in the territory of the Russian Arctic.

Russia in the Arctic in 2019

The Arctic has always been in the field of vision of the country's leadership. For decades, step by step, Russia has strengthened, increased its presence, its position in the Arctic region. At each new stage, the main tasks for its development were determined [7].

[11] Mezhdunarodnyy forum «Arkticheskiy krug» [International forum Arctic Circle]. URL: https://будущее-арктики.рф/arctic-circle/ (accessed 20 November 2019).

In 2019, much more attention was paid to the development of the Arctic in Russia. One of the indicators of this is the adoption of several federal management decisions that solved the accumulated problems and contributed to the development and development of the Arctic region.

In the interests of improving the management of the Arctic zone of the Russian Federation (AZRF) by President V.V. Putin signed a decree [12] and enabled the Ministry for the Development and Development of Russia to develop and implement state policy and legal regulation in the field of socio-economic development of the Arctic. The Ministry was renamed the Ministry of the Russian Federation for the Development of the Far East and the Arctic, and it is now responsible for the development of the Arctic region.

By the Decree of the President of the Russian Federation of May 13, 2019 No. 220 "On Amendments to the Decree of the President of the Russian Federation of May 2, 2014 No. 296 "On Land Territories of the Arctic Zone of the Russian Federation", the Arctic Zone of the Russian Federation covered 8 more municipal districts (uluses) of the Republic of Sakha (Yakutia). So, work was completed to determine the southern border of the Russian Arctic. The justice was established for the residents of the republic who live in arctic conditions. It is possible that soon the Arctic territories of the Russian Arctic will be determined in terms of the projects implemented there.

The focus of the country's leadership was on the development of the Northern Sea Route [8, Egorov V., Lopatkina N.; 9, Andreev A.A., Sozaeva D.A., Rud' G.G.], on which important decisions were made. Thus, under Federal Law of December 27, 2018 No. 525-FZ "On Amending Certain Legislative Acts" Of the Russian Federation, Rosatom State Corporation adopted the functionality of a single infrastructure operator of the Northern Sea Route. This decision is already yielding positive results.

To meet the need for specialized gas carrier vessels for the export of liquefied natural gas and gas condensate from the Yamal LNG and Arctic LNG 2 projects, Decree of the Government of the Russian Federation of March 14, 2019 No. 435-r established the possibility of using 28 foreign vessels for these purposes [13]. The solution to this problem removed the shortage of vessels exporting LNG from the Yamal-LNG plant. The earlier decision to abandon foreign vessels on the NSR route turned out to be premature.

At a meeting of the Government of the Russian Federation, a comprehensive plan for the implementation of the investment project "Marine transshipment complex of liquefied natural gas in the Kamchatka Krai" was approved (Decree of the Government of the Russian Federation of March 14, 2019 No. 436-r). A decision aimed at implementing a new investment project on the construction of a terminal for the transshipment of liquefied natural gas (LNG) in the seaport of

[12] Ukaz Prezidenta Rossiyskoy Federatsii ot 26 fevralya 2019 g. № 78 [Decree of the President of the Russian Federation of February 26, 2019 No. 78].

[13] Ob ispol'zovanii inostrannykh sudov dlya realizatsii proektov po proizvodstvu szhizhennogo prirodnogo gaza [On the use of foreign ships for the implementation of projects to produce liquefied natural gas.]. 18 March 2019. URL: http://government.ru/docs/36073/ (accessed 01 December 2019).

Sabetta for the development of the Salmanovsky (Ytrennee) oil and gas condensate field on the Gydansky Peninsula (Government Order of the Russian Federation of March 28, 2019 No. 554-r).

An investment project to create a Marine transshipment complex (MPC) will be implemented in the Bechevinskaya Bay of the Kamchatka Krai with the aim of transshipment of LNG delivered from the seaport of Sabetta in the Gulf of Ob from ice-class gas tankers for subsequent shipment from the eastern coast of Kamchatka by gas tankers without ice gain in the countries of the Asia-Pacific region. The MPC provides for the construction of two floating LNG storage facilities, an approach channel in the Bechevinsky Bay, a port fleet berth, and the creation of systems to ensure the safe movement of ships. Within the framework of this project, the gasification of the Kamchatka Territory will also be resolved due to the stripping gas generated during transportation. The project will increase the volume of transportation along the Northern Sea Route from 9.7 million tons in 2017 to 31.4 million tons by the end of 2026. It will ensure the transition of the NSR to year-round loading, create the most significant regional LNG hub in the region, attract about 70 billion rubles of private investment, create new jobs, build ten ice-class gas tankers (Arc 7) [14].

Under the second project, an offshore terminal for the transshipment of liquefied natural gas with a capacity of 19.8 million tons per year and stable gas condensate with a capacity of 1.8 million tons per year, as well as the installation and construction of a natural gas liquefaction plant, will be built in the port of Sabetta. It is planned to create artificial land plots to accommodate port infrastructure facilities, technical flyovers, on-site automobile driveways, a complex of engineering and technical security equipment, other structures and auxiliary engineering, and technical elements [15].

These two decisions are due to a significant increase in the role of LNG [10, Matvishin D.A.] in the economies of countries. Speaking at the “Russian Energy Week” on October 2, 2019, President of the Russian Federation V.V. Putin recalled that since the beginning of the century, the number of LNG-consuming countries has grown by more than five times. The demand for it has almost doubled over this period, and in 5-10 years, half of the global gas trade will account for LNG. He clarified that thanks to the Yamal-LNG project, Russia's share in the global liquefied natural gas market more than doubled and now stands at about 9% [16].

The largest in terms of funding and implementation prospects is the decree of the Government of the Russian Federation of December 21, 2019. It approved the development plan for the infrastructure of the Northern Sea Route for the period until 2035. It includes 11 chapters and

[14] Ob investitsionnom proekte stroitel'stva morskogo peregruzochnogo kompleksa szhizhennogo prirodnogo gaza v Kamchatskom krae [About the investment project for the construction of a marine transshipment complex for liquefied natural gas in the Kamchatka Territory]. 20 March 2019. URL: http://government.ru/docs/36084/ (accessed 01 June 2019).

[15] O rasshirenii morskogo porta Sabetta [About the expansion of the seaport of Sabetta.]. 01 April 2019. URL: http://government.ru/docs/36227/ (accessed 01 June 2019).

[16] Putin rasskazal o rabote Rossii v sfere SPG [Putin spoke about Russia's work in the field of LNG]. RIA Novosti. 02.10.2019. URL: https://ria.ru/20191002/1559359489.html/ (accessed 01 December 2019).

84 specific points for future events on the development of the Northern Sea Route until 2035[17]. The document is well-developed and comprehensive; it regulates specific measures in all the main areas of importance for the development of the NSR, its further transformation into a transport corridor of global significance. The plan is divided into three main stages: until 2024, until 2030, and until 2035. The first stage involves the implementation of the Decree of the President of Russia of May 7, 2018 No. 204 "On national goals and strategic objectives for the development of the Russian Federation for the period until 2024". According to this act, by 2024, the NSR freight traffic should increase to 80 million tons [11, Grigoryev M.N.; 12, Ban'ko Yu., 13, Osipova E.E., Smirnov S.V., Khairova T.A.]. The second stage, from 2025 to 2030, provides for the formation based on the Northern Sea Route of a "year-round transport system that provides the basic needs of consumers of transport services throughout the NSR." By 2035, the Northern Sea Route should become an element of the competitiveness of the international and national maritime transport corridor, effectively providing any needs of consumers of transport and logistics services.

In 2019, much attention was paid to scientific research in the Arctic. So, to organize and conduct comprehensive scientific research and state monitoring of the state and environmental pollution of the Arctic using four research and expeditionary vessels of Roshydromet by order of the Government of the Russian Federation of February 23, 2019 No. 276-r. 868.75 million rubles allocated from the reserve fund of the Government [18].

Discoveries were made in the Russian water area. It should be noted that the hydrographic group, operating as part of the Northern Fleet's integrated expedition to the Franz Josef Land archipelago, confirmed the discovery of five islands that are located in Vise Bay on the western, Kara, sea coast of the island of Severniy of Novaya Zemlya and in the area of the Vylki (Nansen) glacier. The area of discovered objects varies from 900 to 54,500 m^2 [19].

From July 16 to August 2, within the framework of the Transarctic – 2019 program and the 12th scientific and educational expedition "Arctic Floating University", an expedition took place on the research vessel "Professor Molchanov" in the waters of the White and Barents Seas, on the islands of Vaigach and Sosnovets, as well as on the territory of the polar hydrometeorological station MG-2 Beliy Nos. The organizers were the FSBI "Severnoe UGMS" and the Northern (Arctic) Federal University named after M.V. Lomonosov. The expedition was attended by 57 people: students, undergraduates and graduate students of Russian educational institutions, and young scientists from Germany, Norway, France, Switzerland, China, and the Republic of Korea. The value of

[17] Pravitel'stvo Rossiyskoy Federatsii. Postanovlenie ot 21 dekabrya 2019 goda № 3120-r [Government of the Russian Federation. Decree of December 21, 2019 No. 3120-r]. Sayt Pravitel'stva RF [Website of the Government of the Russian Federation]. URL: http://static.government.ru/media/files/itR86nOgy9xFEvUVAgmZ3XoeruY8Bf9u.pdf (accessed 25 December 2019).

[18] Ob assignovaniyakh na nauchnye issledovaniya «Transarktika-2019» [On the appropriations for scientific research "Transarctica-2019"]. 26 February 2019. URL: http://government.ru/docs/35848/ (accessed 15 May2019).

[19] Severnyy flot podtverdil otkrytie pyati novykh ostrovov v Arktike [The Northern Fleet has confirmed the discovery of five new islands in the Arctic.] 27 August 2019. URL: https://www.interfax.ru/russia/674139 (accessed 25 December 2019).

this expedition lies not only in scientific discoveries but also in the fact that a youth international team of Arctic researchers is being formed on the basis of NArFU.

Arctic tourism began to acquire a systematic, planned character. So, e.g., the Russian Arctic national park in 2019 was visited by tourists from 44 countries. During the summer season, 1,306 people visited it. The largest category of visitors to the national park are tourists aged 51–70 years (382 people), aged 71–90 years (268 people) [20].

It is important to note that most of the Arctic issues by the government and ministries were considered in the future [14, Zaikov K.S., Kondratov N.A., Kudryashova E.V., Lipina S.A., Chistobaev A.I.]. So, on December 18, at a meeting of the Presidium of the State Commission for the Development of the Arctic, issues that were supported in the Government of the Russian Federation in February-2020 were considered: creating a system of preferences for new projects being implemented in the Arctic zone of Russia; infrastructure plan for the Northern Sea Route; preparation of the chairmanship of Russia in the Arctic Council in 2021–2023[21]. Confirmation of this thesis is the fact that on December 27, the Security Council of the Russian Federation approved the foundations of state policy in the Arctic [22]. This document should combine the activities of national projects and state programs, investment plans of infrastructure companies, development programs of the Arctic regions and towns. All these steps together will allow a more efficient resolution of Arctic issues.

Security issues in the Arctic

Safety is a prerequisite for the development and well-being of the Arctic communities and for a cost-effective and sustainable business in the region. At the same time, the NATO countries are in the process of building up their military presence in the Arctic [15, Lazarev V.M., Kruglov A.A., Khabirov R.N.; 16, Terebov O.V.]. So, in a report at an expanded meeting of the board of the Russian Ministry of Defense in December 2018, Secretary of Defense S. Shoigu highlighted the following trends in the military-political situation affecting the Arctic region: from 2018, the second operational fleet of the US Navy is being recreated; to ensure the transfer of troops from the United States for their deployment in Europe, it was decided to form by 2022 two new commands of the joint NATO command — the Atlantic and the joint rear command; in Norway, construction of a new radar station is underway 60 km from the Russian border; in its territory in 2018 the number of deployed units of the US Marine Corps was doubled; the number of exercises is increasing, more and more non-NATO countries, in particular Sweden and Finland, are taking part in them;

[20] Rekordnoe chislo turistov posetilo natspark «Russkaya Arktika» v 2019 godu [The record number of tourists visited the Russian Arctic national park in 2019]. 27 September 2019. URL:https://tass.ru/kultura/6936025 (accessed 25 December 2019).

[21] Yuriy Trutnev provel zasedanie prezidiuma Gosudarstvennoy komissii po voprosam razvitiya Arktiki [Yuri Trutnev held a meeting of the Presidium of the State Commission for Arctic Development]. 18. December 2019. URL: http://government.ru/news/38637/ (accessed 25 December 2019).

[22] Sovet bezopasnosti RF odobril osnovy gospolitiki v Arktike [The Security Council of the Russian Federation approved the foundations of state policy in the Arctic]. 27 December 2019. URL: https://tass.ru/politika/7435673 / (accessed 25 January 2019).

the number of reconnaissance flights near the borders of Russia is growing [17, Shitova T.V., Sinitskaya D.S., Raznobarskaya E.V.].

Commander of the Northern Fleet of the Russian Federation Alexander Moiseev at a conference call in the Ministry of Defense said that in 2019 the Arctic continued to increase the intensity and scale of operational and combat training activities of the NATO armed forces, the total number of which increased by 17%, intelligence activity increased by 15%. In response to the increased military exercise of the alliance in the Russian Arctic, measures are being taken to strengthen national security in the Arctic region in different directions. The intensity of the combat training in the Northern Fleet increased. In 2019, 590 different exercises were held, including 30 interspecific and more than 900 training from strategic to the tactical level. These events made it possible to increase the level of personnel training by more than 9% [23].

So, in response to the increased military activity of NATO member countries in the Russian Arctic zone and the US statement to block the Northern Sea Route, the Russian Government has developed rules for the passage of foreign warships through the NSR. Foreign warships should now notify the Russian side 45 days before passage along the Northern Sea Route. In this case, the name of the ship, the route, and the timing of navigation, as well as the main parameters of the craft, such as displacement, draft, and engine characteristics, are required. One will also need to indicate the military rank and surname of the captain. Also, the document will oblige foreign ships and vessels to take on Russian board pilots. In the event of an emergency or ice complication, Russian icebreakers will have to help them [24].

It should be noted that the necessary border infrastructure on the island of Kotelny and Franz Josef Land (Nagursky border post) has been practically rebuilt. The Russian Ministry of Defense is carrying out a series of measures to upgrade the naval group of the Northern Fleet, to restore the network of military airfields, and the air defense system. The activities of the Joint Strategic Command "North" continue to improve, measures are being taken to optimize groupings of troops, supply new weapons and military equipment that are designed to ensure Russia's territorial integrity in the Arctic region, protect the natural resources of the Arctic, the continental shelf and exclusive economic zone [18, Gavrilov O.Y.; 19, Semchenkov A.S., Unsalted A.K.; 20, Federov V.P., Zhuravel V.P., Grinyaev S.N., Medvedev D.A.]. Attention is paid to the development of objects of military infrastructure in the Arctic (590 objects with a total area of more than 720 thousand square meters have been built) [25]. The army is actively taking measures to clean up the Arctic territories from debris.

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[23] NATO aktivno uvelichivaet boevuyu podgotovku svoikh voysk v Arktike [NATO is actively increasing the combat training of its troops in the Arctic]. 15 January 2020. URL: https://prosvet.press/2019/12/27/nato-aktivno-uvelichivaet-boevuyu-podg/ (accessed 15 February 2020).

[24] V Rossii sozdany pravila prokhoda Sevmorputi inostrannymi korablyami [In Russia, rules for foreign ships passing the Northern Sea Route have been created]. 06 March 2019. URL: https://www.gazeta.ru/army/2019/03/06/12226447.shtml (accessed 15 March 2019).

[25] Verkhovnyy Glavnokomanduyushchiy Vooruzhennymi Silami Rossii Vladimir Putin prinyal uchastie v rasshirennom zasedanii Kollegii Minoborony [Supreme Commander of the Armed Forces of Russia Vladimir Putin participated in an

All this is aimed at maintaining parity and creating favorable conditions for the protection of national interests in this vital region.

Due to the lack of apparent reasons for the conflict, military threats in the Arctic are currently estimated by the coastal states as relatively low. At the same time, the territorial, resource, and military-strategic interests of several countries are being strengthened, which could potentially lead to an increase in the conflict potential in the region in the medium and long term. In this regard, all the problems arising here should be resolved based on cooperation and constructive interaction.

Conclusion

Studying the processes taking place in the Arctic in 2019 is of great importance for analyzing the current Arctic situation, understanding the "bottlenecks" in the development of the Arctic region, and, most importantly, it can more accurately determine the state's strategy and tactics in the Arctic direction. The New Fundamentals of Russian state policy in the Arctic for the period until 2035 from an expert point of view have been worked out quite effectively. In many respects, this was facilitated by the work of the National Arctic Scientific and Educational Consortium, conferences, seminars, and round tables. If we talk about Arctic conferences, then, in our opinion, in subsequent years, Russia should strive to hold more events and meetings on Arctic topics all the same in the territories of the Russian Arctic.

The Russian Arctic is a unique region of our country. Its value is extremely high in terms of potential mineral reserves. It plays a critical geopolitical and military-strategic role. But the wealth of the Arctic is not only economical but also scientific and technological.

In 2019, the leadership of the country, federal ministries, and departments began to pay much more attention to the Arctic. The basis of this activity was the achievements of the State Commission for the Development of the Arctic in the previous five years, which established what needs to be done in the Arctic region in the coming years and what should not be done at all. It is significant for understanding the problems of strategic planning. Indeed, in addition to the Arctic, Russia has a host of other tasks that need to be solved and solved effectively. The leading position here is the implementation of national projects. Their application in the Russian Arctic, unfortunately, raises many questions.

Last year, several federal management decisions were adopted on the development of the Northern Sea Route until 2035. It gives us hope for improving its infrastructure, increasing the volume of cargo transportation, and developing the Arctic territories. And it can form the basis of the program of the chairmanship of the Russian Federation in the Arctic Council in 2021–2013.

The military-political situation in the Arctic remains no less complicated and contradictory. At the same time, it must be recognized that today the Arctic is a territory of low political tension

expanded meeting of the Board of the Ministry of Defense]. 24 December 2019. URL: https://function.mil.ru/news_page/country/more.htm?id=12268217@egNews (accessed 28 December 2019).

and the successful development of multilateral international cooperation. Currently, the level of militarization of the Arctic does not go beyond reasonable sufficiency. However, the geopolitical situation in the Arctic region cannot remain stable for a long time amid the aggravation of international relations in the world.

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The Arctic territories of Russia: long-term dynamics of the social space *

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Abstract. The Arctic territories of Russia were explored and populated rigorously and purposefully during the Soviet period. The settling pattern was then based on the industrial capabilities of the Arctic areas (mineral deposits), considering the need to develop relevant transport infrastructure. The incentive component of the Soviet propaganda of Arctic development was aimed at mobilizing the skilled workforce. The market transformation in the late 20th century caused a rapid deterioration in the social and economic situation nation-wide: the state abandoned protectionism of the Arctic territories so that state-provided preferences were significantly reduced. Such transformations eventually entailed the reduction of social and economic services and a large-scale migration outflow in the Arctic territories. The current social and economic situation in the Arctic is still characterized by a negative migration balance, which determines a decline in the level of labor force participation. The negative migration balance is attributable to the lower economic attractiveness of the region, which again brings about the issue of unemployment in the Arctic. Destructive processes in the social and economic development of the Arctic territories of Russia shape multi-faceted threats to its stable evolution. Thus, the analysis of the long-term pattern of the social space in the Arctic territories of Russia is an essential aspect of new emerging conceptual approaches towards research and practical plan for Arctic development. The purpose of the survey was to review the pattern of the social space in the modern Arctic territories of Russia between 1950 and 2018, with one of its objectives being the analysis of its social development stages based on historiographic, problematic / chronological, retrospective and comparative-historical methods. The survey shows that transformations in the consistent long-term pattern of the social space in the modern Arctic territories of Russia are determined by the intensity of its industrial development, the scale of government support, and the long-term interests of the national economy.

Keywords: *Arctic territories of Russia, unemployment, poverty, management, standard of living, concept, social development, long-term dynamics*.

Introduction

Today in Russia the European part of the Arctic zone is formed by the Murmansk Oblast, the Nenets Autonomous Okrug, Belomorsky, Loukhsky and Kemsky municipal areas of the Republic of Karelia, the town of Vorkuta of the Komi Republic, towns of Arkhangelsk, Novodvinsk and Severodvinsk, Novaya Zemlya, Onega, Primorsky, and Mezensky municipal districts of the Arkhangelsk Oblast [1, Katorin I.V., pp. 31–32]. The basis of the industrial specialization of the Murmansk Oblast is the production of apatite, nepheline and baddeleyite concentrates, the extraction of nickel and iron ore concentrate, refined copper. On the territory of the Nenets Autonomous Okrug, the northern part of the Timan-Pechora oil and gas province is located; the territory of the tundra accounts for a significant amount of solid minerals (coal, manganese ores, ores of rare, noble and non-ferrous metals, mining raw materials, fluorite) [2, Grigoriev G.A., Motruk V.D., pp. 1-

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2]. In the Arctic zone of the Republic of Karelia, there are deposits of natural facing and building stone, scarce metallic and nonmetallic useful minerals, platinum ore occurrences, ore occurrences of apatite-carbonation ores, a large clay deposit and the largest semi-precious almandine stone deposit [3, Shchiptsov V.V., Ivashchenko V.I., pp. 7–8]. Vorkuta has significant mineral and raw material potential and is the most extensive raw material base for the metallurgical, energy, and coke-chemical industries. More than 30 coal deposits have been revealed there, carbonate and clay raw materials, sand and gravel mixtures, industrial reserves of sand, unique deposits of high-quality barite, manifestations of gold and chromites, copper, manganese, phosphorites, lead and zinc, sulfur pyrites, iron ores, are located, nickel [4, Kuznetsov S.K., Timonina N.N., Kuznetsov D.S., pp. 31–35]. The resources of the Arctic territories of the Arkhangelsk Oblast are diamond and bauxite deposits, gas, oil, construction materials.

The Asian part of the modern Arctic zone of Russia is formed by the Yamal-Nenets and Chukotka Autonomous Okrug, the towns of Norilsk, the Taimyr Dolgan-Nenets Municipal District and the Turukhansky District of the Krasnoyarsk Krai, as well as the Arctic areas (uluses) of the Republic of Sakha (Yakutia) [5, Davydova M.L., Epifanov A.Y., Sharno O.I., Vanicheva M.N., p. 3]. The Yamal-Nenets Autonomous Okrug is the largest supplier of hydrocarbons in the domestic market and in the markets of Eastern and Western Europe. Industrial areas of the Chukotka Autonomous Okrug include the development of deposits of coal, oil and gas, gold, tin, and copper; platinum group metal resources are located there. The raw material resource base of the Arctic territories of the Krasnoyarsk Krai [6, Dobretsov N.L., Pokhilenko N.P., pp. 98–100] are reserves of coal, oil, gas, gold, molybdenum, copper, titanium, polymetals, iron, tantalum niobates, gold. The Arctic territories of the Republic of Sakha (Yakutia) include promising areas of hydrocarbon raw materials, coal, gold, silver and tin reserves, unique diamond deposits and a niobium-rare metal deposit [7, Sleptsov A.N., pp. 119–120].

Among the differences between the European and Asian Arctic in Russia are the following. The area of the Asian Arctic exceeds the European area by 5.5 times, while the population of the Asian Arctic territories is almost 2 times less than the European (population density of the Asian Arctic is 8.9 people per km^2, European — 311.9 people. per km^2) [1]. The population of the Asian part of the Arctic territories of Russia 13.7% are indigenous peoples (the Nenets, Khanty, Mansi, Evenki, Chukchi, Eskimos, Evens, Chuvans, Yukagirs, Koryeki, Kereks, Dolgans, Kets, Nganasans, Selkups, Enets, and Chulymts), European — 0.6% (Sami) [2]. Unlike the European part of the Arctic zone of Russia, the Asian one has a low degree of uniformity of population distribution (this sector of the Arctic territories of Russia is less populated). Especially extreme climatic characteristics, and

[1] Federal'naya sluzhba gosudarstvennoy statistiki [Federal State Statistics Service]. URL: https://www.gks.ru/ (accessed 12 December 2019).

[2] Assotsiatsiya korennykh malochislennykh narodov Severa, Sibiri i Dal'nego Vostoka Rossiyskoy Federatsii (AKMNSS i DV RF) [Association of Indigenous Minorities of the North, Siberia and the Far East of the Russian Federation (RAIPON)]. URL: http://www.raipon.info/activity/pravovaia-deiatelnost/federal-legislation/on-approval-of-the-list-of-indigenous-small-numbered-peoples-of-the-north-siberia-and-far-east-of-th.php (accessed 12 December 2019).

a small degree of transport accessibility due to a significant territorial extent is also typical for the Asian part of the Arctic territories of Russia.

According to the modern conceptual foundations of the state Arctic policy of Russia, the Arctic zone of the country is a strategic national priority [8, Korchak E.A., p. 8; 9, Romashkina G.F., Didenko N.I., Skripnuk D.F., p. 29] — a platform for the deployment of productive forces. Moreover, the efforts of the state here are directed only to the creation of fixed assets [10, Samarina V., Korchak E., Skufina T., Samarin A., p. 394–396; 11, Krapivin D.S., p. 132], the necessary infrastructure, service complexes, life support systems for labor and so on. One of the resulting indicators of such management is an increase in labor productivity growth rates, even though, with a small population, the Arctic territories of the country make a significant contribution to the gross regional product [12, Skufina T., Baranov S., Samarina V., Korchak E., pp. 69–70]. E.g., with a population of 1.64% of the country's population, the total share of the gross regional product of the Murmansk Oblast, the Yamal-Nenets, Chukotka and Nenets Autonomous Okrugs in the overall gross regional product of the country is more than 5% (2017) [3].

The strategic importance of the Arctic territories of Russia actualizes the need to develop new approaches to the formation of scientific and practical problems of Arctic development [13, Leksin V.N., Porfiryev B.N., p. 515] and the methodology of scientific research for the transformation of the state regulation system for the development of the Arctic zone [14, Andreeva E.N., p. 237]. An important aspect, in this case, is the analysis of the long-term [15, Khoreva O., p. 324] dynamics of the social space of the Arctic territories included in the modern Arctic zone of Russia.

The object of this study is social space, i.e., transformational processes [4] in the "*interdisciplinary model of the Arctic zone of Russia*" [16, Lukin Yu.F., p. 59; 17, Peshina E.V., Zakharov A.S., pp. 10–110], the land territories of which are determined by the relevant Decree of the President of the Russian Federation [5]: Nenets, Yamal-Nenets, and Chukotkiy Autonomous Okrugs, the Murmansk Oblast, as well as the Arctic municipalities of the Republic of Sakha (Yakutia), Arkhangelsk Oblast, the Republic of Karelia, Krasnoyarsk Krai, and the Komi Republic.

The dynamics of the social space of the Arctic territories of Russia in 1950–2017

In the 1950s, in the USSR, the Concept of the development of the North as a single economic and administrative region began to take shape. Its difference from the previous set of views on the development of the Arctic (the 1930s – 1950s) was the scientific substantiation of the particular situation, the uniqueness of the North, where the development of Arctic resources became

[3] Raschetnye dannye avtora [The author's estimated data]. Federal'naya sluzhba gosudarstvennoy statistiki [Federal State Statistics Service]. URL: https://www.gks.ru/ (accessed 12 December 2019).

[4] Golenkova Z.T., ed. *Sotsial'noe prostranstvo rossiyskikh regionov: monografiya* [The social space of the Russian regions] Moscow, Institute of Sociology of the RAS, 2017. 193 p. (In Russ.)

[5] Ukaz Prezidenta RF ot 02.05.2014 № 296 (red. ot 13.05.2019) «O sukhoputnykh territoriyakh Arkticheskoy zony Rossiyskoy Federatsii» [Decree of the President of the Russian Federation of May 02, 2014 No. 296 (as amended on May 13, 2019) "On land territories of the Arctic zone of the Russian Federation"]. URL: https://www.gks.ru/ (accessed 12 December 2019).

the most important condition for the continuous growth of the country's productive forces [18, Kalemeneva E.A., pp. 184–186; 19, Slavin S.V., Dogaev Yu.M., pp. 6–8]. One of the main goals in the sphere of economic development of the country due to the exploitation of the resource base of the Arctic territories is the formation of a permanent population here (Table 1).

In contrast to the pre-war period, when the development of the country's Arctic territories was carried out by the camp method, in the 50s of the last century, the migration movement, due to the intensity of industrial development, was activated, as a result of which a permanent settling Arctic population was formed [20, Mikhaylov E.I.]. E.g., in the Murmansk Oblast, the creation in 1951–1955 of new iron ore, aluminum, and rare-metal industries caused a maximum influx of migrants (migration growth amounted to 103 thousand people).

Table 1

The population of the Arctic territories of Russia, 1950, 1960, 1970, 1980, 1990, 1995, 2000, 2005, 2010, 2015, 2019, thous. people. [6]

Territory	1950	1960	1970	1980	1990	1995	2000	2005	2010	2015	2019
Nenets Autonomous Okrug	No data	37	39	47	52	44	41	42	42	43	44
Murmansk Oblast	337	606	799	665	1191	1067	941	857	800	766	748
Yamal-Nenets Autonomous Okrug	No data	64	80	158	489	478	496	515	524	540	541
Chukotka Autonomous Okrug	No data	47	101	133	162	96	62	51	49	51	50

In the years 1955–1985, in the Murmansk Oblast, population density increased from 3.3 people per km^2 to 7.6 people per km^2 (the number of towns increased from 6 to 11) [7]. The population of the town of Severodvinsk (the Arkhangelsk Oblast) in 1970 amounted to 144.5 thousand people against 78.6 thousand people in 1959, Zapolyarny town (the Murmansk Oblast) — 22.1 thousand people and 6.2 thousand people accordingly [8]. The largest group of migrants is the population aged 20–24 [9].

A large proportion of the population was concentrated in industrial units (e.g., Kirovsky, Monchegorsky, Olenegorsky, Lovozersky districts of the Murmansk Oblast), where the main enterprises were industrial enterprises (in the Murmansk Oblast — mining enterprises). So, in the 1980s, more than 35% of the industrial production workers of the Kola Arctic were employed at the enterprises of the Kola mining complex [10].

[6] Federal'naya sluzhba gosudarstvennoy statistiki [Federal Statistics Service]. URL: https://www.gks.ru/ (accessed 12 December 2019).

[7] Luzin G.P., ed. Sotsial'no-ekonomicheskoe razvitie Murmanskoy oblasti v perekhodnyy period: sovremennoe sostoyanie i prognozy [Socio-economic development of the Murmansk region during the transition period: current status and forecasting]. Apatity, Kola Science Center RAS Publ., 1992, 218 p. (In Russ)

[8] Federal'naya sluzhba gosudarstvennoy statistiki [Federal Statistics Service]. URL: https://www.gks.ru/ (accessed 12 December 2019).

[9] Luzin G.P., ed. Sotsial'no-ekonomicheskoe razvitie Murmanskoy oblasti v perekhodnyy period: sovremennoe sostoyanie i prognozy [Socio-economic development of the Murmansk region during the transition period: current status and forecasting]. Apatity, Kola Science Center RAS Publ., 1992, 218 p. (In Russ)

[10] Ibid.

Positive in the processes of socio-economic development of the Arctic territories of this period was the tendency to increase the educational level of the population. So, in 1959, for 1,000 people, the employed population of the Murmansk Oblast accounted for 34 people with higher education, in 1989 — 167 people. [21, Skufina T.P., Korchak E.A., Baranov S.V., p. 21].

The discovery of hydrocarbon reserves in the northern territories of Western Siberia in the 60–80s of the 20th century led to the creation of an oil and gas complex and, accordingly, led to the active social development of such territories. So, in the Yamal-Nenets Autonomous District, the population increased from 64 thousand people up to 158 thousand people [11].

In the 1990s, there was a modern network of settlements [22, Kornilov G.E., p. 136–138] of the Asian part of the Arctic territories of Russia (Table 2). In 1984, the city of Muravlenko appeared, the history of which is closely connected with the one established in 1982 to ensure the accelerated commissioning of the Sutorminskneft oil and gas production department in the Sutorminsky and Muravlensky oil fields. In 1986, the city of Gubkinsky grew up; the leading enterprises of the city that produce natural gas are RN — Purneftegaz LLC and separate divisions of the Komsomolsky and Gubkinsky gas fields of Gazprom Dobycha Noyabrsk LLC.

Table 2

The population of industrial towns of the Yamal-Nenets Autonomous Okrug, 1989, 2000, 2008, 2018, thous. people. [12]

Town	Foundation year	1989	2000	2008	2018
New Urengoy	1975	93.2	89.2	118.4	114.8
Noyabrsk	1975	85.9	96.4	110.4	106.9
Muravlenko	1984	23.1	36.2	37.1	32.4
Gubkinsky	1986	9.7	19.2	22.7	27.9

Among the characteristics of the demographic situation during this period, the main ones were the level of the country's average mortality rate and higher than the average natural growth rate [21, Skufina T.P., Korchak E.A., Baranov S.V., p. 22–23]. The young population structure has determined the lowest mortality rates in the Arctic territories in comparison with the national level. So, in the Yamal-Nenets Autonomous Okrug, the total mortality rate in 1987 was 2.9 ‰, in the Chukotka Autonomous Okrug — 3.1 ‰, in the Nenets Autonomous Okrug — 5.6 ‰, in the Murmansk Oblast — 5.7 ‰ with the national average is 10.5 ‰. The level of natural population growth in 1987 was on average 6.6 ‰ in the country, 10.1 в in the Murmansk Oblast, 14.4 ‰ in the Chukotka Autonomous Okrug, 15.8 ‰ in the Nenets Autonomous Okrug, and Yamal-Nenets Autonomous Okrug — 19.4 ‰ [21, Skufina T.P., Korchak E.A., Baranov S.V., p. 22–23]. One of the most important achievements in the demographic development of the Arctic zone has become a

[11] Federal'naya sluzhba gosudarstvennoy statistiki [Federal Statistics Service]. URL: https://www.gks.ru/ (accessed 12 December 2019).

[12] Compiled by the author. Federal'naya sluzhba gosudarstvennoy statistiki [Federal Statistics Service]. URL: https://www.gks.ru/ (accessed 12 December 2019).

positive trend in the change in life expectancy. So, in 1979–1989 the average life expectancy of men in the Murmansk Oblast increased by 3.9 years [13].

The intensity of migration growth in the Arctic zone has mainly influenced by the updated legislation on northern preferences continuously in these years. It established the basic and additional guarantees and compensations to the working population: salary supplements, extra leave, calculation of the increased length of service, which gives the right to receive an old-age pension, and so on. Due to state protectionism in the field of social and labor relations in the North, the average monthly wage in the Arctic territories was 1.8 times higher than the national average. E.g., in 1985, the monthly average wage in the Arctic territories of the Tyumen region was 425 rub. with an average level in the region of 338 rub., in the Krasnoyarsk Krai — 369 rub. and 243 rub., respectively [14].

The change of socialist ideology to the market track of development led to the transfer of Arctic enterprises to self-financing, a reduction in production (Fig. 1), and the scarcity of Arctic local budgets.

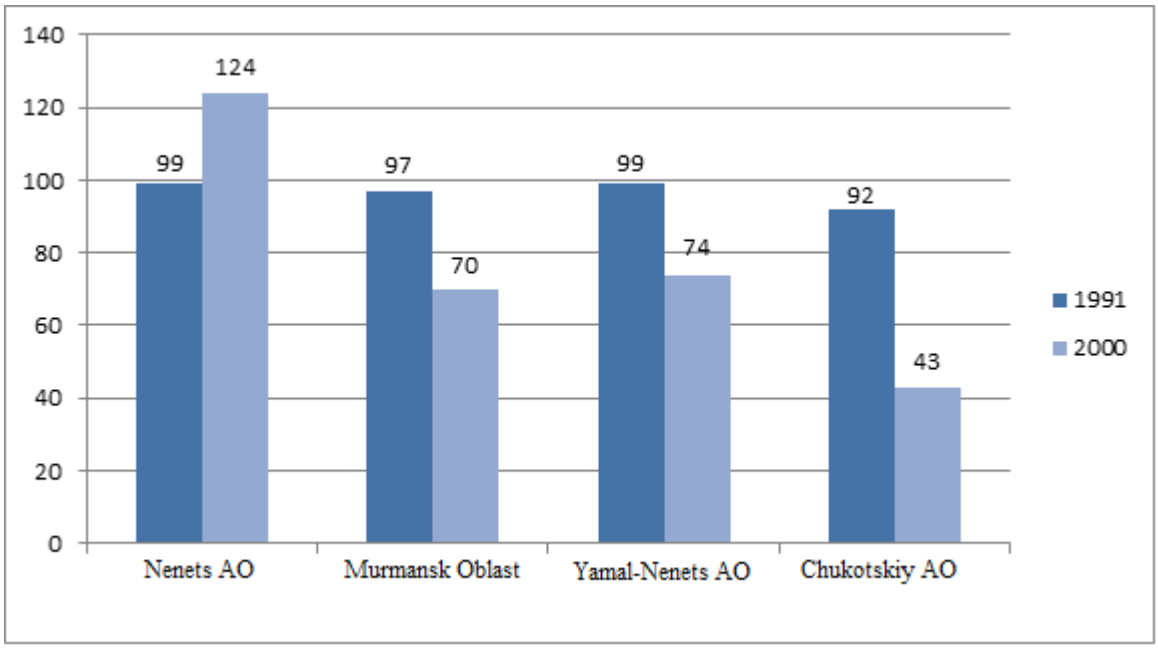

Fig. 1. Indices of industrial production by region, entirely included in the Arctic zone of Russia, 1991, 2000, % (1990 = 100%) [15].

As a result, in the 1990–1999s, relevant for the Arctic territories of Russia has become the problem of stabilization of the population (Table 1). During this period, a tendency toward a decrease in the population was indicated: in the Chukotka Autonomous Okrug, the population decreased by two times, in the Murmansk Oblast and the Nenets Autonomous Okrug — by 0.8 times.

[13] Luzin G.P., ed. Sotsial'no-ekonomicheskoe razvitie Murmanskoy oblasti v perekhodnyy period: sovremennoe sostoyanie i prognozy [Socio-economic development of the Murmansk region during the transition period: current status and forecasting]. Apatity, Kola Science Center RAS Publ., 1992, 218 p. (In Russ)

[14] Ibid.

[15] Aktual'nye problemy Severa Rossii: analiz i rekomendatsii (nauchno-analiticheskiy doklad) [Actual problems of the North of Russia: analysis and recommendations (scientific and analytical report)]. Apatity, Kola Science Center RAS Publ., 2007. 150 p. (In Russ.)

The population in the promising and most well-organized towns significantly decreased (Table 3). In 1989–2002, the population of Vorkuta decreased by 26.5%, the town of Kirovsk (the Murmansk Oblast) — by 27.3%, the town of Murmansk — by 28.2%.

The trend of natural population decline began to take shape: natural growth (per 1,000 people) in the Chukotka Autonomous Okrug in 1999 was 1.9 ‰ (in 1990 — 10.4 ‰), in the Nenets Autonomous Okrug — 1.8 ‰ (9.7 ‰), in the Murmansk Oblast — -2.5 ‰ (5.5 ‰) [21, Skufina T.P., Korchak E.A., Baranov S.V., p. 27]. First of all, this situation was caused by a decrease in the birth rate (due to a decrease in the level of material well-being and the availability of services in the field of preschool education): during this period, the birth rate in the Arctic territories did not exceed the 50 % level of simple reproduction.

Table 3

The population of Arctic towns, 1959, 1989, 2002, 2009, 2018, thous. people. [16]

Town	1959	1989	2002	2009	2018
Murmansk	221,9	468,0	336,1	311,2	295,4
Kirovsk	39,0	43,5	31,6	30,1	26,6
Apatity	13,9	88,0	64,4	61,6	55,7
Vorkuta	55,7	115,6	84,9	71,4	58,1
Norilsk	109,4	174,7	134,8	203,9	181,4
Arkhangelsk	256,3	415,9	356,0	348,3	349,7
Salekhard	16,6	32,3	36,8	42,5	49,2
Naryan-Mar	13,2	20,2	18,6	19,4	24,8
Anadyr	5,8	17,1	11,0	11,8	15,6

The problem of an aging population has become more relevant. Against the background of a decrease in the level of state protectionism in the field of social development of the Arctic territories, the demographic burden of the able-bodied population by persons older than able-bodied age increased by 1.5 times (including 2.2 times in the Murmansk Oblast and in the Chukotka Autonomous 5.4 times). In the Yamal-Nenets Autonomous Okrug, the average pension in 1993 amounted to 25.9% of the average monthly wage, which is the primary source of income for the population, in 2000 — 11.1%; in the Murmansk Oblast, 50% and 26.8%, respectively [17]. The living of a significant contingent of elderly citizens for the Arctic territories due to the decrease in the level of territorial socio-economic development and the decline in living standards has become economically inexpedient, caused social tension in society as a whole and actualized the need for urgent measures to relocate this category of citizens from Arctic towns.

The mortality rate increased significantly (in the Murmansk Oblast — from 6 ‰ to 10.1 ‰, in the Chukotka Autonomous Okrug — from 3.9 ‰ to 7.1 ‰ [21, Skufina T.P., Korchak E.A., Baranov S.V., p. 28]). The deterioration in the dynamics of fertility and mortality negatively affected

[16] Compiled by the author. Federal'naya sluzhba gosudarstvennoy statistiki [Federal Statistics Service]. URL: https://www.gks.ru/ (accessed 12 December 2019).

[17] Author's estimated data. Source: Otchet o nauchno-issledovatel'skoy rabote «Sotsial'nye protsessy na Severe: regulirovanie v usloviyakh rynka» [Report on the research work "Social Processes in the North: Regulation in the Market Conditions"] No. 3-98-2006. Apatity. Luzin Institute for Economic Studies RAS, 1999. 72 p. (In Russ)

the average life expectancy: the decrease in life expectancy was a problem in the demographic development of the Arctic territories.

The collapse of the USSR, the unstable economic situation, the decline in production, the increase in differentiation in wages at the enterprises of the budget and non-budget sectors of the economy, the growth of unemployment and a sharp increase in the cost of living led to a large-scale migration outflow of the population. Features of the socio-economic development of the Arctic territories of Russia in 1990–1999, the cyclical development of resource territories and the emergence of depressed territories with damped production, caused by the exhaustion of raw material sources, became. The decline in economic activity caused the emergence of social tension in the Arctic labor markets, a decrease in the level and quality of life of the population. Part-time work has become a "habitual" phenomenon [18]: about 15% of the payroll number of employees at the initiative of employers did not work full time. The practice of partially or completely halting production and sending employees on leave without pay has become widespread.

Amid the exhaustion of employment opportunities in the public sector of the economy, the unemployment rate has increased significantly. In the Chukotka Autonomous Region, unemployment during this period increased 4.6 times, in the Murmansk Oblast — 3 times (according to Murmanskstat [19], the level of general unemployment in the region in 2000 amounted to 13.4% compared to 5.6% in 1994, registered — 3.6% and 1.8%, respectively). The increase in the load of the unemployed population for one declared vacancy in the Nenets Autonomous Okrug amounted to 7.9 times, in the Chukotka Autonomous Okrug — 5.8 times [20]. Such features of the Arctic labor markets were determined by the reproduction of such contradictions as imbalances in the Arctic labor markets and the stagnant long-term nature of unemployment in the processes of demand and supply for labor. E.g., in the Murmansk Oblast at many industrial enterprises since the mid-1990s, about 40% of highly qualified specialists held positions that did not require such an educational level. In turn, such contradictions were caused by the deformation of the state of territorial economic complexes (mass privatization and disruption of economic ties) and the mono-structural nature of Arctic settlements (industrial enterprises were the actors in unemployment). In the territorial labor markets, there are tendencies towards its stable segmentation — professional risk groups with high unemployment have been identified. So, in the Murmansk Oblast during this period, the number of people employed in construction decreased almost four times (the state of

[18] Otchet o nauchno-issledovatel'skoy rabote «Sotsial'nye protsessy na Severe: regulirovanie v usloviyakh rynka» [Report on the research work "Social Processes in the North: Regulation in the Market Conditions"] No. 3-98-2006. Apatity. Luzin Institute for Economic Studies RAS Publ., 1999. 72 p. (In Russ)

[19] Territorial'nyy organ Federal'noy sluzhby gosudarstvennoy statistiki po Murmanskoy oblasti [Territorial authority of the Federal State Statistics Service for the Murmansk Oblast]. URL: https://murmanskstat.gks.ru/ (accessed 12 December 2019).

[20] Estimated data. Federal'naya sluzhba gosudarstvennoy statistiki [Federal Statistics Service]. URL: https://www.gks.ru/ (accessed 12 December 2019).

the construction industry is a kind of indicator of the situation in the economic complex: economic recovery begins with an increase in orders for construction and installation works) [21].

Significantly the level of differentiation of the population by income increased. E.g., in the Murmansk Oblast, the salary of public sector employees in 1996 was two times lower than the average salary of industrial workers; in the territorial aspect, the level of wage differentiation reached 2.5 times. Increased wages due to northern allowances as a major incentive for attracting able-bodied people to the Arctic have lost their significance. The problem of poverty of the population became urgent: in 1999, in the Chukotka Autonomous Region, the share of the population with average per capita cash income in the total population was 55.7%, in the Nenets Autonomous Okrug — 50.2%, in the Murmansk Oblast — 21, 3% (according to Murmanskstat [22], the poverty level in the region in 1994 was 19.1%; fund ratio — 7.4 versus 10.9% in 1999), in the Yamal-Nenets Autonomous Okrug — 13.3% [23]. There has been a trend towards an increase in the level of crime (e.g., in 1991–1999 in the Murmansk Oblast, the number of registered crimes per 100 thousand people increased 1.6 times [24]). In practice, "awareness" of the hopelessness of living appeared: the young citizens of working and reproductive age who were born here began to leave the Arctic massively. In particular, according to sociological research [25], in the Murmansk Oblast in 1997, the majority of the population was oriented toward moving outside the region (according to Murmanskstat [26], the migration increase in 1989 was 0.4 ‰; in 2000, the population decline was -16.5 ‰).

The next stage in the development of the modern Arctic zone of Russia (2000–2008) was due to the need to form internal factors of the economic development of such territories and achieve, on this basis, their sustainable development. This stage was marked by the development of the Concept of state support for the economic and social development of the North. The concept, in particular, provided for the creation of conditions for the self-development of the Arctic territories by increasing the role and competitiveness of local town-forming enterprises, as well as

[21] Otchet o nauchno-issledovatel'skoy rabote «Sotsial'nye protsessy na Severe: regulirovanie v usloviyakh rynka» [Report on the research work "Social Processes in the North: Regulation in the Market Conditions"] No. 3-98-2006. Apatity. Luzin Institute for Economic Studies RAS Publ., 1999. 72 p. (In Russ)

[22] Territorial'nyy organ Federal'noy sluzhby gosudarstvennoy statistiki po Murmanskoy oblasti [Territorial authority of the Federal State Statistics Service for the Murmansk Oblast]. URL: https://murmanskstat.gks.ru/ (accessed 12 December 2019).

[23] Federal'naya sluzhba gosudarstvennoy statistiki [Federal Statistics Service]. URL: https://www.gks.ru/ (accessed 12 December 2019).

[24] Territorial'nyy organ Federal'noy sluzhby gosudarstvennoy statistiki po Murmanskoy oblasti [Territorial authority of the Federal State Statistics Service for the Murmansk Oblast]. URL: https://murmanskstat.gks.ru/ (accessed 12 December 2019).

[25] Otchet o nauchno-issledovatel'skoy rabote «Sotsial'nye protsessy na Severe: regulirovanie v usloviyakh rynka» [Report on the research work "Social Processes in the North: Regulation in the Market Conditions"] No. 3-98-2006. Apatity. Luzin Institute for Economic Studies RAS Publ., 1999. 72 p. (In Russ)

[26] Territorial'nyy organ Federal'noy sluzhby gosudarstvennoy statistiki po Murmanskoy oblasti [Territorial authority of the Federal State Statistics Service for the Murmansk Oblast]. URL: https://murmanskstat.gks.ru/ (accessed 12 December 2019).

rationalizing the structure of employment and population due to the state impact on migration flows.

The implementation of the Concept was planned in three stages [27]:

1) 2000-2003 — stabilization of socio-economic development and the transition to sustainable economic growth, stabilization of real incomes and the formation of a trend towards a decrease in unemployment,

2) 2004–2010 — steady economic growth, stabilization of the population, a consistent increase in the level and quality of life, lower unemployment,

3) 2011–2015 — sustainable balanced socio-economic development, determined by the needs and capabilities of the national economy.

Table 4

The leading indicators of state policy in the regions entirely included in the Arctic zone of Russia, 2000, 2003, 2010, 2015. [28]

Territory	Average per capita cash income of the population,% of the average level in the Russian Federation				Unemployment			
	2000	2003	2010	2015	2000	2003	2010	2015
Nenets Autonomous Okrug	150	275	269	233	11,0	8,7	6,6	7,9
Murmansk Oblast	156	138	128	121	12,8	10,2	8,9	7,8
Yamal-Nenets Autonomous Okrug	331	309	223	219	8,6	5,5	4,4	3,6
Chukotka Autonomous Okrug	207	264	198	202	10,3	4,8	4,1	4,0

Analysis of indicators of social development of the Arctic zone of Russia in 2000–2015 (Table 4) allowed us to draw the following conclusions about the effectiveness of the implementation of the Concept of state support for the economic and social development of the Arctic territories.

At the first stage of implementation of the Concept, a tendency towards a decrease in the unemployment rate was formed; however, in 2000–2003. there was a significant decrease in average per capita cash incomes of the population (in comparison with the all-Russian level). The results of the second stage of the implementation of the Concept were a decrease in the population, the preservation of unemployment reduction trends [23, Korchak A.D., Korchak E.A., pp. 68–69] and per capita cash income of the population.

In general, an analysis of the implementation of the Concept during the period indicated in this document (2000–2015) indicates the declarativeness and inefficiency of the state policy in the field of socio-economic development of the Arctic territories. The Arctic zone of Russia has not reached a steady pace of balanced socio-economic development, as evidenced by the steady decline in the population (in 2000–2015 — by 8.6%), migration decline [24, Korchak E.A., Gushchina I.A., pp. 78–81] and low living standards.

[27] Postanovlenie Pravitel'stva RF ot 07.03.2000 g. №198 «O Kontseptsii gosudarstvennoy podderzhki ekonomicheskogo i sotsial'nogo razvitiya rayonov Severa» [Decree of the Government of the Russian Federation of March 7, 2000 No. 198 “On the Concept of State Support for the Economic and Social Development of the North”]. URL: http://www.consultant.ru/ (accessed 12 December 2019).

[28] Federal'naya sluzhba gosudarstvennoy statistiki [Federal Statistics Service]. URL: https://www.gks.ru/ (accessed 12 December 2019).

The current stage of development of the Arctic zone of Russia (from 2008 to the present) is due to the strategic planning of the socio-economic development of the Arctic zone and ensuring the national security of Russia. The conceptual foundations of the current stage are the Decree of the President of the Russian Federation "On Land Territories of the Arctic Zone of the Russian Federation" of 05/02/2014, the Strategy for the Development of the Arctic Zone of the Russian Federation and National Security for the Period Until 2020, Government Decree RF "On approval of the state program of the Russian Federation" Socio-economic development of the Arctic zone of the Russian Federation for the period until 2020 " of April 21, 2014

The resulting indicators of the current stage of development of the Arctic zone of Russia in the social sphere denote the coefficient of natural population growth (per 1000 people), regional decile coefficient (income ratio of 10% of the richest and 10% of the most reduced population of the Arctic regions), the share of the Arctic population, having constant access to adequate sanitary and epidemiological standards for drinking supplies. An analysis of such indicators (Table 5) indicates positive changes in the social development of the Arctic zone of Russia in 2008–2017. In particular, during the period under review, the rate of natural population decline decreased (in the Nenets and Chukotka Autonomous Okrugs, a natural population growth was recorded); the degree of social stratification of the population has significantly decreased (in the Nenets Autonomous Okrug by 1.5 times); the level of home improvement has increased.

Table 5

Indicators characterizing the social development of regions entirely included in the Arctic zone of Russia, 2008, 2017. [29]

Territory	The coefficient of natural population growth per 1 thousand people, ‰		Ratio of funds, times		The proportion of total living space equipped with water supply, %	
	2008	2017	2008	2017	2008	2017
Nenets Autonomous Okrug	3.6	6.6	23.8	15.7	36.1	64.9
Murmansk Oblast	-1.3	-0.8	13.6	10.5	97.7	95.8
Yamal-Nenets Autonomous Okrug	9.1	9.1	19.9	16.8	95.8	96.3
Chukotka Autonomous Okrug	2.7	3.7	13.6	14.1	90.6	91.7

However, in our opinion, such indicators do not provide a holistic picture of the social development of the Arctic zone of Russia. In particular, a study of the social development of the Arctic zone of Russia in terms of the degree of social stratification of the population by the level of income earned necessitates a more detailed analysis of living standards. It is because, in rich oil and gas producing regions, differentiation of population incomes is produced by imbalances in the sectoral structure of territorial economies. The objective reasons for such imbalances are associated, firstly, with differences in the level of gross regional product per capita and the structure of production, especially in the specific gravity of raw materials industries. Secondly, it is due to the

[29] Federal'naya sluzhba gosudarstvennoy statistiki [Federal Statistics Service]. URL: https://www.gks.ru/ (accessed 12 December 2019).

presence of certain least competitive manufacturing industries, as well as low-paying sectors of the public sector. E.g., in the Yamal-Nenets Autonomous Okrug, the average monthly salary of workers in mining enterprises is 2.2 times higher than the average salary of workers in educational institutions (the number of employees in such areas is 19.7% and 7.2% respectively of the total number of employees) [30]. Moreover, the key, in our opinion, indicators that testify to the effectiveness of state policy in the field of social development of the Arctic zone of Russia are indicators of the ratio of population incomes to the minimum subsistence level, unemployment rate, and poverty level. An analysis of such indicators (Table 6) indicates a low degree of effectiveness of state policy in the field of social development of the Arctic zone of Russia.

Table 6

Indicators of the state policy effectiveness in the field of social development of the Arctic regions entirely included in the Arctic zone of Russia, 2008, 2017 [31]

Territory	Unemployment, %		The ratio of the average monthly monetary income of the population with the value of the subsistence minimum, times		Poverty, %	
	2008	2017	2008	2017	2008	2017
Nenets Autonomous Okrug	7.7	8.0	5.23	3.60	5.6	11.4
Murmansk Oblast	7.0	7.0	3.16	3.19	13.8	12.6
Yamal-Nenets Autonomous Okrug	5.7	3.2	5.99	4.70	6.2	6.5
Chukotka Autonomous Okrug	4.7	2.9	3.52	4.42	12.0	9.0

In 2008–2017 in the regions under consideration, the standard of living of the population decreased: the ratio of average per capita income to the cost of living of the able-bodied population in the Nenets Autonomous Okrug decreased by 1.4 times, in the Yamalo-Nenets Autonomous Okrug — by 1.3 times. The share of the population with average per capita cash income in the Nenets Autonomous Okrug doubled.

The situation with living standards is pressed by unemployment, which exceeds the average for Russia. In 2017, the unemployment rate in the Nenets Autonomous Okrug was 8%, in the Murmansk Oblast — 7%, with an average Russian level of 5.2%. On average, the unemployment rate in 2017 in the regions under review amounted to 6.4%. Due to the specific features (the functional specifics of the Arctic settlements), a significant territorial differentiation of unemployment remains. Thus, the labor market of the Yamal-Nenets Autonomous Okrug is characterized by a structural territorial imbalance of supply and demand. Against the backdrop of the low labor force in rural areas, the majority of jobs are represented in urban industrial settlements of the okrug: the registered unemployment rate in the Shuryshkarsky municipal district (3.2%) in 3 times the

[30] Author's estimated data. Source: Otchet o nauchno-issledovatel'skoy rabote «Sotsial'nye protsessy na Severe: regulirovanie v usloviyakh rynka» [Report on the research work "Social Processes in the North: Regulation in the Market Conditions"] No. 3-98-2006. Apatity. Luzin Institute for Economic Studies RAS Publ., 1999. 72p. (In Russ).

[31] Federal'naya sluzhba gosudarstvennoy statistiki [Federal Statistics Service]. URL: https://www.gks.ru/ (accessed 12 December 2019).

value of such an indicator in the Tazovsky district (0.1%) [32]. With the average registered unemployment rate in the Republic of Karelia at 1.9% (2017), in the Loukhsky district, it is 4.9%, Belomorsky — 4.6%, Kemsky — 3.6%[33]. A critical situation has developed in the labor markets of Allaikhovsky and Bulunsky uluses of the Republic of Sakha (Yakutia) [34]: among the specifics of employment of the population of the first are severe working conditions and low wages of reindeer herders, and the second is a high level of registered unemployment (15.6%).

Conclusion

For Russia, the path to the Arctic is objective and inevitable along with the most important factors of geopolitical and transport significance, the leading social and economic prerequisite for the development of the Arctic zone is natural resources. The main goal of the state has been the accelerated development of the Arctic natural. It is precisely on large-scale extraction of resources that labor and capital are directed here. In this model of industrial development, accelerated industrial development of resources consumed outside the Arctic territories is in the foreground. In contrast, the problems of social development are relegated to the background. Undoubtedly, today there is an urgent need to formulate new approaches in developing the scientific and practical issues of the development of the Arctic zone of Russia and the methodology of scientific research to transform the system of state regulation of the development of the Arctic territories. The identification of dynamics, as well as the quantitative assessment of losses and achievements of the social space of the Arctic zone of Russia, are the most important aspects of the transformation of the system of Arctic public administration.

Analysis of the social development of the modern Arctic territories of Russia in 1950–2017 showed that transformations in the long-term dynamics of the social space of the Arctic territories of Russia were determined by the intensity of their industrial development, the scale of state support, and the long-term interests of the national economy.

The first stage of the long-term dynamics of the social space of the Arctic territories of Russia was associated with an increase in their economic significance in the national economic complex of the USSR. The permanent surviving Arctic population in this period was formed due to the migration inflow, the legislation on northern guarantees and compensations played an important role in its focus. The peak population of the Arctic territories of the USSR occurred in 1989–1990. Among the characteristics of the demographic situation during this period, the mortality rate fell below the national average, and the average growth rate was above the average. The industrial

[32] Interaktivnyy portal sluzhby zanyatosti naseleniya Yamalo-Nenetskogo avtonomnogo okruga [Interactive portal of the employment service of the Yamal-Nenets Autonomous Okrug]. URL: https://rabota.yanao.ru/ (accessed 12 December 2019).

[33] Interaktivnyy portal Upravleniya truda i zanyatosti Respubliki Kareliya [Interactive portal of the employment service of the Republic of Karelia]. URL: https://mintrud.karelia.ru/ (accessed 12 December 2019).

[34] Interaktivnyy portal Upravleniya truda i zanyatosti Respubliki Sakha (Yakutiya) [Interactive portal of the Office of Labor and Employment of the Republic of Sakha (Yakutia)]. URL: https://zan.sakha.gov.ru/ (accessed 12 December 2019).

nature of development predetermined the predominance of urban forms of settlement in the Arctic territories of the country. The maximum was the number of educated urban settlements, most of which were settlements with a population of up to 5 thousand people.

The second stage of the long-term dynamics of the social space of the Arctic territories of Russia began with the crisis caused by the transition of the Soviet planned economy to market conditions, which produced a sharp reduction in economic activity and actualized the problem of reducing the population of the Arctic territories. The trends in population decline during this period were identified due to large-scale migration outflows, the mortality rate of the population increased significantly, and a trend of natural population decline began to take shape. It was actualized the problems of unemployment and poverty. There has been a trend towards an increase in crime.

The third stage of the long-term dynamics of the social space of the Arctic zone of Russia was associated with the need to form internal factors of the economic development of the Arctic territories and achieve, on this basis, their sustainable development. The main interrelated goals of the state policy of Russia in the Arctic in 2000–2008. They began to create conditions for the self-development of the Arctic territories through the revitalization of local town-forming enterprises, and the rationalization of the employment structure and population due to the state impact on migration flows. However, the set goals were not achieved: the Arctic territories did not reach a steady pace of socio-economic development, the trends in population decline, and falling living standards continued.

The problems of poverty and unemployment, which testify to the low degree of effectiveness of state policy in the field of social development of the Arctic territories of Russia, remain relevant for the current stage of social development of the Arctic zone of Russia. In 2008–2017 in the Arctic zone of Russia, the standard of living of the population continued to decline, the unemployment problem remained relevant, the phenomenon of which with respect to the Arctic labor markets is generated by the functional specificity of regional economic complexes and destructive, determined by crisis phenomena at the national and global levels of economic development, processes in their dynamics.

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Language contacts between Pomors and Norwegians during expeditions to Svalbard in the second half of the 18th — first half of the 19th centuries*

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Abstract. Svalbard, despite its remoteness from the mainland and traditional routes of communication, is an Arctic territory that has been attracting the attention of various countries and peoples for several centuries. In the 18th — first half of the 19th century, the archipelago was actively developed by Pomors, engaged in mammal hunting there. In the 19th century, Norwegians revealed their economic interest in Svalbard. Historical studies have repeatedly examined the cases of contacts between Pomors and Norwegians during mammal hunting expeditions to Svalbard, but none of the authors have studied the language contacts between Pomors and Norwegians during the development of Svalbard. The authors used an interdisciplinary approach and analyzed documentary and literary sources to formulate a hypothesis about the practice of Pomor-Norwegian contacts, incl. those in Russenorsk. The study presents a new issue for scientific discussions by both historians and linguists, which can serve as a basis for the development of international cooperation between Norway and Russia.
Keywords: *development of Svalbard, mammal hunting, Pomor-Norwegian trade, Pomor-Norwegian contacts, Russenorsk, language contact.*

Introduction

The history of the development of Svalbard is a multifaceted topic that allows us to study such processes and phenomena as the folding and development of international relations in the use of Arctic natural resources [1, Hacquebord L.], Arctic shipping and foreign trade [2, Thuen T.], comprehensive studies of the archipelago [3, Avango D., Hacquebord L., de Haas H.R., Kruse F., Aalders Y.I., Gustafsson U.I.], human adaptation to severe climatic conditions [4, Jasinski M.E.] etc. In historical documents and studies of Russian and foreign authors, cases of contacts between Pomors and Norwegians during mammal hunting expeditions to Svalbard in the second half of the 18th — first half of the 19th century were repeatedly mentioned. Most of the researchers only found such contacts, because they did not aim to study the interaction of Pomors and Norwegians during these expeditions. E.g., M. Conway [5, pp. 273–274] and T.B. Arlov [6, pp. 147, 150] prepared extensive monographs on the history of the development of Spitsbergen as a whole, and A.F. Shidlovsky [7] and V.Yu. Wiese [8, pp. 44, 56, 62] collected, first, information about Pomor mammal hunting in the archipelago, although in each of these works, one can find brief infor-

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mation about Pomor-Norwegian contacts. More detailed information on the participation of Pomors in Norwegian expeditions of the early 19th century is in the report of O. Lønø [9] and J.P. Nielsen [10], who provide some actual details of mammal hunting. However, none of the authors, except J.P. Nielsen did not think about the problem of communication between Pomors and Norwegians about the language in which these contacts were made. This issue is important in the context, firstly, of revealing the peculiarities of the development of Pomor-Norwegian relations, also during the development of Svalbard, and secondly, of studying Russenorsk as a language that appeared and developed just that time. In "Russland kommer nærmere. Norge og Russland 1814–1917" J.P. Nielsen suggests that industrialists used Russenorsk but wrote that there was no documented evidence of this [11, Russland kommer nærmere. Norge og Russland 1814–1917, p. 182]. Indeed, historians have no archival documents at their disposal to give an exact answer to the question of what language the Pomors and Norwegians spoke in Svalbard, but some materials help to study this problem.

Evidence of Pomor-Norwegian contacts during mammal hunting expeditions to Svalbard

The connections of Pomors and Norwegians during mammal hunting expeditions to Svalbardhave been known since the middle of the 18th century. One of such short contacts in 1744 was reported by T. Hultgren [12, p. 197]. She found in the border inspection protocols a message from the Norwegian major Peter Schnitler about a meeting in Talvik (Alta) with a Russian feedman from Arkhangelsk, who had wintered here with his team in anticipation of a "good wind" to Svalbard. The feedman also told the Norwegian that the crew of a Russian vessel usually consisted of 10 people.

M.V. Lomonosov was also aware of the beginning of Pomor-Norwegian relations. In 1764, he was preparing the arctic expedition of V.Ya. Chichagov learned from the entrepreneur Amos Kornilov that Pomor ships often perish on the way to Svalbard or on the way back, and some escaped by leaving small vessels in Norway [13, Perevalov V.A., p. 244]. Documents about a similar case were published in a study by Bryzgalov V.V., Ovsyannikov O.V., Yasinski M.E. [14, pp. 31–32].

In 1759, two Pomor vessels on the way to Svalbard were ice-covered, but people were saved in small carbases, they took with them for mammal hunting. Winds threw them on the uninhabited island of Kamen in Finnmark. The Norwegian Andreas Peterson came there to mow hay, and once, he found 15 people on the island. Only four of them could still walk. Peterson brought them to Hammerfest, from where local pastor Klaus Christian Kilstrup and merchant Peter Burch organized a rescue expedition and brought the survivors who were starving to death in Hammerfest. After 14 days, the Russians recovered, and they were given a ship on which they were able to return home and which they promised to return. Later, there was a problem with the compensation of losses of the Norwegians, as the ship wasn't returned. But relations were settled when Russian merchants who hired industrialists agreed to pay for the ship and compensate for other costs when they received news of the amount of debt.

Another meeting between the Norwegians and the Pomors who stopped on the way to Svalbard marked the beginning of joint Russian-Norwegian crafts in the archipelago. In 1778–1779, in Hammerfest, the watchman Filat Semyonov spent the winter with the ship and his crew, who was going to Svalbard next summer. Norwegian merchant Peter Christian Buck agreed with him that F. Semyonov would take Buck's son, Edward, and another 4 Norwegians with him. On May 23, 1779, the "Morzh" sailed from Hammerfest, but when it reached the Bear Island, it got stuck in the ice and was forced to return to Vardø. On the way, Edward Buck fell ill and died in Vardø [1]. The failure of the expedition and the bereavement forced Buck to temporarily abandon new attempts at joint expeditions.

At the end of the 18th century, Danish authorities abolished trade monopolies in the northern provinces of Norway and allowed mediated trade with Pomors, incl. barter. Norwegian settlements in Finnmark — Vardø, Tromsø, Hammerfest — received a hundred cities. The freedom of trade provided created the conditions for new initiatives, incl. joint ones. The first wintering of Norwegian mammal hunters on the islands of the archipelago took place in 1794-1795. The expedition was again organized by the trading company of the Buck merchants from Hammerfest. A vessel for the expedition was bought in Russia. The team consisted of Norwegians, Sami, and Russians, incl. a feeder and harpooner [2]. Probably, Buck trading company, again, hired one of the Russian feeders for the expedition, who visited Hammerfest during the expedition to Svalbard, allowing him to take several of his team's Pomors with him. Three people died during the winter (two from scurvy, one in the field), among them the Russian hunter Nikifor Stranov [15, Arlov T.B., p. 147].

The wintering result was not so significant, especially considering the dead team members, so that many people who wanted to follow the example of the Buck company appeared. In addition, the unknown was stopped by the conditions and techniques of mammal hunting, the lack of information about the places of permanent habitat of marine animals in the vicinity of the archipelago, additional confirmation of the profitability of risky Arctic navigation was required. This gradually became known during constant communication with Russian feedmen and mammal hunters.

According to Norwegian sources, the Norwegian regular voyages to Svalbard began in 1819[3]. Until this time, only random encounters of Pomors and Norwegians on the islands of the archipelago are known. The surveys of Russian mammal hunters about Svalbard published in 1818 reveal that, according to Pomors, the archipelago was completely uninhabited, and they did not

[1] Edvard Kraft Petersen Buck (1752-1779). Genealogy. URL: https://www.geni.com/people/Edvard-Kraft-Buck/6000000004658001632 (accessed 12 December 2019).

[2] Samoylovich R. Ostrov Shpitsbergen i pervaya russkaya nauchno-promyslovaya ekspeditsiya [Svalbard island and the first Russian scientific expedition]. *Izvestiya Arkhangel'skogo obshchestva izucheniya Russkogo Severa* [News of the Arkhangelsk Society for the Study of the Russian North], 1913, no. 4, p. 164. URL: https://ekb.aonb.ru/index.php?id=70&year=1913 (accessed 15 December 2019).

[3] Noen ord om den forste ishavsfangsten fra hammerfest. URL: http://polarlitteratur.no/tekster/minner-fra-polaregnene/noen-ord-om-den-forste-ishavsfangsten-fra-hammerfest/ (accessed 15 December 2019).

meet people there [4]. In the 1920s, the Norwegians had organized about 60 mammal hunting expeditions to the archipelago. Since 1821, Tromsø began to participate in mammal hunting in the archipelago, but Hammerfest still retained leadership.

The increase in mammal hunting activity of the Norwegians naturally led to the appearance in documents and newspapers of evidence of contacts between Norwegian and Pomor mammal hunting expeditions. So, e.g., in 1835, the skipper of the Norwegian schooner "Patriot" I.K. Lodgard in the very north of the archipelago saw 2 Russian rooks with a team of winterers, originally consisting of 32 people, four of whom died and five were sick [9, Lønø O., p. 24]. In the same year, the ship "Zosima i Savvatiy" set out for Svalbard with a team of 16 people under the direction of the feedman Gerasim Osipov. The half-feedman Vasily Kalinin, for stabbing along the way to Svalbardwas removed from a ship in Norway and taken into custody. The vessel continued sailing but fell into a storm and was shipwrecked near the archipelago. Norwegian skipper ship Abraham Gamen saved Pomors. They were delivered to Hammerfest, where the feeder G. Osipov told about the incident, was "brought to slander and released," sailors from the wrecked ship "confirmed that everything said by Osipov was true, and after the oath they were released" [14, Bryzgalov V.V., Ovsyannikov O.V., Yasinski M.E., p. 56]. Probably this salvation is also mentioned in the work of T.B. Arlov, when the author writes about the salvation in the summer of 1835 by the Norwegian ships "Trifan" and "Fortuna" of the crew of two Pomor ships that went mammal hunting for Svalbard [6, Arlov T.B., p. 150].

Two tragic incidents on Svalbard in 1851 are well known. In 1851, a mammal hunting expedition led by the peasant of the Kemsky district Ivan Gvozdaryov ended in numerous killings of its members. Only three — the brothers Vasily and Yakov Isakov and Petr Druzhinin returned alive, announcing that the rest of the team had died during the mammal hunting on Svalbard. During the investigation, it turned out that, after killing the feedman and leaving the two hunters on the island, the criminals, captured the ship, went to Norway, threw three more people overboard along the road. In Berlevog, they sold Gvozdarev's property, and got drunk on the proceeds and strangled of another member of the crew. The remaining three members returned home [5].

Another tragedy occurred in 1851 with an expedition to the ship "St. Nikolai" went from Arkhangelsk with a feeder Vasily Kalinin to the archipelago. 12 of the 18 members of his expedition died from scurvy. The survivors could not sail away from the island since the bay was chained with ice. On July 3, Norwegians, also engaged in mammal hunting, accidentally went to the Pomors, and promised help. Two days later, there were 9 Norwegians in the camp of Pomors. Together with them, retaining the ability to move 3 Russians were able to cut a path for the ship in ice. On July 12, 6 Pomors, with the help of 4 Norwegians, set off and arrived on July 23 in Hammer-

[4] Doprosy russkikh promyshlennikov o Shpitsbergene [Interrogations of Russian industrialists about Spitsbergen]. URL: https://www.kolamap.ru/library/doc/1818_dopros.htm (accessed 15 December 2019).
[5] SAAR F. 2. Inv.1. C. 5100. Pp. 11–72.

fest. “St. Nikolai "stayed there for the winter, and the surviving crew members on different vessels went to their places of residence [6].

Documentary materials and ethnographic essays show that the Pomors on Svalbard always went with several stops, one of which could be in Norway (e.g., in Vardø). There they waited for the weather favorable for sailing, waited for the storm, drank, spending the money received in the deposit [7]. A stop at a Norwegian port could last from a few days to several weeks. The return route of the mammal hunters could also pass through a Norwegian settlement. In it, the feedman could sell the prey or part of it: “All these peasants: entrepreneurs and lazy people, arrows and inept keep money in the pocket of the feedman until they come to some Vargaev. There they, according to them, “will harden”, that is, they will renew their orgies again, as long as they walk, until the Norwegians forcefully drag them into the boat at the intensified requests of the feedman” [8]. After visiting Norway, the Pomors were left with the easier part of their journey home.

Based on the above materials, it can be concluded that contacts between the Pomors and Norwegians during mammal hunting expeditions to Svalbard were a frequent occurrence. Russian mammal hunters could stop in Norway on the road to Svalbard and back, were part of entrepreneurs expeditions with the Norwegians, met on the archipelago, and survived shipwrecks thanks to the help of the Norwegians. Archival documents and historical essays describe examples of communication, but they never indicate in which language it occurred and whether the interlocutors had problems understanding each other. The stylistics of the text of the sources and their contents, regardless of the described situation, give the impression that the Pomors and Norwegians could communicate quite freely in the studied time, without having any educational institutions for learning each other's language.

Norwegian-Russian trading language

The Norwegian-Russian trading language (Russenorsk) appeared as a result of the development of the maritime-Norwegian exchange trade, which originated in the Middle Ages. But after the 16th century, free trade in Finnmark was banned, and the monopoly on its administration passed to the Bergen and Trondheim merchants; official trade relations between the Pomors and the merchants of Northern Norway ceased. However, illegal trade continued because Pomors met with Norwegians in fisheries off the coast of Northern Norway and made a mutually beneficial exchange of flour for fish. After the abolition of monopolies in 1789, trade volumes began to gradually grow.

During the years of the continental blockade of England, trade ties between Arkhangelsk and Northern Norway strengthened. In 1806, due to the complicated international situation, the

[6] SAAR.F.1. Inv.4. T. 1. C. 1291. Pp. 1–13bp.

[7] Maksimov S.V. God na Severe [A year in the North]. Moscow, 1890, p. 556. URL: https://www.booksite.ru/fulltext/maks/imov/ (accessed 15 December 2019).

[8] Kharitonov A. Arkhangel'skie promyshlenniki na Grumante (Shpitsbergene) [Arkhangelsk industrialists on Grumant (Svalbard). *Otechestvennye zapiski* [Homeland’s notes], 1849, Vol. LXVI, no. 10, p. 294.

export of bread from the Baltic and White Sea ports was stopped, but the Russian government made an exception for Norway. The English fleet blocked Danish-Norwegian trade with Western countries. In Norway, starvation began due to a shortage of bread, and to save the population, at the request of Denmark, Russia allowed the export of rye and wheat with grain and flour from Arkhangelsk[9].

The expansion of trade relations led to the emergence and development of a special contact language, pidgin [15, Peterson R.E., p. 249]. The appearance of a pidgin (including Russenorsk) is explained, e.g., by the polygenetic theory, according to which a pidgin can arise spontaneously everywhere where conditions are laid for it, i.e. where there is a need for a common language between people who did not have other means of communication [16, Broch I., Jahr E.H., p. 20].

The Norwegians involved in the trade did not know the Russian language, just as the Pomors did not know Norwegian. However, both parties felt the need for communication and tried to use well-known words for communication not only in Russian and Norwegian, but also in Dutch, German, English, and Sami.

Doctor of Economics D. Harper, analyzing signs and sign systems in trade, explained that pidgin is a spontaneously arising social technology or institution. Pidgin provides participants with an effective means of communication in trade, because it is easier and cheaper to adopt the existing system of signs than to invent their own [17, Harper D.A., p. 65]. Based on the idea of the equal position of participants in Pomor-Norwegian trade and their equal interest in trading operations, he also suggested that "the symmetry of exchange relations also led to similar proportions of words from the Russian and Norwegian languages entered in the "russenorsk leksikon" [17, Harper D.A., p. 66].

These provisions can be supplemented by the conclusions of the linguist E. Yakhr, who wrote that long-standing contact between two socially equal languages can also give Pidgin proper if the need for learning each other's language does not exist due to the restriction of direct contact [18, Jahr E.H., p. 107]. Pomor trade in Norway was purely seasonal and took place in the summer months. Unable to prepare a more valuable product (dried fish) from the summer catch, which was mainly exported to Spain and Italy, the Norwegians had to either salted this fish or sell it fresh to the Russians. The limited period of Pomor-Norwegian trade also determined the corresponding "seasonality" of the use of Russenorsk, according to its researchers [19, Lunden S.S., p. 213].

Russenorsk began to develop, probably in the second half of the 18th century and fully developed by the beginning of the 19th century with its vocabulary and grammar. The main vocabulary was related to trade transactions, including words for different names of goods and prices, weighting, payment terms and charges of theft. The language made it possible to discuss weather conditions and shipping routes, parts of the vessel, types of social interaction — work, church attendance, tea drinking, and drinking.

[9] SAAR. F.4. Inv.3. C. 432. Pp. 1–7.

In Northern Norway, this language was called “moja-på-tvoja” or “kakspreck” (as you say). M.M. Prishvin, who visited Hammerfest in 1907, was incredibly surprised to hear the conversation of the Pomors with a local girl in some strange language in which the writer recognized English, Russian, and German words. Pomors reached an agreement with a girl in this language about accommodation in a Norwegian house, where he came with a writer. Next M.M. Prishvin writes that this is “a special Russian-Norwegian volapuk, simply called there: “moja-på-tvoja”[10].

With the development of Pomor-Norwegian trade, the advent of legislatively fixed privileges of its participants and the extension of these privileges to new sea settlements, the number of ships coming from the Arkhangelsk province to Norway increased. The largest number of them traditionally went from Arkhangelsk, Onega, Kola, Kemi and Sumckiy Posad, although residents of Mezen, Shuya, Soroki and other settlements were also engaged in trade.

As it was established by Norwegian researchers, the range of use of Russenorsk was gradually expanding at the beginning of the 19th century. The language was distributed primarily in the area of the major shopping centers of Finnmark and Troms, and by the 1840s it was in the territory from Kola to Tromsø [16, Broch I., Jahr E.H., p. 68]. On the ease of communication between Norwegians and Pomors in the early 20th century testified M.M. Prishvin: “I suddenly feel at last all the frivolity of my trip to Norway without a guide, without preparation. While the Pomors were with me, I rode like if I was in Russia, and now I only feel my helplessness” [11].

As follows from the surviving sources of the late 19th — early 20th century, Russenorsk was known to traders, fishermen, customs officers, Russian consuls from the Norwegians, who sometimes acted as arbitrators in trade disputes between Russians and Norwegians. However, it should be noted that already in the middle of the 19th century on the Norwegian side, only fishermen and their families spoke Russenorsk, in their work pidgin was used when necessary by consuls and customs officers. Wholesalers began to learn the Russian language and began to perceive Russenorsk as a primitive language, unworthy of use. Slowly, too, they began to study and teach their sons the Norwegian language, e.g., in the Kem skipper school.

Linguistic communication between Pomors and Norwegians during mammal hunting expeditions to Svalbard: hypothesis and conclusions

First of all, I would like to draw attention to the fact that communication between Russian mammal hunters and Norwegians took place: a) in the territory of the Norwegian settlements, Pomor vessels visited on the way to and from Svalbard, b) on the archipelago during the trades.

In the case when Pomor expeditions, following the established tradition, wintered in Norway in order to start mammal hunting as early as possible in the spring, their participants had to either master Russenorsk or gradually learn the necessary number of Norwegian words for communication. As S.V. Maximov wrote from the words of Pomor, “Before you do not speak with him

[10] Prishvin M.M. Za volshebnym kolobkom [After the magic gingerbread man]. URL: http://prishvin.lit-info.ru/prishvin/proza/za-volshebnym-kolobkom/glava-i-volshebnyj-kolobok.htm (accessed 15 December 2019).
[11] Ibid.

in any other language, to shout their words: get the hell out of you" [12]. Given the fact that Pomors, speaking in Russenorsk, perceived it as Norwegian, this means that the mammal hunters really should have been in the 18th — first half of the 19th centuries. Use either Russenorsk or Norwegian.

The crews of Russian vessels staying in Norway for a short time hardly knew Norwegian and did not have to learn it. But since they needed to buy or sell something in Norway, it is quite possible that among the members of the crew, there were people who had knowledge of Russenorsk.

The way to Norway from Arkhangelsk and from Svalbard was known not only by the feedmen, but by all means someone else from the team in case of the death of the feedman, i.e. these were the Pomors who had the experience of sailing in Norway, and consequently, the experience of communication (most likely, in Russenorsk). Sometimes mammal hunting expeditions were attended by feedmen who had previously been engaged in trade with Northern Norway. So, e.g., Ivan Gvozdarev, who died in 1851 on Svalbard in 1827, participated in trade with Norway and was detained for trying to import wine, rum, and chintz from Norway [13]. His father, Yakov Gvozdarev, also traveled on business to northern Norway.

During the hunting campaign on the Svalbard, the contacts between the Pomors and the Norwegians were short-term, most often they were caused by emergency. Under these conditions, it was possible to ask for help or explain the disastrous situation, knowing Russenorsk, although in extreme cases gestures could also be used. Russian consuls could also help the rescued Pomors after arriving in Norway, incl. with the execution of any documents and with the solution of other important issues.

In Pomor expeditions going to Svalbard, the main thing was the feedman. He knew the route and places of camps on the archipelago, controlled the ship, the organizer of the expedition entrusted him with equipment and supplies. It was the feeder on behalf of the merchant who could sell the production in Norway on the way back. In addition to the feeder, the crews included experienced hunters and harpooners, as well as ordinary workers, novices and laymen recruited from peasants, retired soldiers, and burghers. Consequently, only the feedman needed to be fluent in the Russenorsk or Norwegian language and, as mentioned earlier, someone else from the team, just in case. The crew could include a half-feedman, who helped the feedman and adopted his knowledge and skills. E.g., Vasily Kalinin, who went in 1851 as a feedman to Svalbard went there as a half-feedman.

Feeders and half-feeders were most often from the settlements that actively participated in the Pomor-Norwegian trade — Kemi, Onega, Arkhangelsk, Mezen. They had the opportunity to learn Russenorsk, if not in their families, then in their midst, learning the art of navigation and

[12] Maksimov S.V. God na Severe [A year in the North]. Moscow, 1890, p. 556. URL: https://www.booksite.ru/fulltext/maks/imov/ (accessed 15 December 2019).
[13] SAAR. F. 2. Inv. 1. C. 864. P. 352.

gaining experience in going to Norway and talking there with merchants and fishermen. You can cite several phrases in Russenorsk, taken from the records of one of the first collectors of information about this language, J.K. Quigstad, made in conversation with the customs cashier A. Andreasen from Tromsø [16, Broch I., Jahr E.H., pp. 113–114]. These examples show that, knowing Russenorsk, Norwegian and Pomor industrialists could communicate and receive the necessary information.

Drasvi, gammel go ven på moja! (Hello my good old friend!)

Nogoli dag tvoja reisa på Arkangel otsuda? (How many days did you get here from Arkhangelsk?)

Tri vegel, grot storm (eller motvin). (Three weeks, heavy storm (or headwind.)

Grot stoka på gaf. (Severe storm at sea.)

Koda tvoja stan-op? (Where did you stay?)

Ja på madam clerk tri daga ligge ne. (I stayed for three days at Mrs. Clerk's house in Elvenes.)

Mangoli år tvoja? (How old are you?)

Pedisat (50). Tvoja starik. (You are an old man.)

Njeto. Ja grot sterk (No. I am very strong.)

Kak tvoja levom? Basiba, korosjo. (How are you? Thanks, good.)

Thus, we can conclude that in the composition of the Pomor mammal hunting expeditions there were always at least two people who knew Russenorsk or could communicate in Norwegian. Hunters and harpooners, who did not have experience in joint crafts with the Norwegians, and ordinary workers in Russenor or in another foreign language did not speak and, at best, could know some words or phrases. Norwegian crews were formed in the same way. Vessels departed from Hammerfest and Tromsø — centers of Pomor-Norwegian trade, where fishermen and merchants knew Russenorsk. On the eve of the expedition, the skippers tried to get information about mammal hunting from the Pomors in Norway. The remaining crew members, whose families had never been engaged in trading with Pomors, did not know Russenorsk. Russenorsk was a trading language, lexically limited, but, as sources show, it could be used not only for concluding trade transactions. Consequently, on Svalbard language contacts were made, most likely, through Norwegian skippers, Pomor feed and half feed. Communication took place in Russenorsk or colloquial Norwegian.

The study of international linguistic contacts during expeditions to Svalbard involves further searches for sources, primarily Norwegian, which would contain information about the presence of Pomors in Northern Norway on the way to Svalbard or on the way back, which can help in determining the language on which communication took place and on the archipelago. Similar information should also be sought among the customs and court documents and office records of local authorities both from the Russian and the Norwegian side. Studying the language of Pomor-Norwegian contacts during the development of Svalbard in the second half of the 18th — the first

half of the 19th century we can expand the understanding of Russenorsk and reveal new details of both the history of Russian-Norwegian relations, and the process of developing Svalbard.

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REVIEWS AND REPORTS

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No righteous man exists without honoring books. Manuscript book of the Russian North of the 15th – 20th centuries (exhibition materials) *

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Abstract. The article represents the review of manuscript books of the 15th – 20th centuries introduced at the exhibition "No righteous man exists without honoring books. Manuscript book of the Russian North of the 15th– 20th centuries". All exhibits are stored at the State Museum Association "Artistic Culture of the Russian North". The museum's collection includes many impressive monuments of traditional Russian literature, as well as manuscripts of the Old Believer environment. For several years, attribution of manuscript monuments was carried out. The result of scientific research was a catalog. The fascinating books in terms of content and artistic performance are exhibited at the museum. The exhibition stands show many miniatures, screensavers, and other elements of book design. Each visitor of the exhibition will find something interesting for himself: the creation of manuscript monuments, the genre variety of the Northern book, the decoration of texts, the development of the decorative design of manuscripts, the variety of singing books. All exhibited manuscripts are presented for the first time. For this purpose, special exhibition equipment, shop windows, and a lighting system under the museum standards were used.
Keywords: *manuscript book, exhibition, Old Believers collections, Pomor style, Pomor ornament*.

On December 20, 2019, an exhibition was opened at the State Museum Association "Artistic Culture of the Russian North", which for the first time in the history of the museum presents a collection of manuscript books of the Russian North of the 15th – 20th centuries stored in the museums. The collection of the museum association contains more than six hundred manuscript and printed monuments, sixty-nine of which are manuscripts. This unique collection of books of the 15th – 20th centuries gathered by the staff and curators of the museum for several decades. Books were brought from expeditions to the districts of the Arkhangelsk Oblast and were also purchased from private individuals.

The main part of manuscripts is collections with lives, prayers, with interpretations of the commandments and prayers, collections for liturgical singing with hook and linear notation. The museum funds also contain spiritual edifying collections created by old rituals during this period.

Valuable sources have been little studied. The work on the attribution of manuscript written monuments was conducted for six years, the research resulted in the scientific catalog "Manuscript Book of the Russian North of the 15th – 20th Centuries", which gives a complete description of the manuscript in accordance with the principles adopted in the most authoritative Russian catalogs handwritten books [1, Nenasheva L.V.].

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Part of the unique collection of written monuments is presented at the exhibition entitled "There is no righteous person without love for the book. A manuscript book of the Russian North of the 15th – 20th centuries." It is unique in design. To show the book to visitors of the exhibition more fully, the author of the exhibition concept and the author of the exhibition, Honored Artist of the Russian Federation Alexey Grigoriev [1] presented the book at exhibition stands, where photographs of the brightest and most colorful spreads are given, which help to see the whole variety of the northern manuscript book (Fig. 1, 2).

Fig. 1. Exhibition start.

Fig. 2. Exhibition.

[1] Alexey Semenovich Grigoriev — member of the Union of Artists of Russia, Honored Artist of the Russian Federation, author and designer of books "Winner. The heroic life of the icebreaker "Krasin", "Sedov. Go to the Pole!" Book illustrator E.S. Kokovina "Childhood in Solombala" (2018) and the tales of Stepan Pisakhov (2019). Author and organizer of various international projects: a traveling exhibition of artists from the Barents Region "Ark of Six" (1994), an exhibition "Contemporary Russian Art" (Lincoln, Great Britain, 1997), and international exhibitions "The Edge" (Edinburgh, Scotland) and "Cracking Ice" (Stockholm, Sweden) in 1998, the exhibition "Ultima thule. The edge of the earth. European cartography of the 15th – 17th centuries from the private collection of Erling Walse, Norway (Arkhangelsk, 2013), exhibition "There is no righteous person without honoring the book. A manuscript book of the Russian North of the 15th – 20th centuries " (Arkhangelsk, 2019). Member of regional, regional and national exhibitions (1975–2019).

The initial period of work on the exhibition was the most difficult and long. It was necessary to get acquainted with the topic and structure of the manuscript books available in the museum's collection. The concept of the exhibition did not arise by chance. Manuscripts of spiritual and moral content selected for the exhibition had to be grouped by genre and emphasis on decoration, since in manuscript books, especially in the 18th century, color illustration began to play a dominant role concerning the text. To implement these ideas, the author has developed special exhibition equipment, display cases, and a lighting system that meets museum standards. The exhibition stands show many miniatures, screensavers, and other elements of book design. In the accompanying texts, the viewer receives additional brief information that goes beyond the visual range of the exposition. In the process of working on the exhibition, A.S. Grigoriev studied numerous works of scholars of the history of Russian literature, but the catalog “Manuscript Book of the Russian North of the 15th – 20th Centuries” served as the main conceptual and scientific foundation of the entire project.

Monuments of writing, which can be found at the exhibition, are united by one theme — the church reform of the 17th century. The relationship between the representatives of the official church and the Old Believers, the complexity and background of their Kholmogorsky ideological struggle, make it possible to better understand the polemic books “Spiritual Uvet” by Archbishop Afanasy and Pomor Answers Andrei Denisov. Both books are written in beautiful, illustrative, and richly decorated.

The manuscript book “Spiritual Uvet” presented at the exhibition, created in 1682, entered the museum in 1986 from the Church of the Nativity of Christ in the village of Priluki in the Onega district [1, Nenasheva L.V., p. 57–60]. “Spiritual Uvet” was written by Archbishop Athanasius of Kholmogory in a short time of 50 days, from July 5 to August 27, immediately after a public debate between supporters of the new faith and Old Believers on July 5, 1682, in the Faceted Chamber in the presence of royal family. The book is divided into two parts. The first sets out the history of the correction of liturgical books under Patriarch Nikon and the history of the schismatic rebellion of 1682 under the leadership of Nikita Pustosvyat, and also talks about the debate held in the Faceted Chamber between the supporters of the new faith and the Old Believers. The second part is organized according to the order of petitions submitted by the Old Believers in the Faceted Chamber on July 5, 1682 (Fig. 3, left exhibition stand).

The manuscript “Pomor Answers” is written by brothers Andrey and Simeon Denisov, monks of the Vygovsky monastery [1, Nenasheva L., pp. 80–84]. The creation of the book “Pomor Answers”, or “Answers of the Desert-bearers to the Questions of Hieromonk Neophytus”, was required in connection with the appearance of an Orthodox missionary in Olonets Uyezd, who asked the Old Believers 106 questions for a future dispute. A fairy tale was attached to the questions, obliging us to write answers to the questions asked in a short time. In this essay, the main points of the Old Believer doctrine are formulated. There, questions about old and new liturgical books, about ritual differences, and problems of a dogmatic nature are examined in detail. The “Pomor

Answers” spread across Russia in a large number of lists, becoming a "desk" book for Old Believers.

The book “Pomor Answers” was written in 1723, written in a picturesque charter, it has a luxurious design using gold. The title page contains the name of the book, which is placed in a splash screen-frame, decorated in a Pomor style. On the margins of many leaves, hands were painted in a blessing gesture, made with watercolors of various colors. Refined initials, decorated with plant processes and written in gilding, are a real decoration of this monument of writing (Fig. 3, 4).

Fig. 3. At the left exhibition stand, information is given about the books “Spiritual Uwe” and “Pomor Answers”; at the right stand, an Old Believer collection is presented.

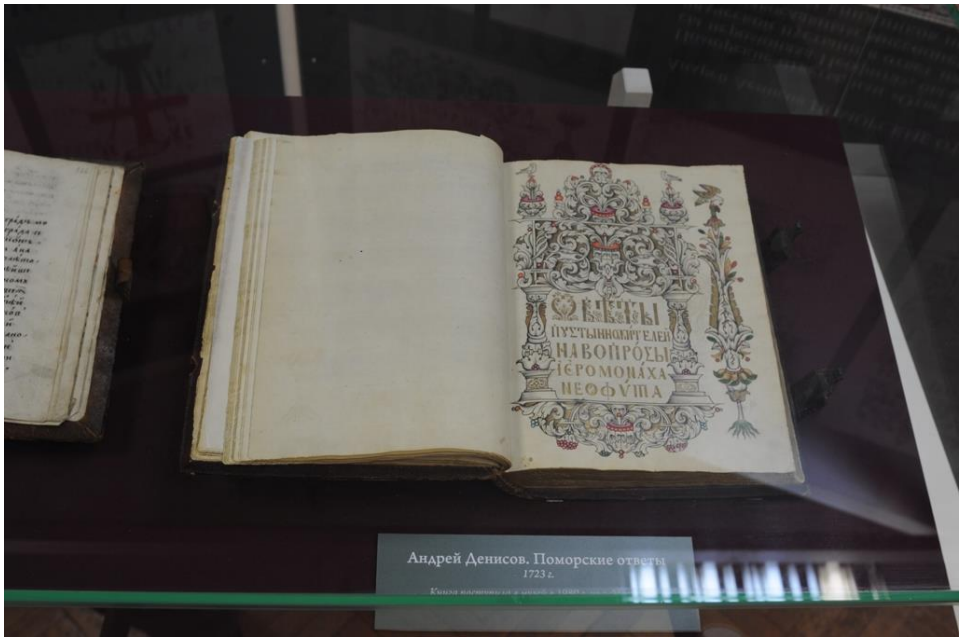

Fig. 4. Andrey Denisov. “Pomor Answers”. At the head of the book is a Pomor-style frame saver in which the name of the book is inscribed.

As a result of the church schism among the Old Believers, books of the most interesting composition, content, and design appeared. Several written monuments presented at the exhibition are Old Believer's facial collections: “Collection” of the first quarter of the 19th century (white

date -1815) [2]. The written chapters are in the first part of the collection, which set out the rules of the post-reform church. And in the second are the moralizing stories, "Collection of Old Believer moral instructional content" of the second half of the 19th century, "Collection of the Old Believers' front" of the end of 19th — beginning of 20th century, and “Flower bed facial” of 1910 indicated by the author-creator of the book Egor Orlov [1, Nenasheva L.V., pp. 177–207, 254–279, 294–312, 331–365]. In addition to the handwritten collections, the exhibition also presented the non-illustrated “Collection of words, teachings and patericon news” of the second half of the 18th century [1, Nenasheva L.V., pp. 90–95] (Fig. 5).

Fig. 5. At the stand is a handwritten collection of small religious noted 1910.

All collections are similar in composition. They include extracts from various church books and works of translated literature: moralizing novels from the books “The Great Mirror” and “Alpha and Omega”, articles from paterikas and Prologue, extracts from the Gospels of Matthew and Luke, and the writings of the church fathers. When selecting legends and stories in the collection, the compilers set one goal — to create a pious reader religion-edifying book. The collections are distinguished by the richness of the topic, which covers all aspects of human life (Fig. 6).

[2] A white date — a paper mark that is highlighted in light outline on the paper gap and indicated the time of paper production.

Fig. 6. Pages from the "Collection" of the first quarter of the 19th century.

The stories are heterogeneous in size: there are small parables, there are detailed stories on several pages. The most common type of story is a short story that occupies a page. Illustrations are attached to all the novels, i.e., large stories are illustrated with several miniatures. The outline of the thumbnails is subtly drawn in ink and painted with watercolors. In each collection, all the miniatures are made in the same style and, probably, by one author. In the "Collection" of the beginning of the 19th century, there is a panorama of the Garden of Eden and the palace, which reaches 120 cm length (Fig. 7).

Fig. 7. Staircase and Garden of Eden from the Collection of the first quarter of the 19th century.

Fig. 8. Pages from the “Collection of the Old Believers' front” of the late 19th — early 20th century.

Fig. 9. “Collection of Old Believers' obverse” of the late 19th — early 20th century.

In all handwritten book’s collections, there is a drawing of a staircase, on the steps of which sins were written. The image of the ladder, or staircase, goes back to the well-known vision in the dream of Jacob from the book of Genesis, chapter 28. The image of the staircase is the main one in the work of John of Sinai “The staircase”, which was written as a guide to monastic life. “Ladder” was a famous and beloved book in Russia. Its plots were popular among Russian writers and poets. Some chapters from “Ladder” were published in pre-revolutionary magazines for home reading and pedagogical education purposes. The image of the stairs was popular among the Old Believers. The “Collection of Old Believers' Obverse” (end of the 19th — the beginning of the 20th century) at the end of the book are illustrations that make up the key to the Garden of Eden. The key is put in the display case and presented on the stand (Fig. 8, 9).

At a separate exhibition stand, photocopies of illustrations with the torments of sinners from the Collection of the Old Believers' Facial are exhibited (Fig. 10).

Fig. 10. Photocopies of illustrations with the torments of sinners from the Collection of Old Believers' handwritten books.

The image of the staircase is also depicted in the "Collection of texts on the paths of perfection and spiritual ordeal", the first quarter of the 19th century (white date — 1816) [1, Nenasheva L.V., pp. 210–218]. The book consists of notebooks with text and drawings that illustrate the text. The collection includes three works. The first part is written out from the book “Flower garden of Abba Dorotheus”, chapter 18. The main part of the manuscript and the largest is the vision of the monk Gregory about the ordeals of blessed Theodora, written off from “The Life of Vasily the New”. The miniatures contained in the book illustrate the bulk of the manuscript. Four folding illustrations are painted with watercolors of various colors on paper, duplicated on fabric. A general view of the composition is butt-glued sheets in the form of a key consisting of a beard, a rod, and a head. The middle part of the key (rod) is a ladder of 60 numbered steps. Nine people climb them at different heights. To the right of the steps are the commandments. The third part of the book is the teaching of the holy father Nifont, as befits Orthodox Christians at a meal (Fig. 11).

Fig. 11. A stand with information about the “Collection of texts on the paths of excellence and spiritual ordeals”, the first quarter of the 19th century.

Among the Old Believer collections, the apocryphal collection “The Passion of Christ” stands out, which tells about the last days of the earthly life of Jesus Christ, his crucifixion, resurrection, and descent to hell. The basis of the collection was composed of several apocryphal legends. E.g., the base of the story of Christ's descent into hell and the knowledge of the great forefathers is taken from the so-called “Gospel of Nicodemus” (2nd century). At the exhibition, you can get acquainted with two unique manuscripts: one was written at the end of the 18th century (white date 1783–1788) [1, Nenasheva L.V., pp. 121–132], the second — in the second half of the 19th century [1, Ibid., pp. 280–293]. Both books are richly illustrated with miniatures decorating each chapter of the book (Fig. 12, 13).

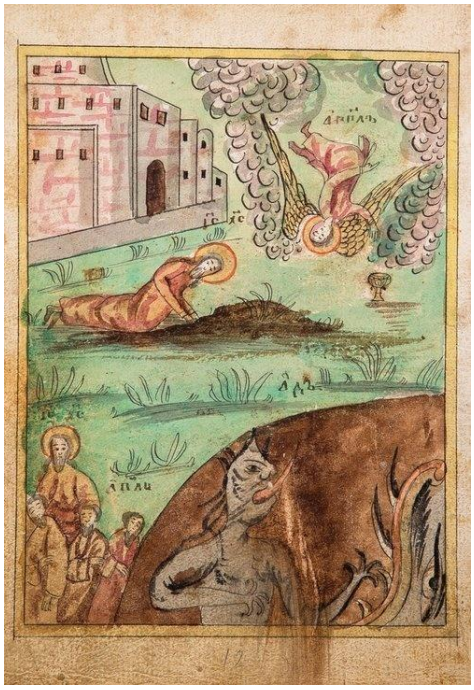

Fig. 12. The “Passion of Christ” of the late 18th century.

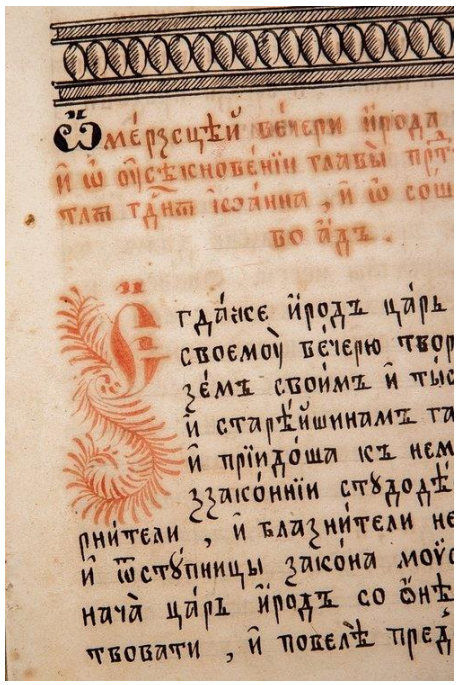

Fig. 13. “Passion of Christ” of the 2nd half of the 20th century.

The museum collection of manuscripts contains several singing books in which God-official texts are supplemented by hook notes. Hook books that have come down to us include the full version of chants corresponding to prayer communion with God according to rhythm, character, and duration. These are “Irmologii” and “Oktoikh”, “Household”, “Holidays”, and singing collections [1, Nenasheva L.V., pp. 136–141, 170–173, 160–166]. The writing monument “Holidays” is decorated with a beautiful Pomor ornament, the motifs of which are associated with the natural elements of the northern region: raspberries, blueberries, lingonberries, columns, twined currant leaves in a stylized vase, gulls with branches of berries in their beaks (Fig. 14).

Fig. 14. Exhibition stands with information about singing books on hook notes.

The exhibition also exhibits the most ancient books of the museum collection. It is the Prologue of the late 15th century. The manuscript was received by the museum in 1973 from an expedition to the Kargopol district. The Museum Program in its composition refers to the September half. It includes brief lives of all Orthodox saints and martyrs revered in Russia and the Slavic countries, and stories about the most important church holidays from September to February. All these texts are distributed by the days of the year and by months in accordance with the Orthodox Monthly Word. The prologue was written at the end of the 15th century, in the north of Russia, as evidenced by the linguistic and artistic features of the manuscript [1, Nenasheva L.V., pp. 10–13].

In the window with the monument to the writing “Passion of Christ”, visitors to the exhibition can see the Gospel of the tetras (or the Four Gospels) [3] late 15th century — the beginning of the 16th century [1, Nenasheva L.V., pp. 14–15], as well as the Apostle of the first half of the 16th century, the book includes texts from the New Testament book “Epistles of the Apostles” [1, ibid., pp. 16–17].

As studies have shown, all the books stored in the collection of the museum association and presented at the exhibition were created in the northern territory of the Russian state. This is

[3] The text is presented in the sequence of the Gospels of Matthew, Mark, Luke and John.

evidenced by the northern dialectic features noted in the texts of books; this is also confirmed by the data of the paper on which the books were written. Paper was often brought from the same factories: in books until the 18th century, mainly Dutch paper with fillets “Glove” or “Hand”, “Pitcher”, “Head of the jester”, “Coat of arms of Amsterdam” and “ProPatria” was used. In the written monuments of the 18th – 19th centuries, “white dates” and letters of factory owners are often marked on paper, according to which it was established that paper was used from factories and manufactories in the nearest regions: Arkhangelsk, Velsk, Vologda, and Yaroslavl. The exhibition exhibits a monument of writing dated back to 1839, “The Months, September-August,” written on paper from the first Arkhangelsk factory, which lasted from 1820 to 1865. On the pages of the book, you can see the white date of 1834, and also in the middle of one sheet you can see the letters ARKHAN and the numbers 1-8, on the other sheets you can see the letters ELSK, in the upper field of the sheet the numbers 3 4. On l. 4, 102 — the letter F, on l. 5 — letter A, in ll. 2, 118, 149 — the letter D, in the form D, are the initials of the factory owner: Afanasy Demidov [1, Nenasheva L., pp. 228–231; 2, Nenasheva L.V., p. 218].

The exhibition stand that closes it is a collage made up of miniatures taken from Old Believers' personal collections. The author of the exhibition A.S. Grigoriev combined paintings of the Garden of Eden from various sources and showed all the beauty and charm of paradise life. Traditional old Russian colors — red, green, yellow — so often used in northern books, began to play juicy, bright, and elegant. At the bottom of the booth, the artist depicted scenes of hellish torments and fiery hell, combining them with paintings of paradise, which was not typical for collections (Fig. 15, 16).

Fig. 15. Scenes of the Garden of Eden and Hell Paintings Compiled by the artist A.S. Grigoryev.

Fig. 16. A fragment of the picture.

We hope that the exhibition “There is no righteous person without love for the book”, which runs until June 2020, will arouse great interest among admirers of the northern book. The northern manuscript book is an important part of Russian spiritual literature, and these books have incorporated the best examples of Russian and Byzantine medieval literature and culture. Each book is interesting both for a wide audience of visitors and for connoisseurs of the Russian book and the decoration of manuscripts.

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